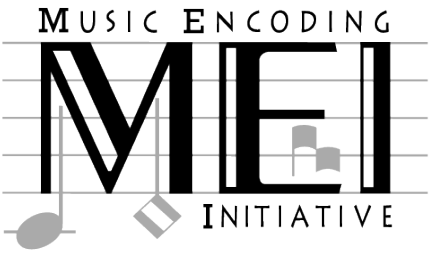
Music Encoding Initiative Guidelines

Version 3.0.0

Prepared and maintained by the Music Encoding Initiative Board



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Introduction

This release of the Music Encoding Initiative (MEI) provides three major components:

- formalized rules for recording the intellectual and physical characteristics of music notation documents so that the information contained in them may be searched, retrieved, displayed, and exchanged in a predictable and platform-independent manner;
- a data dictionary that documents the components of the MEI model; and
- best practices guidelines for the application of those rules.

Both the MEI rules and their documentation are expressed in the form of a One Document Does-it-all (ODD) document, a format developed by the Text Encoding Initiative (TEI). The MEI ODD document has been processed to create the MEI application guidelines, data dictionary, and accompanying schemas.

The MEI Guidelines, which include the data dictionary, are intended to serve as a reference tool for music encoders. Through the use of natural-language definitions and examples, this document assists users of MEI in achieving effective and consistent markup. Despite translating XML and RNG terminology and concepts into more accessible language, it is still a technical one that presupposes a minimal understanding of XML and music notation. Novice encoders will need to supplement their use of the Guidelines by participating in discussions on the MEI-L list, attending introductory MEI workshops and training classes and by referring to other information sources.

As a natural-language translation of the MEI conceptual model, the Guidelines convey information about the three principal tasks accomplished by the model. First, the model breaks down the content of music notation documents into data fields or categories of information called "elements". All of these elements are named, defined, and described in the data dictionary. Second, the data dictionary identifies and defines attributes associated with those elements. Attributes are characteristics or properties that further refine the element. Last, and perhaps most importantly, the data dictionary documents the structure of the MEI model by explaining the relationship between elements, specifying where the elements may be used and describing how they may be modified by attributes. While two of the basic purposes of MEI encompass the searching and display of encoded music notation documents in an electronic environment, nothing in the data dictionary specifically addresses their implementation. Searching and display are entirely dependent on software applications outside the scope of the MEI model.

The MEI model contains only a few required elements, the majority are optional. Therefore, the amount of markup desired will vary from one situation to another depending on intellectual, technical, and temporal considerations. Creating encoded music notation documents for inclusion in union databases may also result in tagging requirements that are separate from those dictated by the model.

Suggestions for new elements, revised descriptions, and more illustrative examples may be submitted to the MEI Working Group via the MEI discussion list at mei-l@lists.uni-paderborn.de. The model and Guidelines will be updated periodically based on the feedback received from the users of MEI.

MEI Design Principles

This section of the Guidelines defines principles and criteria for designing, developing, and maintaining an XML-based encoding scheme for music notation documents.

Definitions and Parameters

- A music notation document is one that contains music notation; that is, any one of a number of "visual analogues of musical sound, either as a record of sound heard or imagined, or as a set of visual instructions for performers." (Ian D. Bent, et al. "Notation." Grove Music Online. Oxford Music Online. 25 May 2010. < http://www.oxfordmusiconline.com/subscriber/article/grove/music/20114>.)
- The encoding scheme permits both the creation of new music notation documents and the conversion of existing ones from print and other electronic formats. However, conversion of existing documents may require revisions in content or rearrangement of information.

General Principles

- No prima facia distinction is made between a primary source of music notation, such as an autograph or published score, and a secondary source, such as a scholarly edition based on one or more primary sources. The tag set encompasses both, and the encoder must choose the elements and attributes most appropriate in each case.
- As an encoded representation of one or more music notation documents, an MEI file may be employed as a surrogate for the original materials.
- Although the encoding scheme does not define or prescribe intellectual content for music notation documents, it does define content designation and is intended to be used with available data content standards. MEI identifies the essential data elements within music notation documents and establishes codes and conventions necessary for capturing and distinguishing information within those elements for future action or manipulation. While there are a few elements that ought to appear in any MEI document, various intellectual, technical, and economic factors influence the level of detail of analysis and encoding actually undertaken. Taking this into consideration, the encoding scheme is designed with a minimum of required elements and allows for progressively more detailed levels of description as desired.
- The encoding scheme preserves and enhances the current functionality of existing music notation documents. It permits identification of document structures and content that support description, navigation, analysis, and online and print presentation.
- The encoding scheme is intended to facilitate interchange between notational tools. It aims to assist in the creation of more effective and consistent encoding, encourage the creation of cooperatively-created and widely available databases of music notation documents, and permit the reuse of encoded data for multiple output purposes. It will also ensure that machine-readable music notation documents will outlive changing hardware and software environments because they are based on a platform-independent standard.

Structural Features

- The encoding scheme is based on eXtensible Markup Language (XML), a text-based format for representing structured information. It is expressed as a One Document Does-it-all (ODD) document, referred to as the "Music Encoding (MEI) Guidelines". For more information on ODD, please refer to TEI Guidelines chapter 22 (http://www.tei-c.org/release/doc/tei-p5-doc/en/html/TD.html), chapter 23 (http://www.tei-c.org/release/doc/tei-p5-doc/en/html/USE.html), and to the TEI's "Getting Started with P5 ODDs" document (http://www.tei-c.org/Guidelines/Customization/odds.xml).
- Related or complementary standards, such as the Text Encoding Initiative (TEI) Guidelines for Electronic Text Encoding and Interchange (http://www.tei-c.org/Guidelines/P5/), the Encoded Archival Description (EAD) (http://www.loc.gov/ead/), MARC 21 Format for Bibliographic Data (http://www.loc.gov/marc/bibliographic/ecbdhome.html), existing notation encoding schemes, etc. have been consulted and employed as appropriate. For example, the data model includes a header that is comparable to the TEI header, and TEI and EAD naming conventions and tag structures have been used whenever feasible. However, while some feature names are similar, or even the same, it is important to recognize that MEI and TEI have different semantic scope. Obviously, a note element in MEI does not carry the same meaning as the element of the same name in TEI. Perhaps less obviously, a phrase in music notation is unrelated to a textual phrase.
- With respect to metadata, MEI recognizes the close relationship between the metadata content found in the MEI header and that of catalog records, authority records, and finding aids, and it provides for the use of an encoding equivalency attribute for MEI elements corresponding to fields in other metadata standards.
- To ensure broad international and multi-repertoire application of MEI, existing musical terminology was used in building the data model where practical. In addition, a method for localization of the data model's names has been provided. Finally, extensive use of attributes in the schema permits the refinement of element meanings with specific musical, geographic, or temporal contexts.

Control and Maintenance

- Control and maintenance of the MEI model, schemas and documentation will be provided by a maintenance agency working in concert with the national and international music communities, assisted in an advisory capacity by other interested groups of users.

About Version 3.0.0

The first major goal established for the 3.0.0 release was to refine the MEI object model; that is, identify and correct problems affecting MEI's ability to capture data conveniently and effectively. While a few revisions modified the class structure of MEI without changing the resulting schema — mostly for schema construction convenience and "future proofing" reasons, but also to maintain compliance with recent changes to the TEI ODD framework — the usual outcome was the creation of both restrictions and extensions to the existing model. Extensions, such as allowing Scalable Vector Graphics (SVG) markup in certain contexts, adding new elements, and providing additional attributes on existing elements, presented no backward compatibility problems. Restrictions, however, such as separating data that had been recorded in a single attribute value into multiple attributes, moving elements from one location to another, tightening the definitions for datatypes, and adding new contextual constraints, resulted, as they usually do, in backward compatibility issues. To mitigate the effect of these compatibility problems, an XSLT stylesheet (mei21To30.xsl) was created that converts a file conforming to the previous version of MEI to one that validates against the mei-all_anyStart schema in this release. Every effort was made to thoroughly test this transformation. However, since the corpus of files available for testing was relatively small and its contents were somewhat homogenous, no guarantee is made that the conversion will be successful in all cases. Problems with the conversion reported to MEI-L or contact@music-encoding.org will be evaluated and addressed.

Another major goal for this release was improvement of the Guidelines, including the reference section formerly known as the "Tag Library", now called the "Data Dictionary". The changes here included correction of typographical and grammatical errors, designating annotations previously given in XML comments as formal remarks, and reworking some parts of the document to make them more concise and (we hope) more informative.

To see all of the changes made for this revision, please visit the Git repositories https://github.com/music-encoding/music-encoding, https://github.com/music-encoding/encoding-tools, and https://github.com/music-encoding/sample-encodings.

The editors wish to thank everyone who participated in this process. Of course, errors are the sole responsibility of the editors.

1 Shared Elements, Models, and Attributes

This chapter describes the elements, models, and attributes that are part of the MEI.shared module. The shared module contains declarations that are common to two or more other modules.

1.1 Structural Elements

1.1.1 Document Elements

The following elements are available for the representation of the outermost structure of an MEI document:

<mei> Contains a single MEI-conformant document, consisting of an MEI header and a musical text, either in isolation or as part of an meiCorpus element.

@meiversion Specifies a generic MEI version label.

<meiCorpus> (MEI corpus) – A group of related MEI documents, consisting of a header for the group, and one or more <mei> elements, each with its own complete header.

<meiHead> (MEI header) – Supplies the descriptive and declarative metadata prefixed to every MEI-conformant text.

<music> Contains a single musical text of any kind, whether unitary or composite, for example, an etude, opera, song cycle, symphony, or anthology of piano solos.

A typical MEI document contains an mei element, which in turn contains metadata, represented by an meiHead element, and the musical text itself, represented by a music element. The meiHead element, formally declared in the MEI.header module, is described in chapter 2 The MEI Header.

Other variations on this basic form are also available for the representation of a:

- collection of related MEI-encoded texts, each with its own metadata, known as a corpus
- document that contain only metadata, known as an independent or stand-alone header
- music notation markup without metadata, typically intended to be embedded within another kind of markup, such as TEI

Further information regarding the organization and encoding of music corpora is given in chapter 9 Musical Corpora. Stand-alone headers are more fully described in chapter 2.7 Independent Headers.

Inclusion of MEI encodings (partial or complete) inside Text Encoding Initiative (TEI) documents is covered in the TEI Guidelines at http://www.tei-c.org/release/doc/tei-p5-doc/en/html/FT.html#FTNM and by the TEI Music Special Interest Group at http://www.tei-c.org/SIG/Music/twm/index.html.

1.1.2 Music Element

MEI texts may be regarded either as unitary; that is, forming an organic whole, or as composite; that is, consisting of several components which are in some important sense independent of each other. The distinction is not always entirely obvious. For example, a collection of songs might be regarded as a single item in some circumstances, or as a number of distinct items in others. In such borderline cases, the encoder must choose whether to treat the text as unitary or composite; each option may have advantages and disadvantages.

Whether unitary or composite, the musical text is marked with the music tag and may contain front matter, a body, and back matter. In unitary texts, the body is tagged using the body element; in composite texts, however, where the textual body consists of a series of subordinate musical texts or other groups, it is tagged with the group element. The overall structure of any musical text, unitary or composite, is thus defined by the following elements:

<front> (front matter) – Bundles prefatory text found before the start of the musical text.

<body> Contains the whole of a single musical text, excluding any front or back matter.

<group> Contains a composite musical text, grouping together a sequence of distinct musical texts (or groups of such musical texts) which are regarded as a unit for some purpose, for example, the collected works of a composer.

<back> (back matter) – Contains any appendixes, advertisements, indexes, etc. following the main body of a musical text.

Critical editions and collections of works often contain extensive text, such as a title page, table of contents, an introductory essay, commentary, biographical sketch, index, etc. These textual items may appear in either the front or back elements. The front and back elements, available only when the MEI.text module is activated, are described more fully in chapter 21 Text in MEI.

The overall structure of a single musical text is:

```
<mei>
 <meiHead>
  <!-- metadata goes here -->
 </meiHead>
 <music>
  <front>
   <!-- front matter of text, if any, goes here -->
  </front>
  <body>
   <!-- body of text goes here -->
  </body>
  <back>
   <!-- back matter of text, if any, goes here -->
  </back>
 </music>
</mei>
```

The top-level structure of a composite musical text made up of two unitary musical texts is:

```
<mei>
 <meiHead>
  <!-- metadata for the composite musical text -->
 </meiHead>
 <music>
  <front>
    <!-- front matter for composite musical text -->
  </front>
  <group>
    <music>
       <front>
          <!-- front matter of first unitary musical text, if any -->
       </front>
       <body>
          <!-- body of first unitary musical text -->
       </body>
       <back>
          <!-- back matter of first unitary musical text, if any -->
       </back>
    </music>
    <music>
       <body>
          <!-- body of second unitary musical text -->
       </body>
    </music>
  </group>
  <back>
    <!-- back matter for composite musical text, if any -->
  </back>
 </music>
</mei>
```

1.1.2.1 Grouped Texts

The group element may be used to represent a collection of independent musical texts which is to be regarded as a single unit for processing or other purposes. It is provided to simplify the encoding of collections, anthologies, and cyclic works. It can also be used to record the potentially complex internal structure of corpora, covered more fully in chapter 9 Musical Corpora.

> **<group>** Contains a composite musical text, grouping together a sequence of distinct musical texts (or groups of such musical texts) which are regarded as a unit for some purpose, for example, the collected works of a composer.

Examples of composite texts which may be represented using the group element include anthologies and other collections. The presence of common front matter referring to the whole collection, possibly in addition to front matter relating to each individual musical text, is a good indication that a given musical text might usefully be encoded in this way.

For example, the overall structure of a collection of songs might be encoded as follows:

```
<music>
 <group>
  <music>
   <!-- song 1 -->
  </music>
  <music>
   <!-- song 2 -->
  </music>
  <!-- additional songs here -->
 </group>
</music>
```

A group of musical texts may contain other unitary and grouped texts:

```
<music>
 <group>
  <music>
   <!-- song 1 -->
  </music>
  <group>
   <!-- songs sharing one or more characteristics, treated as a group -->
   <music>
    <!-- song 2 -->
   </music>
   <music>
    <!-- song 3 -->
   </music>
  </group>
 </group>
</music>
```

The group element may be used to encode any kind of collection in which the constituents are regarded by the encoder as works in their own right, such as *ad hoc* single- or multiple-composer collections or anthologies of works not originally conceived of as a single composition.

1.1.2.2 Divisions of the Body

This section describes sub-division of the body of a musical text. Front and back matter are described in chapter 21 Text in MEI.

The body of a unitary musical text may contain one or more discrete, linear segments. The names commonly used for these structural subdivisions vary with the genre, style, and time period of the music, or even at the whim of the author, editor, or publisher. For example, a major subdivision of a symphony is generally referred to as a 'movement'. An opera, on the other hand, is usually organized into 'acts' and then further by 'scenes'. All

such divisions are treated as occurrences of the same neutrally-named element, with a @type attribute used to categorize them independently of their hierarchic level.

The following element is used to identify musical subdivisions. As a member of the class att.typed, the mdiv element has attributes which can be used to classify it according to a two-tier hierarchy.

<mdiv> (musical division) – Contains a subdivision of the body of a musical text.

@type Characterizes the element in some sense, using any convenient classification scheme or typology.

@subtype Provide any sub-classification for the element, additional to that given by its type attribute.

To accommodate "divisions within divisions", an mdiv element may contain additional mdiv sub-elements nested to any level required. For example, the encoding of a multi-movement work, such as a symphony, frequently have the following structure:

```
<body>
 <mdiv type= "symphony">
  <mdiv n= "1" type= "movement">
    <!-- contents of mvt 1 -->
  </mdiv>
  <mdiv n= "2" type= "movement">
    <!-- contents of mvt 2 -->
  </mdiv>
  <mdiv n= "3" type= "movement">
    <!-- contents of mvt 3 -->
  </mdiv>
  <mdiv n= "4" type= "movement">
    <!-- contents of mvt 4 -->
  </mdiv>
 </mdiv>
</body>
```

while dramatic works, such as Verdi's opera, *Il Trovatore*, often exhibit a more deeply-nested structure:

```
<body>
 <mdiv type= "opera">
  <mdiv n= "I" type= "act">
    <mdiv n= "1" type= "scene">
      <!-- contents of act I, sc. 1 -->
    </mdiv>
    <mdiv n= "2" type= "scene">
      <!-- contents of act I, sc. 2-->
    </mdiv>
    <mdiv n= "3" type= "scene">
      <!-- contents of act I, sc. 3 -->
    </mdiv>
  </mdiv>
```

```
  <mdiv n= "II" type= "act">
    <mdiv n= "1" type= "scene">
      <!-- contents of act II, sc. 1 -->
    </mdiv>
    <mdiv n= "2" type= "scene">
      <!-- contents of act II, sc. 2 -->
    </mdiv>
    <mdiv n= "3" type= "scene">
      <!-- contents of act II, sc. 3 -->
    </mdiv>
    <mdiv n= "4" type= "scene">
      <!-- contents of act II, sc. 4 -->
    </mdiv>
    <mdiv n= "5" type= "scene">
      <!-- contents of act II, sc. 5 -->
    </mdiv>
  </mdiv>
  <mdiv n= "III" type= "act">
    <mdiv n= "1" type= "scene">
      <!-- contents of act III, sc. 1 -->
    </mdiv>
    <mdiv n= "2" type= "scene">
      <!-- contents of act III, sc. 2 -->
    </mdiv>
    <mdiv n= "3" type= "scene">
      <!-- contents of act III, sc. 3 -->
    </mdiv>
  </mdiv>
  <mdiv n= "IV" type= "act">
    <mdiv n= "1" type= "scene">
      <!-- contents of act IV, sc. 1 -->
    </mdiv>
    <mdiv n= "2" type= "scene">
      <!-- contents of act IV, sc. 2 -->
    </mdiv>
    <mdiv n= "3" type= "scene">
      <!-- contents of act IV, sc. 3 -->
    </mdiv>
  </mdiv>
 </mdiv>
</body>
```

Conventionally, in performance the musical structures represented by mdiv elements are separated by pauses; however, *attacca*, *attacca subito*, *seque*, or similar terms are sometimes used at the end of an mdiv to indicate that the next mdiv should begin immediately after the conclusion of the current one. These terms have no effect, however, on the logical segmentation of musical content using mdiv elements.

1.1.2.3 Content of Musical Divisions

The mdiv element may contain one or both of two possible views: score and parts.

<score> Full score view of the musical content.

<parts> Provides a container for performers' parts.

The score element represents notation in which all the parts of an ensemble are arranged on vertically aligned staves, while the parts element collects the individually notated parts for each performer or group of performers. The explicit encoding of these two 'views' is necessary because it is not always possible or desirable to automatically derive one view from the other. In addition, separating scores and parts can eliminate a great deal of markup complexity.

```
<body>
 <mdiv n= "1" type= "movement">
  <score>
   <!-- markup of score goes here -->
  </score>
  <parts>
   <!-- markup of performers' parts goes here -->
  </parts>
 </mdiv>
 <!-- additional movements go here -->
</body>
```

The score and parts elements may also be employed to accommodate different methods of organizing the markup – with no particular presentation implied. In this case, software may render a collection of parts as a score or a score as a collection of parts.

Within the collective parts element, notation for a single performer is represented by the part element:

<part> An alternative visual rendition of the score from the point of view of a particular performer (or group of performers).

A part is effectively a small-scale score, allowing all the encoding features of a full score, such as multiple staves, performance directives, and so on. A group of part element is useful for encoding performing parts when there is no score, such as in early music part books; when the parts have non-aligning bar lines; when different layout features, such as page turns, are needed for the score and parts; or for accommodating software that requires part-by-part encoding.

Please note that part elements in MEI are not an indication of voice leading or staff grouping. Voice leading can be encoded using the @next attribute, available on all the members of the model.eventLike class. The staffGrp element handles grouping of staves in the score context.

```
<parts>
 <part label= "Violin 1">
  <!-- first performer's part -->
 </part>
 <part label= "Violin 2">
  <!-- second performer's part -->
```

```
 </part>
 <!-- additional performers' parts -->
</parts>
```

In both score and part views, the scoreDef element is used to describe logical characteristics of the encoded music, such as key signature, the sounding key (as opposed to the notated key signature), meter, etc., and visual features, such as page size, staff groupings and display labels, etc. The staffGrp elements within scoreDef and the order of staffDef elements inside staffGrp should follow the score order of the source for the encoding.

A part or score may be further divided into linear segments called "sections".

<section> Segment of music data.

section elements are often used as a scoping mechanism for clef signs, key and meter signatures, as well as metronome, tempo, and expression markings. Using section elements can help to minimize the need for backward scanning to establish context when the starting point for access is not at the beginning of the score. section elements may also be used for other user-defined, i.e., analytical or editorial, purposes and may therefore be arbitrarily nested to any desired level.

The ending element shares the same model as the section element. Unlike section, however, it may not be recursively nested.

<ending> Alternative ending for a repeated passage of music; i.e., prima volta, seconda volta, etc.

The most common (non-analytical, non-editorial) use of section and ending elements is illustrated below:

```
<music>
 <body>
   <mdiv>
     <score>
        <section>
           <!-- section one to be repeated -->
        </section>
        <ending n= "1">
           <!-- 1st ending -->
        </ending>
        <ending n= "2">
           <!-- 2nd ending -->
        </ending>
        <section>
           <!-- next section -->
        </section>
     </score>
   </mdiv>
 </body>
</music>
```

Within section elements, several methods of organization are possible, depending upon the notational style of the source material and the encoder's needs. For example, when the MEI.cmn module is used, the default organization is measure-by-measure, with staff and layer sub-elements within each measure. Further discussion of CMN notation is continued in chapter 4 Common Music Notation.

However, staff-by-staff organization is more appropriate for music without measures and is provided when either the MEI.mensural or MEI.neumes module is employed. Coverage of mensural notation is provided in chapter 5 Mensural Notation, while 6 Neume Notation describes neumatic notation.

It must be noted that, when both the MEI.cmn and MEI.mensural modules are available, it is possible to encode CMN notation without using measure elements; that is, staff-by-staff organization may be used and the ends of measures marked using barLine elements.

In certain circumstances, this approach may be preferable for reproduction of the visual layout of the music. However, the simultaneous use of the measure and barLine elements may lead to confusion and should be avoided.

Typically, MEI follows the order of sections as they appear in the document being encoded. When performance requires a different order, for instance in the case of D.C. and D.S. directives, the following element may be used to define the performance order.

> **<expansion>** Indicates how a section may be programmatically expanded into its 'through-composed' form.

In the following example, expansion is used to indicate how the notated sections should be ordered in a "through-composed" rendition, for example for machine performance or analysis. The plist attribute contains an ordered list of identifiers of descendant section, ending, lem, or rdg elements. The sequence of values in the plist attribute indicates that the section labelled 'A' comes first, then the section labelled 'B', followed by the 'A' section again. This mechanism must be specified independently of any textual directives, such as "Da capo" or "D.S. al Fine", that may be present in the document.

```
<music>
 <body>
  <mdiv>
    <score>
       <section>
          <expansion plist= "#shared.A #shared.B #shared.A"/>
          <section xml:id= "shared.A">
              <!-- "A" section -->
          </section>
          <section xml:id= "shared.B">
              <!-- "B" section -->
          </section>
       </section>
    </score>
  </mdiv>
 </body>
```

```
</music>
```

1.2 Shared Musical Elements

This section lists the elements defined in the shared module that are available within the music element.

1.2.1 Score and Parts

The following elements are provided for the capture of scores and parts:

<score> Full score view of the musical content.

<parts> Provides a container for performers' parts.

<part> An alternative visual rendition of the score from the point of view of a particular performer (or group of performers).

<scoreDef> (score definition) – Container for score meta-information.

<staffDef> (staff definition) – Container for staff meta-information.

<layerDef> (layer definition) – Container for layer meta-information.

<staffGrp> (staff group) – A group of bracketed or braced staves.

<grpSym> (group symbol) – A brace or bracket used to group two or more staves of a score or part.

<label> A container for text that identifies the feature to which it is attached.

<clef> Indication of the exact location of a particular note on the staff and, therefore, the other notes as well.

<clefGrp> (clef group) – A set of simultaneously-occurring clefs.

<keySig> (key signature) – Written key signature.

<keyAccid> (key accidental) – Accidental in a key signature.

The character of elements specifying one or more score or staff parameters, such as meter and key signature, clefs, etc., is that of a milestone; that is, they affect all subsequent material until a following redefinition. A scoreDef element, which may affect more than just one staff, is allowed only within score, part and section elements, whereas staffDef is allowed only within staffGrp, staff and layer. A staffDef nested inside a staff must bear the same value for its @n attribute as its parent staff and may thus not affect other staves.

The actual use of these elements depends on the repertoire and historical context of the source material. For details on their use in Common Western Notation, please refer to chapter 4.1.2 Defining Score Parameters for CMN.

1.2.2 Staves and Layers

The elements below are used to capture the logical organization of musical notation:

<staff> A group of equidistant horizontal lines on which notes are placed in order to represent pitch or a grouping element for individual 'strands' of notes, rests, etc. that may or may not actually be rendered on staff lines; that is, both diastematic and non-diastematic signs.

<layer> An independent stream of events on a staff.

The actual use of the staff and layer elements depends on the repertoire and historical context of the source material. For details on their use in Common Western Notation, please refer to chapter 4.1.1 The Role of the Measure Element. For mensural notation, see chapter 5.5 Music Data Organization, and for neumatic notation, chapter 6 Neume Notation.

1.2.3 Basic Music Events

The basic features of music notation are represented by the following elements:

<note> A single pitched event.

<chord> A simultaneous sounding of two or more notes in the same layer *with the same duration*.

<rest> A non-sounding event found in the source being transcribed.

The characteristics of stems on notes and chords are indicated by means of attributes found in the att.stems class.

@stem.dir	Describes the direction of a stem.
@stem.len	Encodes the stem length.
@stem.mod	Encodes any stem "modifiers"; that is, symbols rendered on the stem, such as tremolo or Sprechstimme indicators.
@stem.pos	Records the position of the stem in relation to the note head(s).
@stem.x	Records the output x coordinate of the stem's attachment point.
@stem.y	Records the output y coordinate of the stem's attachment point.

1.2.4 Other "Events"

Because they can occur in the context of a stream of events on the staff, some elements which are used in other contexts are also treated as events. For example, in addition to being used to define the initial clef of a staff, the clef element can also be used to indicate a clef change.

1.2.4.1 Key Signatures and Clefs

Key signatures and clefs as well as intra-staff changes to these musical parameters are treated as events.

<keySig> (key signature) – Written key signature.

<keyAccid> (key accidental) – Accidental in a key signature.

<clef> Indication of the exact location of a particular note on the staff and, therefore, the other notes as well.

<clefGrp> (clef group) – A set of simultaneously-occurring clefs.

1.2.4.2 Bar Lines and Custos Signs

Measure separators, i.e., bar lines, and custos signs are also considered to be events.

<barLine> Vertical line drawn through one or more staves that divides musical notation into metrical units.

<custos> Symbol placed at the end of a line of music to indicate the first note of the next line. Sometimes called a "direct".

1.2.4.3 Accidentals, Articulation Symbols, Augmentation Dots, and Custos Signs

The following elements are regarded as events primarily because they sometimes occur independently of any associated notes, rests, or chords, especially in mensural and neume repertoires.

<accid> (accidental) – Records a temporary alteration to the pitch of a note.

<artic> (articulation) – An indication of how to play a note or chord.

<dot> Dot of augmentation or division.

1.2.4.4 Lyric Syllables

The syl element is used to mark a word or portion of a word that is to be vocally performed. A fuller description of its use is provided in chapter 15.1 Lyric Syllables.

<syl> (syllable) – Individual lyric syllable.

1.2.4.5 Event Spacing

The following elements provide control over the horizontal spacing of notational events, such as notes, chords, rests, etc.:

<space> A placeholder used to fill an incomplete measure, layer, etc. most often so that the combined duration of the events equals the number of beats in the measure.

@num Amount of "padding" to be added, in interline units; that is, in units of 1/2 the distance between adjacent staff lines.

In this context, the term ‘space’ is used to mean whitespace that is required to meaningfully align multiple voices in a multi-voice texture. In DARMS these were referred to as ‘push codes’. The space element is most often used when a new voice appears on a staff mid-measure.

The space element may also be used to align material that crosses staves.

'Space' can be thought of as another kind of event. In fact, some refer to this concept as an 'invisible rest'.

While 'space' is meaningful, 'padding' is non-essential whitespace that is used to shift the position of the events which follow.

The pad element is provided in order to capture software-dependent placement information when it is desirable to do so. Unless the MEI file will be used as an intermediate file format, this is usually not necessary.

1.2.5 Expression Marks

Expression marks are instructions in the form of words, abbreviations, or symbols that convey aspects of performance that cannot be expressed purely through the musical notation.

1.2.5.1 Text Directives

All of the following elements can be considered text directives; however, MEI uses the dir element specifically for words, abbreviations, numbers, or symbols specifying or suggesting the manner of performance that are not encoded elsewhere using the more specific elements of tempo and dynam.

> **<dir>** (directive) – An instruction expressed as a combination of text and symbols — such as segno and coda symbols, fermatas over a bar line, etc., typically above, below, or between staves, but not on the staff — that is not encoded elsewhere in more specific elements, like <tempo> or <dynam>.

Examples of directives include text strings such as 'affettuoso', fingering numbers, or music symbols such as segno and coda symbols or fermatas over a bar line. Directives can be control elements. That is, they can linked via their attributes to other events. The starting point of the directive may be indicated by either a tstamp, tstamp.ges, tstamp.real or startid attribute, while the ending point may be recorded by either a tstamp2, dur, dur.ges or endid attribute. It is a semantic error not to specify a starting point attribute.

1.2.5.2 Tempo

Tempo marks are indications through words, abbreviations, or specific metronome settings of the speed at which a piece of music is to be performed. Both instantaneous and continuous tempo markings may be encoded using this element.

> **<tempo>** Text and symbols descriptive of tempo, mood, or style, e.g., "allarg.", "a tempo", "cantabile", "Moderato", "♩=60", "Moderato ♩=60").

1.2.5.3 Dynamics

Dynamics, or dynamic marks, are terms, abbreviations, and symbols that indicate the specific degrees of volume of a note, phrase, or section of music, e.g., "piano", "forte". Transitions from one volume level to another, e.g., "crescendo", "diminuendo", are also specified through dynamic marks.

<dynam> (dynamic) – Indication of the volume of a note, phrase, or section of music.

1.2.5.4 Phrase Marks

Phrase marks are curved lines placed over or under notes to delineate short sections of a work that represent a unified melodic idea, analogous to a phrase in literature.

<phrase> Indication of 1) a "unified melodic idea" or 2) performance technique.

<slur> Indication of 1) a "unified melodic idea" or 2) performance technique.

MEI maintains a distinction between phrase marks and slurs, the latter being curved lines over or under a sequence of notes indicating they are to be performed using a particular playing/singing technique, notes that should be taken in a single breath by wind instruments or played by string instruments using a single stroke of the bow. Often, a slur also indicates that the affected notes should be played in a *legato* manner.

Even so, it is common for both of these concepts to be referred to generically as "slurs". Therefore, unless one is encoding music from a repertoire in which this distinction is important, the slur element should be preferred over phrase.

1.2.5.5 Ornaments

Ornaments are formulae of embellishment that can be realized by adding supplementary notes to one or more notes of the melody.

<ornam> An element indicating an ornament that is not a mordent, turn, or trill.

MEI provides a generic element for encoding an ornament symbol that is not a mordent, turn, or trill. For those common CMN ornaments, please refer to 8 Common Music Notation Ornaments.

Ornaments can be represented as textual strings (e.g. with a Unicode symbol) or with a user defined symbol. Ornaments can be control elements. That is, they be can linked via their attributes to other events. It is a semantic error not to specify a starting point attribute with either @tstamp or @startid.

1.3 Shared Textual Elements

This section lists elements declared in the shared module that pertain to the encoding of prose.

1.3.1 Paragraphs

A paragraph is a structural unit of a larger text. Usually, it is typographically distinct; that is, it usually begins on a new line and the first letter of the content is often indented, enlarged, or both. This element has a similar meaning as the corresponding elements in Encoded Archival Description (EAD), Text Encoding Initiative (TEI), and HTML.

<p> (paragraph) – One or more text phrases that form a logical prose passage.

In MEI, a p is used in many different situations, including transcriptional use within a titlePage or descriptive purposes as in a changeDesc.

1.3.2 Text Rendition

Sometimes, it is desirable to capture the typographical qualities of a word or phrase without assigning it a special meaning. For this purpose, MEI offers the rend element, similar to TEI's *hi* element. Using CSS-like values, its @rend attribute can be used to specify many typographic features, such as font style, font variants, and relative font size and weight. In addition, text decoration, direction, and enclosing 'boxes' may be captured. While @rend is used to record relative font size and weight, absolute values for these qualities (measured in printers points) should be specified using the @fontsize and @fontweight attibutes. In addition to commonly found typographical qualities, MEI provides the @altrend attribute for the capture of additional, user-defined rendition information.

<rend> (render) – A formatting element indicating special visual rendering, e.g., bold or italicized, of a text word or phrase.

@rend	Captures the appearance of the element's contents using MEI-defined descriptors.
@altrend	Used to extend the values of the rend attribute.
@fontname	Holds the name of a font.
@fontsize	Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%".
@fontstyle	Records the style of a font, i.e, italic, oblique, or normal.
@fontweight	Used to indicate bold type.

1.3.3 Transcription of Titlepages

A specialized element is furnished for the capture of titlepage information.

<titlePage> Contains a transcription of the title page of a text.

The titlePage element, modelled after a similar element in Encoded Archival Description (EAD), may occur within the textual matter preceding or following the musical content of the encoding. Since a diplomatic transcription of the titlepage is often necessary to accurately identify musical material contained within a source, titlePage may also be used within the metadata header as a child of the physDesc element.

1.3.4 Names, Dates, Numbers, Abbreviations, and Addresses

1.3.4.1 Names and Dates

The name and date elements may be used to mark up portions of a text that function as names or dates.

<name> Proper noun or noun phrase.

<date> A string identifying a point in time or the time period between two such points.

The name element is intended for generic applications and may be used to identify any named entity, such as a person, item, application, place, etc. The namesDates module documented in 17 Names and Dates offers the more specific elements persName, corpName and geogName.

1.3.4.2 Numbers

The num element may be used to identify any numeric information in a text. The @unit may be used to specify the unit of measurement.

<num> (number) – Numeric information in any form.

@unit Indicates the unit of measurement.

This element is useful when it is necessary to provide specific information about numeric data, such as the unit of measurement or the kind of quanity described, or when it should be displayed in a special manner.

1.3.4.3 Addresses

Addresses may be encoded using the address element, which itself may hold an arbitrary number of addrLine elements.

<address> Contains a postal address, for example of a publisher, an organization, or an individual.

<addrLine> (address line) – Single line of a postal address.

It is important to note that the address element does not hold a reference to the person or organization whose address is specified. This must be provided in a separate element, as in the following example:

```
<p>
 <corpName>Universität Paderborn </corpName>
 <address>
  <addrLine>Warburger Straße 100 </addrLine>
  <addrLine>33098 Paderborn </addrLine>
  <addrLine>Germany </addrLine>
 </address>
</p>
```

1.3.5 Annotations

Annotations are one of the most versatile features of MEI. They are provided using the annot element.

> **<annot>** (annotation) – Provides a short statement explaining the text or indicating the basis for an assertion.

This element may be contained by a wide range of other elements and may contain a large number of other elements. While this offers great flexibility in addressing the wide variety of textual features that might occur within an annotation, it may lead to markup that cannot be effectively processed mechanistically.

In all cases, annot provides a comment upon a feature of the encoding, but never contains textual transcription. Depending on its context, an annotation will deal with either its parent element, or, more usually, with the element(s) specified in its @plist attribute. This attribute uses URI references to link to one or more other elements using their @xml:id attribute values, as in the following example:

```
<note xml:id= "shared.someInterestingNote"/>
<!-- elsewhere in the document: -->
<annot plist= "#shared.someInterestingNote">
 <!-- additional information about this note -->
</annot>
```

1.3.6 Bibliographic Citations and References

The following element is used in the encoding of bibliographic citations and references:

> **<bibl>** (bibliographic reference) – Provides a loosely-structured bibliographic citation in which the sub-components may or may not be explicitly marked.

The bibl element may contain a mix of text and more specific elements, including the following:

> **<annot>** (annotation) – Provides a short statement explaining the text or indicating the basis for an assertion.

<arranger> A person or organization who transcribes a musical composition, usually for a different medium from that of the original; in an arrangement the musical substance remains essentially unchanged.

<author> The name of the creator of the intellectual content of a non-musical, literary work.

<biblScope> (scope of citation) – Defines the scope of a bibliographic reference, for example as a list of page numbers, or a named subdivision of a larger work.

<composer> The name of the creator of the intellectual content of a musical work.

<creation> Non-bibliographic details of the creation of an intellectual entity, in narrative form, such as the date, place, and circumstances of its composition. More detailed information may be captured within the history element.

<date> A string identifying a point in time or the time period between two such points.

<distributor> Person or agency, other than a publisher, from which access (including electronic access) to a bibliographic entity may be obtained.

<edition> (edition designation) – A word or text phrase that indicates a difference in either content or form between the item being described and a related item previously issued by the same publisher/ distributor (e.g. 2nd edition, version 2.0, etc.), or simultaneously issued by either the same publisher/ distributor or another publisher/distributor (e.g. large print edition, British edition, etc.).

<editor> The name of the individual(s), institution(s) or organization(s) acting in an editorial capacity.

<extent> Used to express size in terms other than physical dimensions, such as number of pages, number of records in file, number of bytes, performance duration for music, audio recordings and visual projections, etc.

<funder> Names of individuals, institutions, or organizations responsible for funding. Funders provide financial support for a project; they are distinct from sponsors, who provide intellectual support and authority.

<genre> Term or terms that designate a category characterizing a particular style, form, or content.

<identifier> An alpha-numeric string that establishes the identity of the described material.

<imprint> Information relating to the publication or distribution of a bibliographic item.

<librettist> Person or organization who is a writer of the text of an opera, oratorio, etc.

<lyricist> Person or organization who is a writer of the text of a song.

<physLoc> (physical location) – Groups information about the current physical location of a bibliographic item, such as the repository in which it is located and its shelf mark(s), and its previous locations.

<publisher> Name of the organization responsible for the publication of a bibliographic item.

<pubPlace> (publication place) – Name of the place where a bibliographic item was published.

<recipient> The name of the individual(s), institution(s) or organization(s) receiving correspondence.

<relatedItem> (related item) – Contains or references another bibliographic item which is related to the present one.

<repository> Institution, agency, or individual which holds a bibliographic item.

<respStmt> (responsibility statement) – Names one or more individuals, groups, or in rare cases, mechanical processes, responsible for creation or realization of the intellectual or artistic content.

<series> Contains information about the serial publication in which a bibliographic item has appeared.

<sponsor> Names of sponsoring individuals, organizations or institutions. Sponsors give their intellectual authority to a project; they are to be distinguished from funders, who provide the funding but do not necessarily take intellectual responsibility.

<textLang> (text language) – Identifies the languages and writing systems within the work described by a bibliographic description, not the language of the description.

<title> Title of a bibliographic entity.

These elements fall into the following categories:

- identification of the bibliographic entity and those responsible for its intellectual content
- publication and distribution data for the bibliographic entity
- description of the physical characteristics of the item
- annotation of the bibliographic citation and additional details regarding the item's intellectual content

The elements title, edition, series, and identifier fall into the first category as do the elements arranger, author, composer, librettist, lyricist, funder, sponsor, and respStmt. The respStmt element is provided for marking responsibility roles that cannot be recorded using more specific elements. The biblScope element also carries information of an identifying nature.

The identifier for a given item may be an International Standard Book/Music Number, Library of Congress Control Number, a publisher's or plate number, a personal identification number, an entry in a bibliography or catalog, etc.

To classify the title according to some convenient typology, the @type attribute may be used. Sample values include: main (main title), subordinate (subtitle, title of part), abbreviated (abbreviated form of title), alternative (alternate title by which the work is also known), translated (translated form of title), uniform (collective title). The @type attribute is provided for convenience in analysing titles and processing them according to their type; where such specialized processing is not necessary, there is no need for such analysis, and the entire title, including subtitles and any parallel titles, may be enclosed within a single title element. Title parts may be encoded in title sub-elements. The name of the list from which a controlled value is taken may be recorded using the @authority attribute.

Publication and distribution data may be captured using pubPlace, publisher, distributor, and date elements directly inside bibl when the citation is unstructured. However, these elements should be grouped within imprint whenever practical.

The physical characteristics of the cited item may be described using the extent element.

Annotation of the bibliographic citation and the provision of other pertinent details are addressed by several elements. Commentary on the bibliographic item or citation is accommodated by the annot and creation

elements. The annot element is provided for generic comments, while creation is intended to hold information about the context of the creation of the cited item. Terms by which the bibliographic item can be classified may be placed in genre. For letters and other correspondence, recipient captures the name of the person or organization to whom the item was addressed. The natural language(s) of the item may be recorded in one or more textLang elements. Finally, a holding institution may be documented using the repository element directly within bibl, but physLoc should be used whenever possible as a grouping mechanism for location and shelfmark information. To identify sub-units of the holding institution, repository sub-elements may be used. The name of the list from which a controlled value for the agency name is taken may be recorded using the @authority attribute.

When supplied with a @target attribute, bibl may function as a hypertext reference to an external electronic resource. In addition, other related bibliographic items may be described or referenced using the relatedItem element.

```
<bibl>
 <genre>letter </genre>
 <author>Carl Nielsen </author>
 <recipient>Gustav Hetsch </recipient>
 <creation>
   <date isodate= "1915-04-08"> 1915-04-08 </date>
 </creation>
 <physLoc>
   <repository>
     <identifier authURI= "http://www.rism.info/" authority= "RISM"> DK-Kk </identifier>
   </repository>
   <identifier>CNA IAc </identifier>
 </physLoc>
 <relatedItem rel= "host">
   <bibl xml:id= "shared.bibl_d1e380372">
     <title>CNB </title>
     <biblScope>V/210 </biblScope>
   </bibl>
 </relatedItem>
</bibl>
```

Please consult 1.3.4 Names, Dates, Numbers, Abbreviations, and Addresses and 17 Names and Dates for more information about recording the names and dates frequently found in bibliographic citations.

1.3.7 Related Items

In some situations it is necessary to provide references from one bibliographic item to another. For these situations, MEI offers the relatedItem element. A relatedItem may be used inside of bibl, and may either point to a different entity using its @target attribute, or may hold the related item as a child.

```
<bibl>
 <genre>letter </genre>
 <author>Carl Nielsen </author>
```

```
<recipient>Gustav Hetsch </recipient>
<creation>
  <date isodate= "1915-04-08"> 1915-04-08 </date>
</creation>
<physLoc>
  <repository>
    <identifier authURI= "http://www.rism.info/" authority= "RISM"> DK-Kk </identifier>
  </repository>
  <identifier>CNA IAc </identifier>
</physLoc>
<relatedItem rel= "host">
  <bibl xml:id= "shared.bibl_d1e380372">
    <title>CNB </title>
    <biblScope>V/210 </biblScope>
  </bibl>
</relatedItem>
</bibl>
```

In this example, the nested relatedItem / bibl provides information about the 'container' where the outer bibl may be found. The kind of relation is expressed using the @rel attribute. It describes the relationship of the child bibl to the relatedItem's parent bibl.

@rel Describes the relationship between the <relatedItem> and the resource described in the parent element, i.e., <bibl>, <source> or <relatedItem>. The values are based on MODS version 3.4. The subject of these relations is always the <relatedItem>, and the object is always the parent of the <relatedItem>. "preceding" and "succeeding" indicate temporal order.

In these relations, the subject is always the relatedItem, and the object is always the parent of the relatedItem. Thus, a value of @rel="preceding" indicates that the resource described within the relatedItem (or referenced by its @target attribute) precedes the bibl containing the relatedItem. Following MODS, both values of "preceding" and "succeeding" indicate a temporal order.

It is important not to confuse relatedItem with the concepts of FRBR; see 2.9 RelatedItem vs. FRBR.

1.4 Common Attributes

The following attributes, provided by the att.common attribute class, are available on nearly all elements in an MEI encoding. They provide the means to identify, label, and access elements in MEI-encoded files.

@xml:id	Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value.
@label	Provides a name or label for an element. The value may be any string.
@n	Provides a number-like designation for an element.
@xml:base	Provides a base URI reference with which applications can resolve relative URI references into absolute URI references.

The value of the @xml:id attribute serves as an identifier for an element and its content. Its value must be unique in the context of the current document and must conform to the definition of an XML Name provided by the W3C Recommendation at http://www.w3.org/TR/xml/#NT-Name. Suggestions for constructing an ID value can be found at http://www.w3.org/TR/xml/#sec-suggested-names.

The @xml:id attribute may take values similar to the following:

```
<!-- The following are all valid IDs. -->
<note xml:id= "n1"/>
<note xml:id= "_n1"/>
<note xml:id= "thisIsMyFavoriteNote"/>
<note xml:id= "shared.thisIsMyFavoriteNote"/>
```

This is an example of an incorrectly-formulated @xml:id value:

```
<!-- xml:id not valid as IDs are not allowed to start with a number. -->
<note xml:id= "1"/>
```

The @label and @n attributes both serve a labeling function; however, they differ in the values they allow. The @n attribute must be a single token, while @label may contain a string value that includes spaces. This makes @label useful for the capture of free-text labels, but a name or number specified with @n may be easier to process.

```
<!-- Example of a @label containing whitespace: -->
<mdiv label= "Allegro moderato"> … </mdiv>
<!-- Example of a processable @n attribute: -->
<measure n= "42">
 <!--…-->
</measure>
```

When a reference to an external entity is not a complete URI, the @xml:base attribute can record a value against which it can be resolved into a complete, or absolute, location.

```
<graphic target= "myImage.jpg" xml:base= "http://www.mySite.org/images/"/>
```

The value of @xml:base can be inherited from an ancestor. In the following example, the values of the graphic elements' @target attribute can be completed by the xml:base value specified for the facsimile element:

```
<facsimile xml:base= "http://www.mySite.org/images/">
 <surface>
   <graphic target= "myImage.jpg"/>
   <graphic target= "myImage.tif"/>
 </surface>
</facsimile>
```

See http://www.w3.org/TR/xmlbase/ for more details on xml:base.

2 The MEI Header

This chapter addresses the description of an encoded item so that the musical text, as well as its sources, encoding, and revisions are all thoroughly documented. Such documentation is necessary for scholars using the texts, for software processing them, and for catalogers in libraries and archives. Together these descriptions and declarations provide an electronic analog to the title page attached to a printed work. They also constitute an equivalent for the content of the code books or introductory manuals customarily accompanying electronic data sets.

Every MEI-conformant text not embedded in another XML carrier that provides for capturing metadata, such as TEI or METS, must carry a set of descriptions, prefixed to it and encoded as described in this chapter. This set is known as the MEI header, tagged meiHead, and has six major parts:

1. zero or more alternative identifiers, tagged with altId, each of which provides an identifying name or number associated with the file.
2. a file description, tagged fileDesc, containing a full bibliographic description of the computer file itself, from which a user of the text could derive a proper bibliographic citation, or which a librarian or archivist could use in creating a catalog entry recording its presence within a library or archive. The term computer file here is to be understood as referring to the whole intellectual entity or document described by the header, even when this is stored in multiple physical operating system files. The file description also includes information about the source or sources from which the electronic document was derived. The MEI elements used to encode the file description are described in section 2.1 File Description below.
3. an optional encoding description, tagged encodingDesc, which describes the relationship between an electronic text and its source or sources. It allows for detailed description of whether (or how) the text was normalized during transcription, how the encoder resolved ambiguities in the source, what levels of encoding or analysis were applied, and similar matters. The MEI elements used to encode the encoding description are described in section 2.2 Encoding Description below.
4. an optional work description, tagged workDesc, containing classification and contextual information about the work, such as its subject matter, the situation in which it was produced, the individuals described by or participating in producing it, and so forth. Such a work profile is of particular use in highly structured composite texts such as corpora or language collections, where it is often highly desirable to enforce a controlled descriptive vocabulary or to perform retrievals from a body of text in terms of text type or origin. The work description may however be of use in any form of automatic text processing. The MEI elements used to encode the work description are described in section 2.3 Work Description below.
5. zero or more elements, tagged extMeta, containing non-MEI metadata.
6. a revision history, tagged revisionDesc, which allows the encoder to provide a history of changes made during the development of the electronic text. The revision history is important for version control and for resolving questions about the history of a file. The MEI elements used to encode the revision description are described in section 2.5 Revision Description below.

2.1 File Description

The structure of the bibliographic description of a machine-readable or digital musical text resembles that of a book, an article, or other kinds of textual objects. The file description element of the MEI header has therefore been closely modelled on existing standards in library cataloging; it should thus provide enough information to allow users to give standard bibliographic references to the electronic text, and to allow catalogers to catalog it. Bibliographic citations occurring elsewhere in the header, and in the text itself, are derived from the same model.

The bibliographic description of an electronic musical text should be supplied by the mandatory fileDesc element:

> **<fileDesc>** (file description) – Contains a full bibliographic description of the MEI file.

The fileDesc element contains two mandatory and six optional elements, each of which is described in more detail below. These elements are listed below in the order in which they must occur within the fileDesc element.

> **<titleStmt>** (title statement) – Container for title and responsibility meta-data.
>
> **<editionStmt>** (edition statement) – Container for meta-data pertaining to a particular edition of the material being described.
>
> **<extent>** Used to express size in terms other than physical dimensions, such as number of pages, number of records in file, number of bytes, performance duration for music, audio recordings and visual projections, etc.
>
> **<pubStmt>** (publication statement) – Container for information regarding the publication or distribution of a bibliographic item, including the publisher's name and address, the date of publication, and other relevant details.
>
> **<seriesStmt>** (series statement) – Groups information about the series, if any, to which a publication belongs.
>
> **<notesStmt>** (notes statement)– Collects any notes providing information about a text additional to that recorded in other parts of the bibliographic description.
>
> **<sourceDesc>** (source description) – A container for the descriptions of the source(s) used in the creation of the electronic file.

A complete file description will resemble the following example:

```
<fileDesc>
 <titleStmt>
  <!-- title of the resource -->
 </titleStmt>
 <editionStmt>
  <!-- information about the edition of the resource -->
```

```
  </editionStmt>
  <extent>
    <!-- description of the size of the resource -->
  </extent>
  <pubStmt>
    <!-- information about the publication and distribution of the resource -->
  </pubStmt>
  <seriesStmt>
    <!-- information about any series to which the resource belongs -->
  </seriesStmt>
  <notesStmt>
    <!-- notes on other aspects of the resource -->
  </notesStmt>
  <sourceDesc>
    <!-- information about the source(s) from which the resource was derived -->
  </sourceDesc>
</fileDesc>
```

2.1.1 Title Statement

The titleStmt element is the first component of the fileDesc element, and is mandatory:

<titleStmt> (title statement) – Container for title and responsibility meta-data.

The title statement contains the title given to the electronic work, together with one or more optional statements of responsibility which identify the encoder, editor, author, compiler, or other parties responsible for it:

<title> Title of a bibliographic entity.

<arranger> A person or organization who transcribes a musical composition, usually for a different medium from that of the original; in an arrangement the musical substance remains essentially unchanged.

<author> The name of the creator of the intellectual content of a non-musical, literary work.

<composer> The name of the creator of the intellectual content of a musical work.

<editor> The name of the individual(s), institution(s) or organization(s) acting in an editorial capacity.

<funder> Names of individuals, institutions, or organizations responsible for funding. Funders provide financial support for a project; they are distinct from sponsors, who provide intellectual support and authority.

<librettist> Person or organization who is a writer of the text of an opera, oratorio, etc.

<lyricist> Person or organization who is a writer of the text of a song.

<sponsor> Names of sponsoring individuals, organizations or institutions. Sponsors give their intellectual authority to a project; they are to be distinguished from funders, who provide the funding but do not necessarily take intellectual responsibility.

<respStmt> (responsibility statement) – Names one or more individuals, groups, or in rare cases, mechanical processes, responsible for creation or realization of the intellectual or artistic content.

The title element contains the chief name of the electronic work. Its content takes the form considered appropriate by its creator. The element may be repeated, if the work has more than one title (perhaps in different languages). Where the electronic work is derived from an existing source text, it is strongly recommended that the title for the former should be derived from the latter, but clearly distinguishable from it, for example by the addition of a phrase such as ': an electronic transcription' or 'a digital edition'. This will distinguish the electronic work from the source text in citations and in catalogs, which contain descriptions of both types of material.

```
<titleStmt>
 <title>Lieder-Album für die Jugend </title>
 <title type= "subtitle"> für Singstimme(n) und Klavier,
   <identifier>op. 79 </identifier>
 </title>
 <title type= "subtitle"> an electronic transcription </title>
</titleStmt>
```

Other alternative titles or subtitles may be encoded in additional title elements with values in the @type attribute that distinguish them from the chief title. Sample values for the @type attribute include: main (main title), subordinate (subtitle, title of part), abbreviated (abbreviated form of title), alternative (alternate title by which the work is also known), translated (translated form of title), uniform (collective title).

The @type attribute is provided for convenience in analyzing titles and processing them according to their type; where such specialized processing is not necessary, there is no need for such analysis, and the entire title, including subtitles and any parallel titles, may be enclosed within a single title element, as in the following example:

```
<title>Symphony No. 5 in C Minor : an electronic transcription </title>
```

The electronic work will also have an external name (its 'filename' or 'data set name') or reference number on the computer system where it resides at any time. This name is likely to change frequently, as new copies of the file are made on the computer system. Its form is entirely dependent on the particular computer system in use and thus cannot always easily be transferred from one system to another. Moreover, a given work may be composed of many files. For these reasons, these Guidelines strongly recommend that such names should not be used as the title for any electronic work.

Helpful guidance on the formulation of useful descriptive titles in difficult cases may be found in the Anglo-American Cataloguing Rules (Gorman and Winkler, 1978, chapter 25) or in equivalent national-level bibliographical documentation.

At a minimum, the creator of the musical text and the creator of the file should be identified. If the bibliographic description is for a corpus, identify the creator of the corpus. Optionally also include the names of others involved in the transcription or elaboration of the text, sponsors, and funding agencies. The name of the

person responsible for physical data input need not normally be recorded, unless that person is also intellectually responsible for some aspect of the creation of the file.

In traditional bibliographic practice, those with primary creative responsibility are given special prominence. MEI accommodates this approach by providing responsibility-role elements. For example:

```
<titleStmt>
 <title>Auf dem Hügel sitz ich spähend : an electronic transcription </title>
 <composer>Ludwig van Beethoven </composer>
 <lyricist>Aloys Jeitteles </lyricist>
</titleStmt>
```

Secondary intellectual responsibility in this case is encoded using respStmt. The respStmt element has two subcomponents: a name element identifying a responsible individual or organization, and a resp element indicating the nature of the responsibility. All names should be stated in the form in which the persons or bodies wish to be publicly cited. This will usually be the fullest form of the name, including first names. No specific recommendations are made at this time as to appropriate content for resp. However, it should make clear the nature of the responsibility.

```
<titleStmt>
 <title>Auf dem Hügel sitz ich spähend : an electronic transcription </title>
 <composer>Ludwig van Beethoven </composer>
 <lyricist>Aloys Jeitteles </lyricist>
 <respStmt>
   <resp>Encoded by </resp>
   <name>Maja Hartwig </name>
   <name>Kristina Richts </name>
 </respStmt>
</titleStmt>
```

This method of encoding facilitates exchange of bibliographic data with library catalogs and bibliographic databases as well as applications whose handling of bibliographic data is restricted to traditional responsibility roles. Additional information regarding these responsibility-role elements can be found in chapter 1.3.6 Bibliographic Citations and References.

When the MEI.namesdates module is enabled, two additional elements are also permitted within respStmt:

<corpName> (corporate name) – Identifies an organization or group of people that acts as a single entity.

<persName> (personal name) – Designation for an individual, including any or all of that individual's forenames, surnames, honorific titles, and added names.

These elements allow for more precise identification of the entity associated with the name than is permitted by the simpler name element. The following example shows how a precise date range can be associated with a personal or corporate name.

```
<respStmt>
 <resp>Machine-readable transcription by: </resp>
 <persName enddate= "1940-11-06" startdate= "1860-01-01"> John Doe </persName>
</respStmt>
```

For additional information about corporate and personal names, see chapter 17 Names and Dates.

In addition to, or instead of the resp element, the @role attribute on name, persName, and corpName may be used to capture the nature of responsibility. While resp accommodates capturing the wide variety of text that may occur in responsibility statements, use of the @role attribute provides the possibility of recording a controlled value independently of the textual content of resp.

```
<respStmt>
 <resp>Encoded by </resp>
 <corpName role= "encoder"> Members of the Local Symphony Orchestra </corpName>
</respStmt>
```

Values from the MARC relator code list (http://www.loc.gov/marc/relators/relacode.html) or term list (http://www.loc.gov/marc/relators/relaterm.html) are recommended for @role, where applicable.

Where it is necessary to group responsibilities and names, multiple responsibility statements may be used. For example:

```
<titleStmt>
 <title>Symphony No. 5 in C Minor : an electronic transcription </title>
 <respStmt>
   <resp>Encoded by </resp>
   <persName role= "encoder"> Joe Encoder </persName>
   <persName role= "encoder"> Jane Decoder </persName>
 </respStmt>
 <respStmt>
   <resp>Images scanned by </resp>
   <persName>Ludwig van Ludwig </persName>
 </respStmt>
</titleStmt>
```

It is often desirable to mix primary and secondary intellectual responsibility information. Treating all intellectual roles the same way can allow literal transcription of existing responsibility statements and simplify programmatic processing. The following example demonstrates how a responsibility statement may be transcribed using interleaved resp and persName elements:

```
<titleStmt>
 <title>Symphony No. 5 in C Minor : an electronic transcription </title>
 <respStmt>
   <resp>Composed by: </resp>
   <persName role= "composer"> Ludwig van Beethoven </persName>
```

```
    <persName role= "encoder"> Johannes Jones: </persName>
    <resp>Machine-readable transcription </resp>
  </respStmt>
</titleStmt>
```

However, eliminating explanatory text and relying on standardized values for @role, as in the following example, allows data creation and processing tools of the greatest simplicity.

```
<titleStmt>
 <title>Symphony No. 5 in C Minor : an electronic transcription </title>
 <respStmt>
   <persName role= "composer"> Ludwig van Beethoven </persName>
   <persName role= "editor"> Johannes Jones </persName>
 </respStmt>
</titleStmt>
```

2.1.2 Edition Statement

The editionStmt element is the second component of the fileDesc element. It is optional but recommended when applicable.

> **<editionStmt>** (edition statement) – Container for meta-data pertaining to a particular edition of the material being described.

It contains elements for identifying the edition and those responsible for it:

> **<edition>** (edition designation) – A word or text phrase that indicates a difference in either content or form between the item being described and a related item previously issued by the same publisher/ distributor (e.g. 2nd edition, version 2.0, etc.), or simultaneously issued by either the same publisher/ distributor or another publisher/distributor (e.g. large print edition, British edition, etc.).
>
> **<respStmt>** (responsibility statement) – Names one or more individuals, groups, or in rare cases, mechanical processes, responsible for creation or realization of the intellectual or artistic content.

For printed texts, the term 'edition' applies to the set of all the identical copies of an item produced from one master copy and issued by a particular publishing agency or a group of such agencies. A change in the identity of the distributing body or bodies does not normally constitute a change of edition, while a change in the master copy does.

For electronic texts, the notion of a *master copy* is not entirely appropriate, since they are far more easily copied and modified than printed ones; nonetheless, the term edition may be used for a particular state of a machine-readable text at which substantive changes are made and fixed. Synonymous terms used in these Guidelines are *version*, *level*, and *release*. The words *revision* and *update*, by contrast, are used for minor changes to a file which do not amount to a new edition.

No simple rule can specify how substantive changes have to be before they are regarded as producing a new edition, rather than a simple update. The general principle proposed here is that the production of a new edition entails a significant change in the intellectual content of the file, rather than its encoding or appearance. The addition of analytic coding to a text would thus constitute a new edition, while automatic conversion from one coded representation to another would not. Changes relating to the character code or physical storage details, corrections of misspellings, simple changes in the arrangement of the contents and changes in the output format do not normally constitute a new edition, whereas the addition of new information (e.g., annotations, sound or images, links to external data) almost always does.

Clearly, there will always be borderline cases and the matter is somewhat arbitrary. The simplest rule is: if you think that your file is a new edition, then call it such. An edition statement is optional for the first release of a computer file; it is mandatory for each later release, though this requirement cannot be enforced.

Note that all changes in a file, whether or not they are regarded as constituting a new edition or simply a revision, should be independently noted in the revision description section of the file header (see section 2.5 Revision Description).

The edition element should contain phrases describing the edition or version, including the word 'edition', 'version', or an equivalent term, together with a number or date, or terms indicating difference from other editions such as 'new edition', 'revised edition', etc. Any dates that occur within the edition statement should be marked with the date element. The @n attribute of the edition element may be used as elsewhere to supply any formal identification (such as a version number) for the edition.

One or more respStmt elements may also be used to supply statements of responsibility for the edition in question. These may refer to individuals or corporate bodies and can indicate functions such as that of a reviser, or can name the person or body responsible for the provision of supplementary matter, of appendices, etc., in a new edition.

Some examples follow:

```
<editionStmt>
 <edition n= "Draft2"> Second draft, substantially extended, revised, and corrected.
 </edition>
</editionStmt>
```

```
<editionStmt>
 <edition>Student's edition,
   <date>June 1987 </date>
 </edition>
 <respStmt>
   <resp>New annotations by </resp>
   <name>George Brown </name>
 </respStmt>
</editionStmt>
```

2.1.3 Physical Description of the File

The third component of the fileDesc is a description of the physical qualities of the file. The extent element is provided for this purpose.

> **<extent>** Used to express size in terms other than physical dimensions, such as number of pages, number of records in file, number of bytes, performance duration for music, audio recordings and visual projections, etc.

The extent element describes the approximate size of a text as stored on some carrier medium, whether digital or non-digital, specified in any convenient units.

For printed books, information about the carrier, such as the kind of medium used and its size, are of great importance in cataloging procedures. The print-oriented rules for bibliographic description of an item's medium and extent need some re-interpretation when applied to electronic media. An electronic file exists as a distinct entity quite independently of its carrier and remains the same intellectual object whether it is stored as file on a hard disc drive, a CD-ROM, a set of USB devices, or in the internet. Since, moreover, these Guidelines are specifically aimed at facilitating transparent document storage and interchange, any purely machine-dependent information should be irrelevant as far as the file header is concerned.

This is particularly true of information about file-type although library-oriented rules for cataloging often distinguish two types of computer file: 'data' and 'programs'. This distinction is quite difficult to draw in some cases, for example, hypermedia or texts with built-in search and retrieval software.

Although it is equally system-dependent, some measure of the size of the computer file may be of use for cataloging and other practical purposes. Because the measurement and expression of file size is fraught with difficulties, only very general recommendations are possible; the element extent should contain a phrase indicating the size or approximate size of the computer file in one of the following ways:

- in bytes of a specified length (e.g. '4000 bytes')
- as falling within a range of values, for example:
    - less than 1 Mb
    - between 1 Mb and 5 Mb
    - between 6 Mb and 10 Mb
    - over 10 Mb
- in terms of any convenient logical units (for example, words or sentences, citations, paragraphs)
- in terms of any convenient physical units (for example, compact discs, removable hard drives, DVDs)

The use of standard abbreviations for units of quantity is recommended where applicable, here as elsewhere (see http://physics.nist.gov/cuu/Units/binary.html).

```
<physDesc>
```

```
<extent>between 1 MB and 2 MB </extent>
<extent>4.2 MiB </extent>
<extent>4532 Mbytes </extent>
<extent>3200 sentences </extent>
<extent>5 90-mm high density diskettes </extent>
</physDesc>
```

For ease of processability, the use of the @unit attribute is recommended, as in the following example:

```
<extent unit= "sentence"> 3200 </extent>
```

2.1.4 Publication, Distribution, etc.

The pubStmt element is the fourth component of the fileDesc element and is mandatory.

> **<pubStmt>** (publication statement) – Container for information regarding the publication or distribution of a bibliographic item, including the publisher's name and address, the date of publication, and other relevant details.

It may contain either a single unpub element, indicating that the file has yet to be published, or in the case of published material, one or more elements from the model.pubStmtPart class. The following elements may be used to provide details regarding the file's publication and distribution:

> **<address>** Contains a postal address, for example of a publisher, an organization, or an individual.
>
> **<availability>** Groups elements that describe the availability of and access to a bibliographic item, including an MEI-encoded document.
>
> **<date>** A string identifying a point in time or the time period between two such points.
>
> **<distributor>** Person or agency, other than a publisher, from which access (including electronic access) to a bibliographic entity may be obtained.
>
> **<identifier>** An alpha-numeric string that establishes the identity of the described material.
>
> **<publisher>** Name of the organization responsible for the publication of a bibliographic item.
>
> **<pubPlace>** (publication place) – Name of the place where a bibliographic item was published.
>
> **<respStmt>** (responsibility statement) – Names one or more individuals, groups, or in rare cases, mechanical processes, responsible for creation or realization of the intellectual or artistic content.

The publisher is the person or institution by whose authority a given edition of the file is made public. The distributor is the person or institution from whom copies of the text may be obtained. Use respStmt to identify other responsible persons or corporate bodies.

The sub-elements of availability should be used to provide detailed information regarding access to the MEI file.

<accessRestrict> (access restriction) – Describes the conditions that affect the accessibility of material.

<distributor> Person or agency, other than a publisher, from which access (including electronic access) to a bibliographic entity may be obtained.

<price> The cost of access to a bibliographic item.

<sysReq> (system requirements) – System requirements for using the electronic item.

<useRestrict> (usage restrictions) – Container for information about the conditions that affect use of a bibliographic item after access has been granted.

```
<pubStmt>
 <publisher>
   <corpName>Musikwissenschaftliches Seminar <Detmold> </corpName>
 </publisher>
 <address>
   <addrLine>Gartenstrasse 20 </addrLine>
   <addrLine>32756
     <geogName>Detmold </geogName>
   </addrLine>
   <addrLine>
     <geogName>Germany </geogName>
   </addrLine>
 </address>
 <date>2011 </date>
 <availability>
   <useRestrict>© 2004, MEI Consortium </useRestrict>
 </availability>
</pubStmt>
```

```
<pubStmt>
 <publisher>
   <corpName>Segno Press Inc. </corpName>
 </publisher>
 <distributor>
   <corpName>University of Virginia </corpName>
   <address>
     <addrLine>221 B LowWater Street, </addrLine>
     <addrLine>Charlottesville, Virginia </addrLine>
     <addrLine>22901 </addrLine>
   </address>
 </distributor>
 <date>2010 </date>
 <identifier>1234 </identifier>
 <availability>
   <useRestrict>Available for purposes of academic research and teaching only.
   </useRestrict>
 </availability>
</pubStmt>
```

Give any other useful information (e.g., dates of collection of data) in an annotation within the notes statement, which is described below.

Here, as in the description of intellectual responsibility described above, the respStmt element may be used to contain all statements of responsibility regarding publication and distribution when uniformity is desired regardless of the role of participants in the publication process:

```
<respStmt>
 <corpName role= "publisher"> MEI Project </corpName>
 <corpName authURI= "http://d-nb.info/gnd" authority= "GND" codedval= "2007744-0" role=
 "funder"> German Research Foundation </corpName>
 <corpName authURI= "http://d-nb.info/gnd/18183-3" authority= "Deutsche
 Nationalbibliothek" codedval= "18183-3" role= "funder"> National Endowment for the
 Humanities </corpName>
</respStmt>
```

2.1.5 Series Statement

The seriesStmt element is the fifth component of the fileDesc element and is optional.

> **<seriesStmt>** (series statement) – Groups information about the series, if any, to which a publication belongs.

A series may be defined in one of the following ways:

- A group of separate items related to one another by the fact that each item bears, in addition to its own title proper, a collective title applying to the group as a whole. The individual items may or may not be numbered.
- Each of two or more volumes of essays, lectures, articles, or other items, similar in character and issued in sequence.
- A separately numbered sequence of volumes within a series or serial.

The seriesStmt element may contain one or more of the following more specific elements:

> **<contents>** Description of the material contained within a resource.
>
> **<editor>** The name of the individual(s), institution(s) or organization(s) acting in an editorial capacity.
>
> **<identifier>** An alpha-numeric string that establishes the identity of the described material.
>
> **<respStmt>** (responsibility statement) – Names one or more individuals, groups, or in rare cases, mechanical processes, responsible for creation or realization of the intellectual or artistic content.
>
> **<seriesStmt>** (series statement) – Groups information about the series, if any, to which a publication belongs.
>
> **<title>** Title of a bibliographic entity.

The title, editor and identifier elements have the same function described above: identification of the item, in this case the series, and the individuals or groups responsible for its creation. The title element is required within seriesStmt.

```
<seriesStmt>
 <title>MEI Sample Collection </title>
</seriesStmt>
```

The identifier element may be used to supply any identifying number associated with the series, including both standard numbers such as an ISSN and particular issue numbers. Its @type attribute is used to categorize the number further, taking the value 'ISSN' for an ISSN, for example.

```
<seriesStmt>
 <title level= "s"> Studies in Ornamentation </title>
 <editor>Jacques Composeur </editor>
 <identifier type= "ISSN"> 0-345-6789 </identifier>
</seriesStmt>
```

The contents of the series may be enumerated using the contents element. Use of this element should be determined by the complexity of the resource and whether or not the information is readily available. The contents element may consist of a single paragraph when unstructured information is sufficient.

```
<contents>
 <p>On Wenlock Edge -- From Far, From Eve and Morning -- Is My Team Ploughing? -- Oh,
 When I Was In Love With You -- Bredon Hill -- Clun </p>
</contents>
```

Alternatively, contentItem elements may be used to provide structure for the content description.

```
<contents>
 <head>Contents </head>
 <contentItem>On Wenlock Edge </contentItem>
 <contentItem>From Far, From Eve and Morning </contentItem>
 <contentItem>Is My Team Ploughing? </contentItem>
 <contentItem>Oh, When I Was In Love With You </contentItem>
 <contentItem>Bredon Hill </contentItem>
 <contentItem>Clun </contentItem>
</contents>
```

Finally, using the @target attribute, a link to an external table of contents may be supplied in lieu of or in addition to the child elements of contents.

```
<contents target= "http://www.series.content/12345"/>
```

The seriesStmt element is allowed to nest within itself in order to accommodate a series within a series.

2.1.6 Notes Statement

The notesStmt element is the sixth component of the fileDesc element and is optional. If used, it contains one or more annot elements, each containing a single piece of descriptive information of the kind treated as 'general notes' in traditional bibliographic descriptions.

> **<notesStmt>** (notes statement)– Collects any notes providing information about a text additional to that recorded in other parts of the bibliographic description.

Some information found in the notes area in conventional bibliography has been assigned specific elements in these Guidelines; in particular the following items should be tagged as indicated, rather than as general notes:

- the nature, scope, artistic form, or purpose of the work; also the genre or other intellectual category to which it may belong. These should be formally described within the workDesc element (section 2.3 Work Description).
- bibliographic details relating to the source or sources of an electronic text: e.g., 'Transcribed from a facsimile of the 1743 publication'. These should be formally described in the sourceDesc element (section 2.1.7 Source Description).
- further information relating to publication, distribution, or release of the text, including sources from which the text may be obtained, any restrictions on its use or formal terms on its availability. These should be placed in the appropriate division of the pubStmt element (section 2.1.4 Publication, Distribution, etc.).
- publicly documented numbers associated *with the file* should be placed in an altId element within the meiHead element. International Standard Serial Numbers (ISSN), International Standard Book Numbers (ISBN), and other internationally agreed upon standard numbers that uniquely identify an item, should be treated in the same way, rather than as specialized bibliographic notes. As described elsewhere, identifiers *for sources of the file* should be recorded within the sourceDesc.

Nevertheless, the notesStmt element may be used to record potentially significant details about the file and its features, for example:

- dates, when they are relevant to the content or condition of the computer file: e.g. 'manual dated 2010', 'file validated Apr 2011'
- names of persons or bodies connected with the technical production, administration, or consulting functions of the effort which produced the file, if these are not named in statements of responsibility in the title or edition statements of the file description: e.g. 'Historical commentary provided by members of the Big Symphony Orchestra'
- availability of the file in an additional medium or information not already recorded about the availability of documentation: e.g. 'User manual is loose-leaf in eleven paginated sections'
- language of work and abstract, if not encoded in the langUsage element, e.g. 'Text in English with stage directions in French and German'

Each such item of information may be tagged using the general-purpose annot element. Groups of annotations are contained within the notesStmt element, as in the following example:

```
<notesStmt>
 <annot>Historical commentary provided by John Smith. </annot>
 <annot>OCR scanning performed at University of Virginia. </annot>
</notesStmt>
```

There are advantages, however, to encoding such information with more precise elements elsewhere in the MEI header, when such elements are available. For example, the notes above might be encoded as follows:

```
<titleStmt>
 <title>… </title>
 <respStmt>
   <persName>John Smith </persName>
   <resp>historical commentary </resp>
 </respStmt>
 <respStmt>
   <corpName>University of Virginia </corpName>
   <resp>OCR scanning </resp>
 </respStmt>
</titleStmt>
```

2.1.7 Source Description

The sourceDesc element is the seventh and final component of the fileDesc element. In MEI, sourceDesc is a grouping element containing one or more source elements, each of which records details of a source from which the computer file is derived. This might be a printed text or manuscript, another computer file, an audio or video recording, or a combination of these. An electronic file may also have no source, if what is being cataloged is an original text created in electronic form.

<sourceDesc> (source description) – A container for the descriptions of the source(s) used in the creation of the electronic file.

<source> A bibliographic description of a source used in the creation of the electronic file.

The content model of the source element is similar to that of the fileDesc and work elements. The list below reflects the order in which the optional components of source must occur.

<identifier> An alpha-numeric string that establishes the identity of the described material.

<titleStmt> (title statement) – Container for title and responsibility meta-data.

<editionStmt> (edition statement) – Container for meta-data pertaining to a particular edition of the material being described.

<pubStmt> (publication statement) – Container for information regarding the publication or distribution of a bibliographic item, including the publisher's name and address, the date of publication, and other relevant details.

<physDesc> (physical description) – Container for information about the appearance, construction, or handling of physical materials, such as their dimension, quantity, color, style, and technique of creation.

<physLoc> (physical location) – Groups information about the current physical location of a bibliographic item, such as the repository in which it is located and its shelf mark(s), and its previous locations.

<seriesStmt> (series statement) – Groups information about the series, if any, to which a publication belongs.

<history> Provides a container for information about the history of a resource. To facilitate efficient data interchange, basic information about the circumstances surrounding the creation of bibliographic resources should be recorded within the creation element.

<langUsage> (language usage) – Groups elements describing the languages, sub-languages, dialects, etc., represented within the encoded resource.

<contents> Description of the material contained within a resource.

<biblList> List of bibliographic references.

<notesStmt> (notes statement)– Collects any notes providing information about a text additional to that recorded in other parts of the bibliographic description.

<classification> Groups information which describes the nature or topic of an entity.

When the MEI.frbr module is available, the following elements may also appear after the classification element. Additional information regarding FRBR (Functional Requirements for Bibliographic Records) can be found at 3 Functional Requirements for Bibliographic Records (FRBR).

<itemList> Gathers bibliographic item entities.

<componentGrp> (component group) – Container for components of a bibliographic entity.

<relationList> Gathers bibliographic relation elements.

In the simplest case, the source element may contain nothing more than a notes statement giving a simple prose description or a brief note stating that the document has no physical source:

```
<sourceDesc>
 <source>
  <notesStmt>
    <annot>Based on the Porter Wagner edition. </annot>
  </notesStmt>
 </source>
</sourceDesc>
```

```
<sourceDesc>
```

```
 <source>
   <notesStmt>
     <annot>Born digital. </annot>
   </notesStmt>
 </source>
</sourceDesc>
```

Alternatively, it may contain a basic bibliographic citation, also in an annotation:

```
<sourceDesc>
 <source>
   <notesStmt>
     <annot>Bach, Carl Philipp Emanuel. Sonata in B-flat major, Wq.62/1 (H.2) </annot>
   </notesStmt>
 </source>
</sourceDesc>
```

However, more structured bibliographic data, such as that in the example below, facilitates better machine-processing:

```
<sourceDesc>
 <source xml:id= "header.s1">
   <identifier>s1 </identifier>
   <titleStmt>
     <title>Sonata in B-flat major,
        <identifier>Wq. 62/1 (H.2) </identifier>
     </title>
     <respStmt>
        <name>Bach, Carl Philipp Emanuel </name>
     </respStmt>
   </titleStmt>
   <pubStmt>
     <pubPlace>Paris </pubPlace>
     <respStmt>
        <name>A. Farrenc </name>
     </respStmt>
     <date>1861-72 </date>
   </pubStmt>
   <seriesStmt>
     <title>Tresor des Pianistes, Vol. 13 </title>
   </seriesStmt>
   <notesStmt>
     <annot>reprinted New York: Dover Publications, n.d. </annot>
   </notesStmt>
 </source>
</sourceDesc>
```

A description of more precise capture of dates and date ranges is provided in chapter 17 Names and Dates.

The identifier element is provided within source in order to accommodate identifying strings which cannot be captured by the @xml:id attribute, such as numbers or strings requiring XML markup.

The titleStmt, editionStmt, pubStmt, seriesStmt, and notesStmt elements function in exactly the same way as described in section 2.1 File Description above and 2.3 Work Description below and will not be covered again here.

If a source of the file is an unpublished manuscript, it is recommended that the unpub element be used as the only content of the source's pubStmt element. Other identifying information for the manuscript may be collected in the notesStmt element, as described in section 2.1.6 Notes Statement.

```
<source>
 <titleStmt>
   <title>[Untitled Bach Manuscript] </title>
   <respStmt>
     <persName>Johann Sebastian Bach </persName>
   </respStmt>
 </titleStmt>
 <pubStmt>
   <unpub/>
 </pubStmt>
 <notesStmt>
   <annot>Manuscript discovered in library stacks, 2012 </annot>
 </notesStmt>
</source>
```

2.1.7.1 Associating Metadata and Data

In the MEI header, the @data attribute may be used to associate metadata with related notational elements.

Similarly, in the body of the MEI document, the @decls attribute may be used to associate parts of the encoded text with related metadata.

The most useful associations of this type are between the bibliographic description of a source and the material taken from it.

2.2 Encoding Description

The encodingDesc element is the second major subdivision of the MEI header. It specifies the methods and editorial principles which governed the transcription or encoding of the source material. Though not formally required, its use is highly recommended.

<encodingDesc> (encoding description) – Documents the relationship between an electronic file and the source or sources from which it was derived as well as applications used in the encoding/editing process.

The encoding description may contain elements taken from the model.encodingPart class. By default, this class makes available the following elements:

<appInfo> (application information) – Groups information about applications which have acted upon the MEI file.

<editorialDecl> (editorial declaration) – Used to provide details of editorial principles and practices applied during the encoding of musical text.

<projectDesc> (project description) – Project-level meta-data describing the aim or purpose for which the electronic file was encoded, funding agencies, etc. together with any other relevant information concerning the process by which it was assembled or collected.

<samplingDecl> (sampling declaration) – Contains a prose description of the rationale and methods used in sampling texts in the creation of a corpus or collection.

Each of these elements is further described in the appropriate section below.

2.2.1 Application Information

It is sometimes convenient to store information relating to the processing of an encoded resource within its header. Typical uses for such information might be:

- to allow an application to discover that it has previously opened or edited a file, and what version of itself was used to do that;
- to show (through a date) which application last edited the file to allow for diagnosis of any problems that might have been caused by that application;
- to allow users to discover information about an application used to edit the file
- to allow the application to declare an interest in elements of the file which it has edited, so that other applications or human editors may be more wary of making changes to those sections of the file.

<application> Provides information about an application which has acted upon the current document.

@version Supplies a version number for an application, independent of its identifier or display name.

Each application element identifies the current state of one software application with regard to the current file. This element is a member of the att.datable class, which provides a variety of attributes for associating this state with a date and time, or a temporal range. The @xml:id and @version attributes should be used to uniquely identify the application and its major version number (for example, 'Music Markup Tool 1.5'). It is not intended that a software application should add a new application element each time it touches the file.

The following example shows how these elements might be used to record the fact that version 1.5 of an application called 'Music Markup Tool' has an interest in two parts of a document. The parts concerned are accessible at the URLs given as targets of the two ptr elements. When used on application, the @date attribute specifies when the application was employed, in this case June 6, 2011. Version information for the application should be placed in @version.

```
<appInfo>
 <application isodate= "2011-06-06" version= "1.5" xml:id= "header.MusicMarkupTool">
   <name>Music Markup Tool </name>
   <ptr target= "#header.P1"/>
   <ptr target= "#header.P2"/>
 </application>
</appInfo>
```

2.2.2 Declaration of Editorial Principles

The editorialDecl element is used to provide details of the editorial practices applied during the encoding of a musical text.

It may contain a prose description only, or one or more of a set of specialized elements; that is, members of the MEI model.editorialDeclPart class.

Some of these policy elements carry attributes to support automated processing of certain well-defined editorial decisions; all of them contain a prose description of the editorial principles adopted with respect to the particular feature concerned. Examples of the kinds of questions which these descriptions are intended to answer are given in the list below.

correction **<correction>** States how and under what circumstances corrections have been made in the text.

@corrlevel Indicates the degree of correction applied to the text.

@method Indicates the method employed to mark corrections and normalizations.

Was the text corrected during or after data capture? If so, were corrections made silently or are they marked using the tags described in chapter 11 Editorial Markup? What principles have been adopted with respect to omissions, truncations, dubious corrections, alternate readings, false starts, repetitions, etc.?

interpretation **<interpretation>** Describes the scope of any analytic or interpretive information added to the transcription of the music.

Has any analytic or 'interpretive' information been provided — that is, information which is felt to be non-obvious, or potentially contentious? If so, how was it generated? How was it encoded?

normalization **<normalization>** Indicates the extent of normalization or regularization of the original source carried out in converting it to electronic form.

@method Indicates the method employed to mark corrections and normalizations.

Was the text normalized, for example by regularizing any non-standard enharmonic spellings, etc.? If so, were normalizations performed silently or are they marked using the tags described in chapter 11 Editorial Markup ? What authority was used for the regularization? Also, what principles were used when normalizing numbers to provide the standard values for the @value attribute described in section 1.3.4 Names, Dates, Numbers, Abbreviations, and Addresses and what format is used for them?

segmentation **<segmentation>** Describes the principles according to which the musical text has been segmented, for example into movements, sections, etc.

How is the musical text segmented? If mdiv and/or section elements have been used to partition the music for analysis, how are they marked and how was the segmentation arrived at?

standard values **<stdVals>** (standard values) – Specifies the format used when standardized date or number values are supplied.

In most cases, attributes bearing standardized values should conform to a defined datatype. In cases where this is not appropriate, this element may be used to describe the standardization methods underlying the values supplied.

Experience shows that a full record should be kept of decisions relating to editorial principles and encoding practice, both for future users of the text and for the project which produced the text in the first instance. Any information about the editorial principles applied not falling under one of the above headings may be recorded as additional prose following the special-use elements.

```
<editorialDecl>
 <segmentation>
   <p>Separate mdiv elements have been created for each movement of the work. </p>
 </segmentation>
 <interpretation>
   <p>The harmonic analysis applied throughout movement 1 was added by hand and has not
   been checked. </p>
 </interpretation>
 <correction>
   <p>Errors in transcription controlled by using the Finale editor. </p>
```

```
 </correction>
 <normalization>
   <p>All sung text converted to Modern American spelling following Webster's 9th
   Collegiate dictionary. </p>
 </normalization>
 <p>
   <!-- Other editorial practices described here. -->
 </p>
</editorialDecl>
```

An editorial practices declaration which applies to more than one text or division of a text need not be repeated in the header of each text or division. Instead, the @decls attribute of each text (or subdivision of the text) to which it applies may be used to supply a cross-reference to a single declaration encoded in the header.

2.2.3 Project Description

> **<projectDesc>** (project description) – Project-level meta-data describing the aim or purpose for which the electronic file was encoded, funding agencies, etc. together with any other relevant information concerning the process by which it was assembled or collected.

The projectDesc element may be used to describe, in prose, the purpose for which a digital resource was created, together with any other relevant information concerning the process by which it was assembled or collected. This is of particular importance for corpora or miscellaneous collections, but may be of use for any text, for example to explain why one kind of encoding practice has been followed rather than another.

For example:

```
<encodingDesc>
 <projectDesc>
   <p>Texts collected for use in the MEI Summer Workshop, Aug. 2012. </p>
 </projectDesc>
</encodingDesc>
```

2.2.4 Sampling Declaration

The samplingDecl element holds a prose description of the rationale and methods used in selecting texts, or parts of text, for inclusion in the resource.

> **<samplingDecl>** (sampling declaration) – Contains a prose description of the rationale and methods used in sampling texts in the creation of a corpus or collection.

The samplingDecl element should include information about such matters as:

- the size of individual samples
- the method or methods by which they were selected

- the underlying population being sampled
- the object of the sampling procedure used

but is not restricted to these.

```
<samplingDecl>
 <p>Encoding contains 40 randomly-selected measures. </p>
</samplingDecl>
```

It may also include a simple description of any parts of the source text included or excluded:

```
<samplingDecl>
 <p>Only the songs have been transcribed. Advertisements have been silently omitted.
 All mathematical expressions have been omitted, and their place marked with a
   <gi scheme= "MEI"> gap </gi>
 element. </p>
</samplingDecl>
```

```
<samplingDecl>
 <p>Only the first 6 measures of movement 1 are encoded. </p>
</samplingDecl>
```

A sampling declaration which applies to more than one text or division of a text need not be repeated in the header of each such text. Instead, the @decls attribute of each text (or subdivision of the text) to which the sampling declaration applies may be used to supply a cross-reference to it, as further described in section 2.1.7.1 Associating Metadata and Data.

2.3 Work Description

The workDesc element is the third major subdivision of the MEI Header. It is an optional element, the purpose of which is to enable the recording of information characterizing various descriptive aspects of the abstract work.

> **<workDesc>** (work description) – Grouping mechanism for information describing non-bibliographic aspects of a text.

Within workDesc, the work element is used to hold information for each resource being described.

> **<work>** Provides a detailed description of a work, specifically its history, language use, and high-level musical attributes: key, tempo, meter, medium of performance, and intended duration.

All the components of work are optional, but they must occur in the following order:

1. identifier
2. titleStmt
3. incip
4. key
5. mensuration
6. meter
7. tempo
8. otherChar
9. history
10. langUsage
11. perfMedium
12. audience
13. contents
14. context
15. biblList
16. notesStmt
17. classification

These work description components may be classed into two groups based on their function:

- identification of the work: identifier, titleStmt, incip, key, mensuration, meter, tempo, otherChar
- contextual information for the work: history, langUsage, perfMedium, audience, contents, context, biblList, notesStmt, classification

2.3.1 Work Identification

The following elements provide minimal identifying information for the intellectual work:

<identifier> An alpha-numeric string that establishes the identity of the described material.

<titleStmt> (title statement) – Container for title and responsibility meta-data.

The identifier and title values recorded here may or may not be the same as those assigned to published versions of the work. Fuller details regarding the use of titleStmt are available in section 2.1.1 Title Statement.

2.3.2 Incipits

<incip> (incipit) – The opening music and/or words of a composition.

The first few notes and/or words of a piece of music are often used for identification purposes, especially when the piece has only a generic title, such as "Sonata no. 3". They appear in catalogs of music and in tables of contents of printed music that include multiple works.

The following elements are provided for the inclusion of incipits:

<incip> (incipit) – The opening music and/or words of a composition.

<incipCode> Incipit coded in a non-XML, plain text format, such as Plaine & Easie Code.

<incipText> Opening words of a musical composition.

The elements incipCode and incipText are available for the inclusion of coded incipits of music notation and textual incipits, respectively. The incipText element should contain only the initial performed text of the work, while incipCode may contain both words and music, depending on the capabilities of the scheme used to encode it. When both music and text are provided in incipCode, it may be helpful to repeat the text in incipText in order to provide easier access to only the text, for example, for indexing of the text without having to extract it from the coded incipit.

Both incipCode and incipText allow reference to an external file location via the @target attribute and specification of the internet media type of the external file via the @mimetype attribute.

An MEI-encoded incipit may be captured in a score sub-element.

In addition, graphic may be used as a sub-element of incip to include an image of an incipit.

To facilitate the capture of metadata associated with an incipit, MEI allows the following sub-elements within incip. The order of their presentation below follows the order in which they must appear in this context.

<tempo> Text and symbols descriptive of tempo, mood, or style, e.g., "allarg.", "a tempo", "cantabile", "Moderato", "♩=60", "Moderato ♩=60").

<role> Name of a dramatic role, as given in a cast list.

<clef> Indication of the exact location of a particular note on the staff and, therefore, the other notes as well.

<clefGrp> (clef group) – A set of simultaneously-occurring clefs.

<perfRes> (performance resource) – Name of an instrument on which a performer plays, a performer's voice range, or a standard performing ensemble designation.

<perfResList> Several instrumental or vocal resources treated as a group.

<key> Key captures information about tonal center and mode.

<meter> Captures information about the time signature within bibliographic descriptions.

<mensuration> Captures information about mensuration within bibliographic descriptions.

<annot> (annotation) – Provides a short statement explaining the text or indicating the basis for an assertion.

Usually, the metadata captured in this manner is rendered alongside or in lieu of a coded or graphical incipit. It may or may not serve in a work identification capacity, depending on whether the incipit is intended to represent the entire work or a segment of the work. For example, if an incipit is provided for each aria in an opera, then the metadata pertains only to the aria, not the entire work.

2.3.3 Key, Tempo, and Meter

The attributes key, tempo, and meter are often helpful for identifying a musical work when it does not have a distinctive title.

<key> Key captures information about tonal center and mode.

<mensuration> Captures information about mensuration within bibliographic descriptions.

<meter> Captures information about the time signature within bibliographic descriptions.

<tempo> Text and symbols descriptive of tempo, mood, or style, e.g., "allarg.", "a tempo", "cantabile", "Moderato", "♩=60", "Moderato ♩=60").

The key element is used exclusively within bibliographic descriptions. Do not confuse this element with keySig, which is used within the body of an MEI file to record this data for musical notation. Likewise, meter should not be confused with the attributes used by staffDef and scoreDef to record meter-related data for notated music. The tempo element can be used here as well as in the body of an MEI document; however, its attributes other than @xml:id, @label, @n, @base, and @lang are meaningless in the MEI header context, and therefore should be avoided within a work description. The mensuration element is available for the description of works in the mensural repertoire. When a work uses meter and mensural signs, both mensuration and meter elements may be used.

2.3.4 Other Identifying Characteristics

Additional information that aids the identification of the work may be encoded using otherChar.

<otherChar> (other distinguishing characteristic) – Any characteristic that serves to differentiate a work or expression from another.

The following components provide detailed information about the work's context, including the circumstances of its creation, the languages used within it, high-level musical attributes, performing forces, etc.

2.3.5 Work History

The following elements are provided to capture the history of a musical work:

<creation> Non-bibliographic details of the creation of an intellectual entity, in narrative form, such as the date, place, and circumstances of its composition. More detailed information may be captured within the history element.

<event> Contains a free-text event description.

<eventList> Contains historical information given as a sequence of significant past events.

<history> Provides a container for information about the history of a resource. To facilitate efficient data interchange, basic information about the circumstances surrounding the creation of bibliographic resources should be recorded within the creation element.

The creation element is intended to contain a brief, machine-processable statement of the circumstances of the work's creation. Its content is limited to text and the date and geogName elements.

The history element is a container for additional non-bibliographic details relating to a work. It may use the eventList element to provide a list of key events in the creation and performance history of the work. The eventList element is comprised of event elements containing a brief description of the associated event, including dates and locations where the event took place. An event list may use the @type attribute to distinguish between multiple event lists with different functions, such as a list of events in the compositional process and a list of performance dates.

Event lists and other text components, such as paragraphs, tables, lists, and text divisions (div) may be interleaved when an 'essay-like' work history is desired.

The event element permits either a text-centric or a data-centric model. The text-centric model is provided for prose descriptions, while the data-centric model accommodates event descriptions that consist of a collection of descriptive phrases. In the text-centric model, paragraphs, tables, and lists may be used. In the data-centric model, however, only certain phrase-level elements, may appear.

2.3.6 Language Usage

The langUsage element is used within the workDesc element to describe the languages, sublanguages, dialects, etc. represented within a work. It contains one or more language elements, each of which provides information about a single language.

<langUsage> (language usage) – Groups elements describing the languages, sub-languages, dialects, etc., represented within the encoded resource.

<language> Description of a language used in the document.

A language element may be supplied for each different language used in a document. If used, its @xml:id attribute should specify an appropriate language identifier. This is particularly important if extended language identifiers have been used as the value of @xml:lang attributes elsewhere in the document.

Here is an example of the use of this element:

```
<langUsage>
 <language xml:id= "fr-CA"> Québecois </language>
 <language xml:id= "en-CA"> Canadian English </language>
 <language xml:id= "en-GB"> British English </language>
</langUsage>
<!-- Later in the document -->
<verse n= "1" xml:lang= "fr-CA"/>
<verse n= "2" xml:lang= "en-CA"/>
<verse n= "3" xml:lang= "en-GB"/>
```

2.3.7 Performance Medium

The following elements are available for description of a composition's performing forces:

<castList> Contains a single cast list or dramatis personae.

<perfMedium> (performance medium) – Indicates the number and character of the performing forces used in a musical composition.

<perfResList> Several instrumental or vocal resources treated as a group.

The perfMedium element provides the possibility of describing a work in terms of its medium of performance; that is, the performing forces required. In the case of a dramatic work, the dramatis personae and associated voice qualities may be enumerated using castList. The perfResList element describes the necessary instrumental and vocal resources.

2.3.7.1 Cast Lists

A cast list is a specialized form of list, conventionally found at the start or end of a dramatic work, usually listing all the speaking/singing and non-speaking/singing roles in the play, often with additional description ('Cataplasma, a maker of Periwigges and Attires') or the name of an actor or actress ('Old Lady Squeamish. Mrs Rutter').

<castList> Contains a single cast list or dramatis personae.

<castGrp> (cast group) – Groups one or more individual castItem elements within a cast list.

<castItem> Contains a single entry within a cast list, describing either a single role or a list of non-speaking roles.

Cast lists often function as identifying metadata and for this reason are permitted within the description of a work.

Because the format and internal structure of cast lists are unpredictable, a castList may contain any combination of castItem and castGrp elements.

A castItem element may contain any mixture of text and the following elements:

<role> Name of a dramatic role, as given in a cast list.

<roleDesc> (role description) – Describes a character's role in a drama.

<perfRes> (performance resource) – Name of an instrument on which a performer plays, a performer's voice range, or a standard performing ensemble designation.

In the following example, role provides the name of the dramatic character and roleDesc contains a brief description of the role. The perfRes element is used to describe the voice range of the role.

```
<castList>
 <castItem>
   <role>Ursula </role>
   <roleDesc>Queen of the Britons </roleDesc>
   <perfRes>Soprano </perfRes>
 </castItem>
 <castItem>
   <role>Dersagrena </role>
   <roleDesc>Handmaiden to Ursula </roleDesc>
   <perfRes>Mezzo-Soprano </perfRes>
 </castItem>
 <castItem>
   <role>Fingal </role>
   <roleDesc>King of the Britons </roleDesc>
   <perfRes>Baritone </perfRes>
 </castItem>
</castList>
```

The vocal qualities and associated roles for Beethoven's opera *Fidelio* may be encoded as:

```
<perfMedium>
 <castList>
   <castItem>
     <perfRes>Tenor </perfRes>
     <role>Florestan </role>
   </castItem>
   <castItem>
     <perfRes>Soprano </perfRes>
```

```
    <role>Leonore </role>
  ,
    <roleDesc>his wife </roleDesc>
  </castItem>
  <castItem>
    <perfRes>Bass </perfRes>
    <role>Rocco </role>
  ,
    <roleDesc>gaoler </roleDesc>
  </castItem>
  <castItem>
    <perfRes>Soprano </perfRes>
    <role>Marzelline </role>
  ,
    <roleDesc>his daughter </roleDesc>
  </castItem>
  <castItem>
    <perfRes>Tenor </perfRes>
    <role>Jaquino </role>
  ,
    <roleDesc>assistant to Rocco </roleDesc>
  </castItem>
  <castItem>
    <perfRes>Bass-baritone </perfRes>
    <role>Don Pizarro </role>
  ,
    <roleDesc>governor of the prison </roleDesc>
  </castItem>
  <castItem>
    <perfRes>Bass </perfRes>
    <role>Don Fernando </role>
  ,
    <roleDesc>King's minister </roleDesc>
  </castItem>
 </castList>
</perfMedium>
```

The castItem element may also contain:

<actor> Name of an actor appearing within a cast list.

However, this element is unlikely to be useful in the context of a work description. It may be used here, however, for the very rare occasion when a work was conceived for and is only performable by a single person or group, as for certain "performance art" works.

It is common to find some roles presented in groups or sublists. Roles are also often grouped together by their function. To accommodate these situations, the castGrp element is provided as a component of castList. It may contain any combination of castItem, castGrp, and roleDesc elements.

2.3.7.2 Instrumentation

The perfResList element is used to capture the solo and ensemble instrumental and vocal resources of a composition. For example, a work for a standard ensemble may be indicated thus:

```
<perfMedium>
 <perfResList>
  <perfRes>Orchestra </perfRes>
 </perfResList>
</perfMedium>
```

The detailed make-up of standard and non-standard ensembles may also be enumerated:

```
<perfMedium>
 <perfResList>
  <head>Orchestration </head>
  <perfRes>Flute </perfRes>
  <perfRes>Oboe </perfRes>
  <perfRes>English Horn </perfRes>
  <perfRes>2 Horns in D </perfRes>
  <perfRes>Strings </perfRes>
 </perfResList>
</perfMedium>
```

Where multiple instruments of the same kind are used, the @count attribute on perfRes may be used to encode the exact number of players called for.

```
<perfMedium>
 <perfResList>
  <!-- concert band -->
  <perfRes count= "2"> Piccolo </perfRes>
  <perfRes count= "2"> Flute </perfRes>
  <perfRes count= "3"> 1st Clarinet </perfRes>
  <perfRes count= "3"> 2nd Clarinet </perfRes>
  <perfRes count= "3"> 3rd Clarinet </perfRes>
  <!-- and so on -->
 </perfResList>
</perfMedium>
```

Instrument or voice specifications may be grouped using the perfResList element and a label assigned to the group with head. For example:

```
<perfMedium>
 <perfResList>
  <!-- concert band -->
  <perfResList>
```

```
    <head>Woodwinds </head>
    <perfRes count= "2"> Piccolo </perfRes>
    <perfRes count= "2"> Flute </perfRes>
    <perfRes count= "3"> 1st Clarinet </perfRes>
    <perfRes count= "3"> 2nd Clarinet </perfRes>
    <perfRes count= "3"> 3rd Clarinet </perfRes>
    <!-- etc. -->
  </perfResList>
  <perfResList>
    <head>Brass </head>
    <perfRes count= "3"> 1st Trumpet </perfRes>
    <perfRes count= "3"> 2nd Trumpet </perfRes>
    <perfRes count= "3"> 3rd Trumpet </perfRes>
    <!-- etc. -->
  </perfResList>
  <!-- and so on -->
 </perfResList>
</perfMedium>
```

```
<perfMedium>
 <perfResList>
  <perfResList>
    <head>Woodwinds </head>
    <perfRes codedval= "wa" count= "2"> 2 Flutes
       <perfRes codedval= "wz"> (2. piccolo) </perfRes>
    </perfRes>
    <perfRes codedval= "wc" count= "1"> 1 Oboe </perfRes>
    <!-- ... -->
  </perfResList>
  <perfResList>
    <head>Strings (8-6-4-4-2) </head>
    <perfRes count= "8"> Violin 1 </perfRes>
    <perfRes count= "6"> Violin 2 </perfRes>
    <perfRes count= "4"> Viola </perfRes>
    <perfRes count= "4"> Violoncello </perfRes>
    <perfRes count= "2"> Double Bass </perfRes>
  </perfResList>
 </perfResList>
</perfMedium>
```

The preceding example also demonstrates how instrumental doublings can be accommodate through the use of nested perfRes elements. Only the outer-most perfRes element should use the @count attribute. Its value should reflect the total number of performers, not the number of instruments played.

The perfRes element provides the @codedval attribute, which can be used to record a coded value that represents the string value stored as the element's content. It is recommended that coded values be taken from a standardized list, such as the International Association of Music Libraries' Medium of Performance Codes List or the MARC Instruments and Voices Code List .

```
<perfMedium>
 <perfResList>
  <!-- @codedval contains values from the MARC Instruments and Voices Code List -->
  <perfRes codedval= "ba"> Horn </perfRes>
  <perfRes codedval= "bb"> Trumpet </perfRes>
  <perfRes codedval= "bd"> Trombone </perfRes>
 </perfResList>
</perfMedium>
```

Solo parts may be marked with the @solo attribute of perfRes, like so:

```
<perfResList>
 <perfRes solo= "true"> Violin </perfRes>
 <perfRes>Violin </perfRes>
 <perfRes>Violin </perfRes>
 <perfRes>Viola </perfRes>
 <perfRes>Violoncello </perfRes>
</perfResList>
```

Music for a single player should, however, never use the @solo attribute.

```
<!-- This is an example of what not to do -->
<perfResList>
 <perfRes solo= "true"> Piano </perfRes>
</perfResList>
```

2.3.8 Audience and Context

<audience> Defines the class of user for which the work is intended, as defined by age group (e.g., children, young adults, adults, etc.), educational level (e.g., primary, secondary, etc.), or other categorization.

<context> The historical, social, intellectual, artistic, or other context within which the work was originally conceived (e.g., the 17th century restoration of the monarchy in England, the aesthetic movement of the late 19th century, etc.) or the historical, social, intellectual, artistic, or other context within which the expression was realized.

The intended audience for the work and additional information about context for the work that is not captured in more specific elements elsewhere, such as history and its sub-components, may be recorded in the audience and context elements.

2.3.9 Work Contents

<contents> Description of the material contained within a resource.

<contentItem> Contains a single entry within a content description element.

Often, it is helpful to identify an entity by listing its constituent parts. A simple description of the work's content, such as may be found in a bibliographic record, can be given in single paragraph element:

```
<contents>
 <p>A suitable tone ; Left hand colouring ; Rhythm and accent ; Tempo ; Flexibility ;
 Ornaments </p>
</contents>
```

Alternatively, a structured list of contents may be constructed using the contentItem element:

```
<contents>
 <contentItem>Sonata in D major, op. V, no. 1 / Corelli </contentItem>
 <contentItem>Sonata in G minor / Purcell (with Robert Donington, gamba) </contentItem>
 <contentItem>Forlane from Concert royal no. 3 / Couperin </contentItem>
</contents>
```

Each contentItem element may be preceded by an optional label:

```
<contents>
 <label>1 </label>
 <contentItem>Sonata in D major, op. V, no. 1 / Corelli </contentItem>
 <label>2 </label>
 <contentItem>Sonata in G minor / Purcell (with Robert Donington, gamba) </contentItem>
 <label>3 </label>
 <contentItem>Forlane from Concert royal no. 3 / Couperin </contentItem>
</contents>
```

To reference a contents list in an external location, use the @target attribute:

```
<contents target= "http://www.contentProvider.org/toc/toc01.html"/>
```

To facilitate the creation of music catalogs based on MEI header information, contents may contain a heading:

```
<contents>
 <head>Contents of this Work: </head>
 <contentItem>Sonata No. 1 </contentItem>
 <contentItem>Sonata No. 2 </contentItem>
 <contentItem>Sonata No. 3 </contentItem>
</contents>
```

2.3.10 Bibliographic Evidence

<biblList> List of bibliographic references.

The biblList element allows citation of bibliographic evidence supporting assertions made within other sub-components of the work description.

2.3.11 Notes Statement

The notesStmt element may be used within the description of the musical work to capture information not accounted for by the other elements of the description.

2.3.12 Classification

The next component of the core workDesc element is the classification element. This element is used to classify a musical text according to one or more of the following methods:

- by reference to a recognized international classification scheme such as the Dewey Decimal Classification, the Universal Decimal Classification, the Colon Classification, the Library of Congress Classification, or any other system widely used in library and documentation work
- by providing a set of keywords, as provided, for example, by British Library or Library of Congress Cataloguing in Publication data.

The following elements are provided for this purpose:

<termList> Collection of text phrases which describe a resource.

<term> Keyword or phrase which describes a resource.

<classCode> (classification code) – Holds a citation to the source of controlled-vocabulary terms used in the <termList> element; for example, Library of Congress Subject Headings (LCSH), Library of Congress Classification (LCC), Library of Congress Name Authority File (LCNAF), or other thesaurus or ontology.

The termList element categorizes an individual text by supplying a set of terms which may describe its topic or subject matter, its physical or intellectual form, date, etc. Each term is indicated by a term element. In some schemes, the order of items in the list is significant, for example, from major topic to minor; in others, the list has an organized substructure of its own. No recommendations are made here as to which method is to be preferred. Wherever possible, such terms should be taken from a recognized source.

The classCode element offers the possibility of capturing a bibliographic citation and/or a URI at which the classification scheme or information about it may be found.

```
<classCode xml:id= "header.LoC_lccoA"> Library of Congress subject headings. Prepared by
the Cataloging Policy and Support Office, Collections Services. Washington, D.C.:
Library of Congress, Cataloging Distribution Service, 1993- . </classCode>
```

```
<classCode authURI= "http://www.loc.gov/aba/cataloging/classification/lcco/lcco_m.pdf"
xml:id= "header.LoC_lccoB"/>
```

```
<classCode authURI= "http://www.loc.gov/aba/cataloging/classification/lcco/lcco_m.pdf"
xml:id= "header.LoC_lccoC"> Library of Congress subject headings. Prepared by the
Cataloging Policy and Support Office, Collections Services. Washington, D.C.: Library of
Congress, Cataloging Distribution Service, 1993- . </classCode>
```

The @classcode attribute may be used on each term element to make reference, by means of an identifier, to the classification scheme from which it is drawn.

```
<classification>
 <classCode authURI= "http://www.loc.gov" authority= "Library of Congress" xml:id=
 "header.LCSH1"/>
 <classCode authURI= "http://www.loc.gov/aba/cataloging/classification/lcco/lcco_m.pdf"
 authority= "Library of Congress" xml:id= "header.LoC_lcco1"/>
 <termList>
   <term classcode= "#header.LCSH1"> Guitar music (Rock) </term>
   <term classcode= "#header.LCSH1"> Rock music 1971-1980. </term>
   <term classcode= "#header.LoC_lcco1"> M1630.18.Z26 O6 2011 </term>
 </termList>
</classification>
```

Alternatively, @classcode may be used on termList when all the contained terms come from the same source.

```
<classification>
 <classCode authURI= "http://www.loc.gov" authority= "Library of Congress" xml:id=
 "header.LCSH2"/>
 <classCode authURI= "http://www.loc.gov/aba/cataloging/classification/lcco/lcco_m.pdf"
 authority= "Library of Congress" xml:id= "header.LoC_lcco2"/>
 <termList classcode= "#header.LCSH2">
   <term>Guitar music (Rock) </term>
   <term>Rock music 1971-1980. </term>
 </termList>
 <termList classcode= "#header.LoC_lcco2">
   <term>M1630.18.Z26 O6 2011 </term>
 </termList>
</classification>
```

2.3.13 Work Relationships

When the FRBR (Functional Requirements for Bibliographic Records) module is available, the following elements may be used within work to describe relationships between the work being described and other works or between the work and expressions of it:

<expressionList> Gathers bibliographic expression entities.

<componentGrp> (component group) – Container for components of a bibliographic entity.

<relationList> Gathers bibliographic relation elements.

For more information about FRBR and the use of these elements, see chapter 3 Functional Requirements for Bibliographic Records (FRBR).

2.4 Other Metadata

The following element is provided to accommodate non-MEI metadata:

<extMeta> (extended metadata) – Provides a container element for non-MEI metadata formats.

The extMeta element may contain text and any number of well-formed XML fragments, XML comments, and CDATA sections, except for MEI markup, which is prohibited. The document element of each fragment must explicitly declare its namespace.

```
<extMeta>
 <!-- MARC (Machine-Readable Cataloging) title info -->
 <datafield ind1= "1" ind2= "0" tag= "245">
   <subfield code= "a"> Simple dreams : </subfield>
   <subfield code= "b"> a musical memoir / </subfield>
   <subfield code= "c"> Linda Ronstadt. </subfield>
 </datafield>
</extMeta>
```

An MEI processor is not required to validate or otherwise process any markup within the extMeta element. Therefore, the extMeta element itself is the lowest level at which an association can be created between 'foreign' metadata and other MEI elements as described in section 2.1.7.1 Associating Metadata and Data.

2.5 Revision Description

The final sub-element of the MEI header, the revisionDesc element, provides a detailed change log in which each change made to a text may be recorded. Its use is optional but highly recommended. It provides essential information for the administration of large numbers of files which are being updated, corrected, or otherwise modified as well as extremely useful documentation for files being passed from researcher to researcher or system to system. Without change logs, it is easy to confuse different versions of a file, or to remain unaware of small but important changes made in the file by some earlier link in the chain of distribution. No change should be made in any MEI-conformant file without corresponding entries being made in the change log.

> **<revisionDesc>** (revision description) – Container for information about alterations that have been made to an MEI file.
>
> **<change>** Individual change within the revision description.

The main purpose of the revision description is to record changes in the text to which a header is prefixed. However, it is recommended practice to include entries also for significant changes in the header itself (other than the revision description itself, of course). At the very least, an entry should be supplied indicating the date of creation of the header.

The log consists of a list of change elements, each of which contains a detailed description of the changes made. If a number is to be associated with one or more changes (for example, a revision number), the @n attribute may be used to indicate it. The person responsible for the change and the date of the change may be indicated by the respStmt and date elements. The description of the change itself is contained within the changeDesc element, which can hold one or more paragraphs.

It is recommended to give changes in reverse chronological order, most recent first.

For example:

```
<revisionDesc>
 <change n= "4">
   <respStmt>
     <persName>KR </persName>
   </respStmt>
   <changeDesc>
     <p>Cleaned up MEI file automatically using Header.xsl. </p>
   </changeDesc>
   <date isodate= "2011-12-01"/>
 </change>
 <change n= "3">
   <respStmt>
     <persName>KR </persName>
   </respStmt>
   <changeDesc>
     <p>Cleaned up MEI file automatically using ppq.xsl. </p>
```

```
    </changeDesc>
    <date isodate= "2011-10-21"/>
  </change>
</revisionDesc>
```

A slightly shorter form for recording changes is also available when a the date of the change can be described by a single date in a standard ISO form and when the name of the agent(s) responsible for the change, encoded elsewhere in the header, can be referred to by one or more URIs given in the @resp attribute. For example:

```
<change isodate= "2011-10-21" n= "3" resp= "#KR #MH">
  <changeDesc>
    <p>Cleaned up MEI file automatically using ppq.xsl. </p>
  </changeDesc>
</change>
```

2.6 Minimal and Recommended Header Information

The MEI header allows for the provision of a very large amount of information concerning the text itself, its source, its encodings, and revisions of it, as well as a wealth of descriptive information, such as the languages it uses and the situation(s) in which it was produced, together with the setting and identity of participants within it. This diversity and richness reflects the diversity of uses to which it is envisaged that electronic texts conforming to these Guidelines will be put. It is emphatically not intended that all of the elements described above should be present in every MEI Header.

The amount of encoding in a header will depend both on the nature and the intended use of the text. At one extreme, an encoder may expect that the header will be needed only to provide a bibliographic identification of the text adequate to local needs. At the other, wishing to ensure that their texts can be used for the widest range of applications, encoders will want to document as explicitly as possible both bibliographic and descriptive information, in such a way that no prior or ancillary knowledge about the text is needed in order to process it. The header in such a case will be very full, approximating the kind of documentation often supplied in the form of a manual. Most texts will lie somewhere between these extremes; textual corpora in particular will tend more to the latter extreme. In the remainder of this section we demonstrate first the minimal, and then a commonly recommended, level of encoding for the bibliographic information held by the MEI header.

Supplying only the level of encoding required, the MEI header of a single text will look like the following example:

```
<meiHead>
 <fileDesc>
  <titleStmt>
    <title>Fughette (in Gottes Namen Fahren wir – Dies sind die heil'gen zehn Gebote)
    for Brass Quintett : an electronic transcription </title>
  </titleStmt>
  <pubStmt>
    <respStmt>
       <corpName authURI= "http://d-nb.info/gnd" authority= "GND" codedval=
       "5115204-6"> Musikwissenschaftliches Seminar <Detmold> </corpName>
    </respStmt>
  </pubStmt>
 </fileDesc>
</meiHead>
```

The only mandatory component of the MEI Header is the fileDesc element. Within this element, titleStmt and pubStmt are required constituents. Within the title statement, a title is required. Within the pubStmt, a publisher, distributor, or other agency responsible for the file is required.

While not formally required, additional information is recommended for a minimally effective header. For example, it is recommended that the person or corporate entity responsible for the creation of the encoding should be specified using respStmt within the titleStmt element. It is also recommended that information about

the source, or sources, of the encoding be included. Each source element should contain at the least a loosely structured bibliographic citation that identifies the source used to construct the MEI file.

Furthermore, If the electronic transcription is a member of a series of publications, the series title and publisher should be included using the seriesStmt element. It is also common for cataloging records to include genre and/or form information, here represented by the MEI classification element.

We now present the same example header, expanded to include additionally recommended information, adequate for most bibliographic purposes, in particular to allow for the creation of an AACR2-conformant bibliographic record.

```
<meiHead>
 <fileDesc>
   <titleStmt>
     <title>Fughette (in Gottes Namen Fahren wir – Dies sind die heil'gen zehn Gebote)
     for Brass Quintett : an electronic transcription </title>
     <respStmt>
        <resp>Encoded by: </resp>
        <persName xml:id= "header.MH"> Maja Hartwig </persName>
        <persName xml:id= "header.KR"> Kristina Richts </persName>
     </respStmt>
   </titleStmt>
   <pubStmt>
     <respStmt>
        <corpName>Musikwissenschaftliches Seminar <Detmold> </corpName>
     </respStmt>
     <date>2011 </date>
   </pubStmt>
   <seriesStmt>
     <title>MEI Sample Collection </title>
     <respStmt>
        <corpName role= "publisher"> MEI Project </corpName>
     </respStmt>
   </seriesStmt>
   <sourceDesc>
     <source>
        <titleStmt>
           <title>Fughette (in Gottes Namen Fahren wir – Dies sind die heil'gen zehn
           Gebote) for Brass Quintett </title>
           <respStmt>
               <persName role= "composer"> Johann Christoph Bach </persName>
               <persName role= "arranger"> Michel Rondeau </persName>
           </respStmt>
        </titleStmt>
        <pubStmt>
           <identifier type= "URI"> http://icking-music-archive.org/scores/j.chr.bach/
           JCBIN-xml.zip </identifier>
           <date isodate= "2011-10-13"/>
           <respStmt>
               <name>Werner Icking Music Archive </name>
```

```
            </respStmt>
            <availability>
                <useRestrict>© 2010 – Gatineau,Qc.Ca. </useRestrict>
            </availability>
        </pubStmt>
        <classification>
            <classCode authURI= "http://www.oclc.org/dewey/resources/summaries/
            default.htm#700" authority= "OCLC" xml:id= "header.OCLC_DDC"/>
            <termList>
                <term classcode= "#header.OCLC_DDC"> 785.15 </term>
            </termList>
        </classification>
    </source>
  </sourceDesc>
 </fileDesc>
</meiHead>
```

2.7 Independent Headers

Many libraries, repositories, research sites and related institutions collect bibliographic and documentary information about machine readable music documents without necessarily collecting the music documents themselves. Such institutions may thus want access to the header of an MEI document without its attached text in order to build catalogs, indexes and databases that can be used to locate relevant texts at remote locations, obtain full documentation about those texts, and learn how to obtain them. This section describes a set of practices by which the metadata headers of MEI documents can be encoded separately from those documents and exchanged as freestanding MEI documents. Headers exchanged independently of the documents they describe are called independent headers.

2.7.1 Definition and Principles for Encoders

An independent header is an MEI metadata header that can be exchanged as an independent document between libraries, archives, collections, projects, and individuals.

The structure of an independent header is exactly the same as that of an header attached to a document. This means that an meiHead can be extracted from an MEI document and sent to a receiving institution with little or no change.

When deciding which information to include in the independent header, and the format or structure of that information, the following should be kept in mind:

- The independent header should provide full bibliographic information about the encoded text, its sources, where the text can be located, and any restrictions governing its use.
- The independent header should contain useful information about the encoding of the text itself. In this regard, it is highly recommended that the encoding description be as complete as possible. The Guidelines do not require that the encoding description be included in the header (since some simple transcriptions of small items may not require it), but in practice the use of a header without an encoding description would be severely limited.
- The independent header should be amenable to automatic processing, particularly for loading into databases and for the creation of publications, indexes, and finding aids, without undue editorial intervention on the part of the receiving institution. For this reason, two recommendations are made regarding the format or structure of the header: first, where there is a choice between a prose content model and one that contains a formal series of specialized elements, wherever possible and appropriate the specialized elements should be preferred to unstructured prose. Second, with respect to corpora, information about each of the texts within a corpus should be included in the overall corpus-level meiHead. That is, source information, editorial practices, encoding descriptions, and the like should be included in the relevant sections of the corpus meiHead, with pointers to them from the headers of the individual texts included in the corpus. There are three reasons for this recommendation: first, the corpus-level header will contain the full array of bibliographic and documentary information for each of the texts in a corpus, and thus be of great benefit to remote users, who may have access only to the independent header; second, such a layout is easier for the

coder to maintain than searching for information throughout a text; and third, generally speaking, this practice results in greater overall consistency, especially with respect to bibliographic citations.

2.8 Header Elements and their Relationship to Other Bibliographic Standards

Mapping elements from the MEI metadata header to another descriptive system may help a repository harvest selected data from the MEI file to build a basic catalog record. For this purpose, the following attribute is provided on most elements occurring within meiHead:

@analog Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable.

The encoding system to which fields are mapped must be specified in @analog. When possible, subfields as well as fields should be specified, e.g., subfields within MARC fields.

2.9 RelatedItem vs. FRBR

MEI offers two related concepts for capturing relations between bibliographic items. The model of relatedItem, as described in chapter 1.3.7 Related Items of these Guidelines, is derived from MODS v3.4 (see documentation here). Its purpose in MEI is to encode bibliographic references between mostly "secondary" material, like reviews, articles, and so on. It may be used to provide cross-references between information encoded in different places of the header.

However, relatedItem is less ideal for describing the relations between works, differing versions of these works, the sources in which those versions are transmitted, and where applicable the individual copies of a print. For these situations, it is strongly recommended to use the FRBR module instead. This module is based on the Functional Requirements for Bibliographic Records, as specified by the IFLA. It allows a much finer description of relationships between such "primary" entities. For compatibility reasons, both models should not be confused or mixed under any circumstances.

3 Functional Requirements for Bibliographic Records (FRBR)

MEI header information may refer to different levels of description of the encoded work: Some information may apply the work in all its various forms and realizations, e.g., the name of its composer. Other information may describe a certain version of the work, or a source such as the printed first edition, or only a single copy of that source. Core MEI limits the header information to two such levels of description: work and source, respectively.

However, when the FRBR module is available more detailed descriptions are possible. With certain limitations, mainly due to the musical nature of the works encoded in MEI, the FRBR module adapts the Functional Requirements for Bibliographic Records (FRBR) as recommended by the International Federation of Library Associations and Institutions (IFLA) [http://www.ifla.org/publications/functional-requirements-for-bibliographic-records].

The IFLA's FRBR model distinguishes four levels of abstraction, or entities:

Work FRBR defines a work as a "distinct intellectual or artistic creation", an abstract entity because there is no single material object one can point to as the work.

Expression An expression is defined as "the intellectual or artistic realization of a work in the form of [...] notation, sound, image, object, movement, etc., or any combination of such forms". Expressions are also abstract entities.

Manifestation A manifestation is defined as "the physical embodiment of an expression of a work", including, for instance, manuscripts, books, sound recordings, films, video recordings, CD-ROMs, multimedia kits, etc. The manifestation represents all the physical objects that bear the same characteristics, with respect to both intellectual content and physical form.

Item A single exemplar of a manifestation is called an item, e.g., a specific copy of a printed score. With manuscripts, item and manifestation levels are nearly identical. A manuscript may be regarded as a manifestation having only one item.

3.1 FRBR Entities in MEI

When the FRBR module is available, MEI offers four elements corresponding to the FRBR entities:

<work> Provides a detailed description of a work, specifically its history, language use, and high-level musical attributes: key, tempo, meter, medium of performance, and intended duration.

<expression> Intellectual or artistic realization of a work.

<source> A bibliographic description of a source used in the creation of the electronic file.

<item> Single instance or exemplar of a source/manifestation.

The names of the MEI entities generally follow those of FRBR: the work element is a container for description at the FRBR "work" level, expression is for description at the FRBR "expression" level, and item holds FRBR "item" level description. The source element, however, is the MEI equivalent to FRBR "manifestation" level description. The name "source" is used because it is both shorter and more familiar than "manifestation" to users of existing bibliographic markup schemes.

The work element has an optional child element to hold the expression elements:

<expressionList> Gathers bibliographic expression entities.

As expressionList is a container element for descriptions of different expressions of the same work, it may contain only expression elements.

The content model of expression is similar to that of work. It does not, however, permit expressionList and audience elements. But it adds elements that aid identification and description of specific versions of a work:

<extent> Used to express size in terms other than physical dimensions, such as number of pages, number of records in file, number of bytes, performance duration for music, audio recordings and visual projections, etc.

<scoreFormat> Describes the type of score used to represent a musical composition (e.g., short score, full score, condensed score, close score, etc.).

Since expressions, like works, are abstractions, their titles are often nebulous. Usually, however, the title of an expression is the same as the work it represents. When the relationship between a work and an expression is encoded hierarchically, the expression's title element may be omitted with the assumption that it will be inherited from the work. If no title is provided for an expression, distinguishing characteristics must be provided in other elements, such as perfMedium, as in the following example:

```
<work>
 <titleStmt>
   <title>Pavane pour une infante défunte </title>
 </titleStmt>
```

```
 <expressionList>
   <expression>
     <perfMedium>
        <perfResList>
           <perfRes>piano </perfRes>
        </perfResList>
     </perfMedium>
   </expression>
   <expression>
     <perfMedium>
        <perfResList>
           <perfRes>orchestra </perfRes>
        </perfResList>
     </perfMedium>
   </expression>
 </expressionList>
</work>
```

Programmatic concatenation of the work title and one or more characteristics of the expression can be used to provide identification for the expression. For example, the expressions above may be identified by "Pavane pour une infante défunte (piano)" and "Pavane pour une infante défunte (orchestra)". In some cases, it may be helpful to assign a descriptive title to the expression, as illustrated below. The carrier of the manifestation is often a good source of this kind of descriptive text.

```
<work>
 <titleStmt>
   <title>Pavane pour une infante défunte </title>
 </titleStmt>
 <expressionList>
   <expression>
     <titleStmt>
        <title>Version for piano </title>
     </titleStmt>
     <perfMedium>
        <perfResList>
           <perfRes>piano </perfRes>
        </perfResList>
     </perfMedium>
   </expression>
   <expression>
     <titleStmt>
        <title>Version for orchestra </title>
     </titleStmt>
     <perfMedium>
        <perfResList>
           <perfRes>orchestra </perfRes>
        </perfResList>
     </perfMedium>
   </expression>
 </expressionList>
```

```
</work>
```

```
<work>
 <titleStmt>
   <title>Sonata No. 2 </title>
 </titleStmt>
 <expressionList>
   <expression>
     <titleStmt>
        <title>Live recording at Carnegie Hall </title>
     </titleStmt>
   </expression>
   <expression>
     <titleStmt>
        <title>Studio recording </title>
     </titleStmt>
   </expression>
 </expressionList>
</work>
```

The itemList element provides functionality similar to that of expressionList; that is, it can be used to group descriptions of individual items (exemplars) of the parent source. Just like expressionList, which can only hold expression sub-components, itemList may only contain item elements.

<itemList> Gathers bibliographic item entities.

<item> Single instance or exemplar of a source/manifestation.

```
<source>
 <titleStmt>
   <title>Trois trios pour le piano-forte violon, et violoncelle </title>
 </titleStmt>
 <itemList>
   <item label= "Copy at Stanford">
     <physLoc>
        <repository>
           <corpName>Stanford University Library </corpName>
        </repository>
     </physLoc>
   </item>
   <item label= "Copy at Dresden">
     <physLoc>
        <repository>
           <corpName>Dresden, Sächsische Landesbibliothek - Staats- und
           Universitätsbibliothek </corpName>
        </repository>
     </physLoc>
   </item>
 </itemList>
```

```
</source>
```

3.2 Component Parts in FRBR

Each of the four MEI elements corresponding to FRBR entities may contain a list of constituent parts. All four entities utilize the same element:

<componentGrp> (component group) – Container for components of a bibliographic entity.

However, the child elements of a component group must be the same type as the group's parent. This allows for a more detailed description than is possible using the core MEI contents element. For example, a work element's componentGrp element can only contain work elements, etc. In this way, the componentGrp element may be employed to describe composite works, as in the example below:

```
<work>
 <titleStmt>
   <title>Der Ring des Nibelungen </title>
 </titleStmt>
 <componentGrp>
   <work>
     <titleStmt>
       <title>Das Rheingold </title>
     </titleStmt>
   </work>
   <work>
     <titleStmt>
       <title>Die Walküre </title>
     </titleStmt>
   </work>
   <work>
     <titleStmt>
       <title>Siegfried </title>
     </titleStmt>
   </work>
   <work>
     <titleStmt>
       <title>Götterdämmerung </title>
     </titleStmt>
   </work>
 </componentGrp>
</work>
```

This technique can also be applied when a single intellectual source is comprised of multiple physical parts. In the following example, the choral parts were published in four physically separate "signatures":

```
<source xml:id= "source.printed_choral_parts">
 <titleStmt>
   <title>Printed choral parts </title>
```

```
  </titleStmt>
  <pubStmt>
    <publisher>Horneman & Erslev </publisher>
    <pubPlace>Copenhagen </pubPlace>
    <date isodate= "1871"> 1871 </date>
  </pubStmt>
  <componentGrp>
    <source>
      <titleStmt>
        <title>Soprani </title>
      </titleStmt>
      <physDesc>
        <extent unit= "pages"> 4 </extent>
      </physDesc>
    </source>
    <source>
      <titleStmt>
        <title>Alti </title>
      </titleStmt>
      <physDesc>
        <extent unit= "pages"> 4 </extent>
      </physDesc>
    </source>
    <source>
      <titleStmt>
        <title>Tenori </title>
      </titleStmt>
      <physDesc>
        <extent unit= "pages"> 6 </extent>
      </physDesc>
    </source>
    <source>
      <titleStmt>
        <title>Bassi </title>
      </titleStmt>
      <physDesc>
        <extent unit= "pages"> 6 </extent>
      </physDesc>
    </source>
  </componentGrp>
</source>
```

3.3 FRBR Relationships

FRBR defines a number of terms that describe how the basic entities relate to each other. MEI provides the following elements for this purpose.

<relationList> Gathers bibliographic relation elements.

<relation> A relation element describes the relationship between its parent and the object referenced by the relation element's target attribute.

@rel Describes the relationship between the current entity and the target entity.

Each of the four FRBR entity equivalents – the work, expression, source, and item elements – allows a list of such relationship descriptions as its last child element. relationList provides a container for individual relation elements. The nature of the relationship must be specified by the @rel attribute and the target of the relationship must be identified by the @target attribute. The values allowed by @rel follow those defined for FRBR at http://www.ifla.org/files/assets/cataloguing/frbr/frbr_2008.pdf.

Since relations are bidirectional, they may be defined on both entities involved, using pairs of oppositely-directed relation descriptors. The following FRBR relations are allowed in MEI as values of the relation element's @rel attribute (shown in pairs for clarity):

- hasAbridgement / isAbridgementOf
- hasAdaptation / isAdaptationOf
- hasAlternate / isAlternateOf
- hasArrangement / isArrangementOf
- hasComplement / isComplementOf
- hasEmbodiment / isEmbodimentOf
- hasExemplar / isExemplarOf
- hasImitation / isImitationOf
- hasPart / isPartOf
- hasRealization / isRealizationOf
- hasReconfiguration / isReconfigurationOf
- hasReproduction / isReproductionOf
- hasRevision / isRevisionOf
- hasSuccessor / isSuccessorOf
- hasSummarization / isSummarizationOf
- hasSupplement / isSupplementOf
- hasTransformation / isTransformationOf
- hasTranslation / isTranslationOf

Some of these relationships are already implicitly expressed by the MEI structural model: FRBR defines an expression entity as a realization of a work, but as this relation is implied by the expressionList element's child relationship to its parent work element, the hasRealization/isRealizationOf relation does not need to be explicitly declared. Likewise, it is not necessary to specify by means of relation elements that an item is an exemplar of the source described by its parent source element. This resembles the FRBR model, which allows 1:n relationships both between works and expressions, and between manifestations and items.

However, as FRBR allows n:n relations between expressions and manifestations (in MEI: sources), a hierarchical model based on the strucutre of XML is clearly insufficient to express all possible expression / manifestation combinations. It is therefore required to declare these relations explicitly. In FRBR terms, a manifestation / source is an embodiment of an expression.

```
<source>
 <titleStmt>
   <title>Score, first edition </title>
 </titleStmt>
 <relationList>
   <relation rel= "isEmbodimentOf" target= "#version_for_orchestra"/>
 </relationList>
</source>
```

Within the componentGrp element, the order of child elements implicitly describes a hasSuccessor/isSuccessorOf relationship between components, i.e. it defines a certain sequence such as the movements of a work. In other cases, relation elements may be needed to explicitly encode relationships not otherwise defined by encoding order or hierarchy. For instance, the hasReproduction/isReproductionOf relationship may be used to indicate that one source is a reprint of another.

```
<source>
 <pubStmt>
   <publisher>Horneman & Erslev </publisher>
   <pubPlace>Copenhagen </pubPlace>
   <date isodate= "1874"> 1874 </date>
 </pubStmt>
 <relationList>
   <relation rel= "isReproductionOf" target= "#source.printed_choral_parts"/>
 </relationList>
</source>
```

Moreover, the use of componentGrp implicitly defines a hasPart/isPartOf relationship between the componentGrp element's parent and its child elements. Using the relationList and relation elements to define their relationship, the four component works in the "Der Ring des Nibelungen" example above could alternatively be encoded as sibling work elements to the "Ring" work element.

```
<workDesc>
 <work xml:id= "theRing">
   <titleStmt>
```

```
    <title>Der Ring des Nibelungen </title>
  </titleStmt>
  <relationList>
    <relation rel= "hasPart" target= "#rheingold"/>
    <relation rel= "hasPart" target= "#walkuere"/>
    <relation rel= "hasPart" target= "#siegfried"/>
    <relation rel= "hasPart" target= "#goetterdaemmerung"/>
  </relationList>
 </work>
 <work xml:id= "rheingold">
  <titleStmt>
    <title>Das Rheingold </title>
  </titleStmt>
  <relationList>
    <relation rel= "isPartOf" target= "#theRing"/>
  </relationList>
 </work>
 <work xml:id= "walkuere">
  <titleStmt>
    <title>Die Walküre </title>
  </titleStmt>
  <relationList>
    <relation rel= "isPartOf" target= "#theRing"/>
  </relationList>
 </work>
 <work xml:id= "siegfried">
  <titleStmt>
    <title>Siegfried </title>
  </titleStmt>
  <relationList>
    <relation rel= "isPartOf" target= "#theRing"/>
  </relationList>
 </work>
 <work xml:id= "goetterdaemmerung">
  <titleStmt>
    <title>Götterdämmerung </title>
  </titleStmt>
  <relationList>
    <relation rel= "isPartOf" target= "#theRing"/>
  </relationList>
 </work>
</workDesc>
```

Relations may also be used to point to external resources. For instance, each of the individual component works of the "Ring" could be encoded in separate files, with relations pointing to them.

In the file "ring.xml":

```
<workDesc>
 <work>
```

```
  <titleStmt>
    <title>Der Ring des Nibelungen </title>
  </titleStmt>
  <relationList>
    <relation rel= "hasPart" target= "rheingold.xml"/>
    <relation rel= "hasPart" target= "walkuere.xml"/>
    <relation rel= "hasPart" target= "siegfried.xml"/>
    <relation rel= "hasPart" target= "goetterdaemmerung.xml"/>
  </relationList>
 </work>
</workDesc>
```

In the file "rheingold.xml":

```
<workDesc>
 <work>
  <titleStmt>
    <title>Das Rheingold </title>
  </titleStmt>
  <relationList>
    <relation rel= "isPartOf" target= "ring.xml"/>
  </relationList>
 </work>
</workDesc>
```

4 Common Music Notation

The module described in this chapter offers the means to describe music in so-called 'Common Music Notation' (CMN, sometimes referred to as 'Common Western Music Notation'). For this purpose, it provides a number of special elements and adds several attribute classes to elements from the Shared module.

4.1 Basic Elements of CMN

This section describes the use of basic features of MEI important for encoding CMN material. Most of the elements discussed here are defined in chapter 1 Shared Elements, Models, and Attributes of these Guidelines, but are used in music from the CMN repertoire in specialized ways.

4.1.1 The Role of the Measure Element

Arguably, the most important element of the CMN module is the measure element. It is used as a structural unit inside section elements and acts as a container for 'events' from the model.eventLike class, such as notes, chords and rests as well as 'control events' from the model.controleventLike class, such as slurs and indications of dynamics.

The following example demonstrates the use of the measure element:

```
<section>
 <measure n= "1">
  <staff n= "1">
    <layer>
       <chord dur= "1">
          <note oct= "5" pname= "c"/>
          <note oct= "4" pname= "g"/>
          <note oct= "4" pname= "e"/>
       </chord>
    </layer>
  </staff>
  <staff n= "2">
    <layer>
       <note dur= "1" oct= "3" pname= "c"/>
    </layer>
  </staff>
 </measure>
</section>
```

A measure slices the flow of a score or part into chunks that normally comply with a duration determined by the meter defined within a preceding scoreDef or staffDef element. Each staff in the source material is represented by a staff element. As the order of the staff elements in the file does not have to reflect their order in the original document, to eliminate confusion they should always refer to a staffDef element, using either an

@n or @def attribute. Whereas the @def attribute uses the xs:anyURI datatype, the @n value refers to the closest preceding staffDef or layerDef with the same value in its @n attribute.

```
<staffDef n= "3" xml:id= "cmn_staffDef1"/>
<!-- later in the file: -->
<staff def= "#cmn_staffDef1">
 <!-- @def refers to staffDef with this identifier -->
 <!-- staff content -->
</staff>
<!-- or: -->
<staff n= "3">
 <!-- @n refers to staffDef with this numeric label -->
 <!-- staff content -->
</staff>
```

Each staff may hold a number of layer elements to reflect multiple 'voices'. Just as with staff, the order of the layer elements in the file does not have to reflect their original order in the document, so they also possess @n and @def attributes for association with the appropriate layer definition.

```
<staffDef>
 <layerDef n= "1" xml:id= "cmn_layerDef1"/>
</staffDef>
```

Later in the file:

```
<section xml:id= "cmn_staffDef1">
 <staff def= "#cmn_staffDef1">
   <layer def= "#cmn_layerDef1">
     <!-- layer content -->
   </layer>
 </staff>
 <!-- OR: -->
 <staff n= "3">
   <layer n= "1">
     <!-- layer content -->
   </layer>
 </staff>
</section>
```

4.1.2 Defining Score Parameters for CMN

When encoding a score in CMN, MEI relies on the following elements from the Shared module:

<scoreDef> (score definition) – Container for score meta-information.

<staffGrp> (staff group) – A group of bracketed or braced staves.

<staffDef> (staff definition) – Container for staff meta-information.

<layerDef> (layer definition) – Container for layer meta-information.

A scoreDef element is used to specify the common parameters of a score, e.g., key and meter. The most important attributes for this purpose are:

@meter.count Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3.

@meter.unit Contains the number indicating the beat unit, that is, the bottom number of the meter signature.

@meter.sym Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time.

@key.pname Holds the pitch name of the tonic key, e.g. 'c' for the key of C.

@key.accid Contains an accidental for the tonic key, if one is required, e.g., if key.pname equals 'c' and key.accid equals 's', then a tonic of C# is indicated.

@key.mode Indicates major, minor, or other tonality.

@key.sig Indicates where the key lies in the circle of fifths.

The following example describes a score in common time with 3 flats:

```
<scoreDef key.sig= "3f" meter.count= "4" meter.sym= "common" meter.unit= "4"/>
```

Other attributes allow the description of default page and system margins and fonts for text and music:

@page.width Describes the width of the page; may be expressed in real-world units or staff steps.

@page.height Specifies the height of the page; may be expressed in real-world units or staff steps.

@page.leftmar Indicates the amount of whitespace at the left side of a page.

@page.topmar Indicates the amount of whitespace at the top of a page.

@page.rightmar Indicates the amount of whitespace at the right side of a page.

@page.botmar Indicates the amount of whitespace at the bottom of a page.

@system.leftmar Describes the amount of whitespace at the left system margin relative to page.leftmar.

@system.topmar Describes the distance from page's top edge to the first system; used for first page only.

@system.rightmar Describes the amount of whitespace at the right system margin relative to page.rightmar.

@text.name Provides a default value for the font name of text (other than lyrics) when this information is not provided on the individual elements.

@text.fam	Provides a default value for the font family name of text (other than lyrics) when this information is not provided on the individual elements.
@text.size	Provides a default value for the font size of text (other than lyrics) when this information is not provided on the individual elements.
@music.name	Sets the default music font name.
@music.size	Sets the default music font size.
@lyric.name	Sets the font name default value for lyrics.
@lyric.fam	Sets the font family default value for lyrics.
@lyric.size	Sets the default font size value for lyrics.

There are other attributes that allow the specification of many further details of a score. These are available from the element definitions accessible at scoreDef, staffDef, staffGrp and layerDef.

When content is provided for scoreDef, it must contain a staffGrp element. This element is used to gather individual staves and other staff groups. This is useful for collecting instrumental or vocal groups in a large score, such as woodwinds, brasses, etc., and for assigning a shared label to the group, using the @label and @label.abbr attributes. The staffGrp element is also used for the two staves of a grand staff. The @barthru attribute on staffGrp allows one to specify whether barlines are drawn across the space between staves of that group or only on the staves themselves.

A staffDef element is used to describe an individual staff of a score or performer part. It bears most of the attributes described above, including @label and @label.abbr for providing staff labels for the first and subsequent pages.

Every staffDef must have an @n attribute with an integer as its value. The first occurence of a staffDef with a given number must also indicate the number of staff lines via the @lines attribute.

The order of staffDef elements within scoreDef follows the order of staves in the source document or planned rendering. The individual staff elements within a measure refer to these staffDef declarations using their own @n attribute values. Therefore, the encoding order of staves within a measure does not have to mimic the order of the staffDef elements with scoreDef.

In addition to the parameters inherited from scoreDef, the following attributes are important for staffDef elements:

@clef.line	Contains a default value for the position of the clef. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff.
@clef.shape	Encodes a value for the clef symbol.
@clef.dis	Records the amount of octave displacement to be applied to the clef.
@clef.dis.place	Records the direction of octave displacement to be applied to the clef.

A staff with a tenor clef is encoded as in the following example:

```
<staffDef clef.dis= "8" clef.dis.place= "below" clef.line= "2" clef.shape= "G"/>
```

In the case of transposing instruments, the key-related attributes described above may be used to override the written key expressed in the scoreDef element. As a basic principle, MEI always captures written pitches, so the @trans.diat and @trans.semi attributes may be used to indicate the number of diatonic steps and semitones to calculate sounded pitch from written pitch. The piccolo and E♭ clarinet staves in the example below utilize these attributes:

```
<scoreDef meter.count= "6" meter.unit= "8">
 <staffGrp>
  <!-- Piccolo sounds 12 semitones higher than written (and encoded in MEI). -->
  <staffDef clef.line= "2" clef.shape= "G" key.mode= "major" key.sig= "4f" label=
  "Piccolo" label.abbr= "Picc." lines= "5" n= "1" trans.diat= "0" trans.semi= "12"
  xml:id= "cmn.P1"/>
  <staffDef clef.line= "2" clef.shape= "G" key.mode= "major" key.sig= "4f" label=
  "Flute" label.abbr= "Fl." lines= "5" n= "2" xml:id= "cmn.P2"/>
  <staffDef clef.line= "2" clef.shape= "G" key.mode= "major" key.sig= "4f" label=
  "Oboe" label.abbr= "Ob." lines= "5" n= "3" xml:id= "cmn.P3"/>
  <staffDef clef.line= "4" clef.shape= "F" key.mode= "major" key.sig= "4f" label=
  "Bassoon" label.abbr= "Bsn." lines= "5" n= "4" xml:id= "cmn.P4"/>
  <!-- Clarinet sounds a minor third (two diatonic steps or three semitones) higher
  than written. -->
  <staffDef clef.line= "2" clef.shape= "G" key.mode= "major" key.sig= "1f" label=
  "Clarinet in E♭" label.abbr= "E♭ Cl." lines= "5" n= "5" trans.diat= "2" trans.semi=
  "3" xml:id= "cmn.P5"/>
 </staffGrp>
</scoreDef>
```

There are a number of additional elements that can be used as children of staffDef in order to describe additional features of the staff, such as the color of a clef or a key signature added in a different hand. These elements include:

<clef> Indication of the exact location of a particular note on the staff and, therefore, the other notes as well.

<clefGrp> (clef group) – A set of simultaneously-occurring clefs.

<keySig> (key signature) – Written key signature.

<keyAccid> (key accidental) – Accidental in a key signature.

<label> A container for text that identifies the feature to which it is attached.

<meterSig> (meter signature) – Written meter signature.

<meterSigGrp> (meter signature group) – Used to capture alternating, interchanging, and mixed meter signatures.

With the exception of label, these elements may also occur within the flow of musical events captured in a layer, since they are members of model.eventLike. In the layer context they function as milestones and affect all following content assigned to the layer (even in subsequent measures) until their information is again

overridden either by the same element bearing different information or a staffDef or scoreDef. In this context, it is also possible to combine them with the elements described in chapters 10 Critical Apparatus and 11 Editorial Markup of these Guidelines.

Such flexibility as this may require close inspection of an encoding to retrieve the correct definitions for a given staff. As a general rule, the closest preceding and most specific element provides this information: For example, a keySig in the preceding measure is more relevant than a staffDef at the beginning of the section, which is more relevant than a scoreDef at the beginning of the score. However, a section-specific scoreDef that provides only information about the meter does not override the more specific information about key signature gathered from a staffDef for a transposing instrument.

Every staffDef may contain a number of layerDef elements, which may be used to establish default values for the distinct layers sharing one staff. MEI does not use the term 'voice' to describe these 'musical threads' because that term implies continuity across measure boundaries. Given the sometimes arbitrary relationships between these threads from measure to measure as well as across staves, MEI uses the more neutral term 'layer'.

4.1.3 Redefinition of Score Parameters

Sometimes it is necessary to provide the parameters of a score or a staff with new values. For example. a score may change keys, gain or lose staves, use different layout settings at any point, etc. Likewise, a staff may change its clef, gain or lose layers, or become invisible, and so on. To accommodate these circumstances, in CMN staffDef is allowed to occur in the following locations:

- within the description of staff groups; that is, in staffGrp,
- within the content of a measure,
- between measures; that is, directly within section and ending elements, and
- between sections and endings; that is, directly within a score or part element.

In addition, scoreDef is allowed to occur:

- within sections and endings; that is, inside section and ending elements; and
- between sections and endings; that is, directly within a score or part.

The possibility also exists to include scoreDef and staffDef in staves and layers when the mei-all schema is in use; however, this practice is not recommended for the CMN repertoire.

4.1.4 Notes, Chords and Rests in CMN

4.1.4.1 Notes

Undoubtedly, the most important element for any music notation representation is the note element, which is defined in section 1.2.3 Basic Music Events. This section describes the usage of note in the CMN repertoire as well as CMN-specific additions to the basic definition in the shared module.

4.1.4.1.1 Basic Usage of Notes in CMN

In CMN, notes are determined by three basic parameters:

- pitch name (using @pname)
- octave (using @oct)
- duration (using @dur)

A typical note, in this case a quarter note C4, is therefore encoded like so:

```
<note dur= "4" oct= "4" pname= "c"/>
```

Because these attributes may not be required in all situations (such as @dur for the notes of a chord), processing software should anticipate retrieving the information that would have been provided by missing attributes from a preceding note or chord parent in the same layer. Only information from @pname, @oct and @dur attributes can be gathered in this fashion. No other attributes can be treated this way.

The default values for @pname and @oct conform to the Acoustical Society of America representation for pitch name; that is, the letters A - G, albeit in lower case, and the numbers 0 - 9.

The usual CMN-specific values for @dur are:

1 - whole note

2 - half note

4 - quarter note

8 - eighth note

16 - sixteenth note

...

2048 - 2048th note

Additionally, the following two values borrowed from mensural notation are allowed, as they sometimes also appear in CMN:

breve - double whole

long - quadruple whole

Please note that their mensural counterparts bear different names in order to clearly distinguish between repertoires.

Dotted durational values are accommodated by the @dots attribute, which records the number of written augmentation dots. Thus, a dotted quarter note is represented as in the following example:

```
<note dots= "1" dur= "4" oct= "4" pname= "c"/>
```

4.1.4.1.2 Grace Notes

The CMN module adds two optional attributes, @grace and @grace.time, to note and chord. The presence of the @grace attribute indicates a grace note or chord.

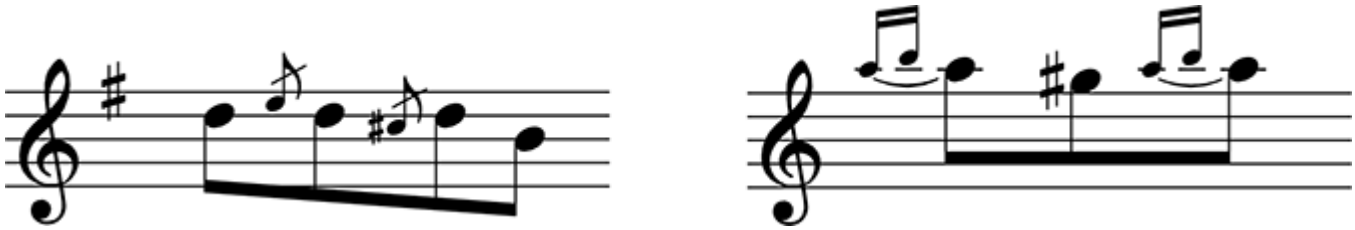


Figure 2. Grace notes

The encoding of the left-most example would look like this:

```
<beam>
 <note dur= "8" oct= "5" pname= "d" stem.dir= "down"/>
 <note dur= "8" grace= "acc" oct= "5" pname= "e" stem.dir= "up"/>
 <note dur= "8" oct= "5" pname= "d" stem.dir= "down"/>
 <note accid= "s" dur= "8" grace= "acc" oct= "5" pname= "c" stem.dir= "up"/>
 <note dur= "8" oct= "5" pname= "d" stem.dir= "down"/>
 <note dur= "8" oct= "4" pname= "b" stem.dir= "down"/>
</beam>
```

Grace notes are not counted when determining the measure's conformance to the current time signature. Therefore, the @dur attribute records only the *written* rhythmic value of the grace note. The time necessary for the performance of grace notes can be unspecified, calculated based on taking time from other non-grace notes, or specified precisely using the @dur.ges attribute.

The values of @grace indicate from which note time is 'borrowed' to perform the grace note: The preceding note, in which case the value 'unacc' (unaccented) is used, or the following note, when the value 'acc' (accented) is appropriate. Technically, this value determines if the note following the grace will keep its original onset time or will be slightly delayed to allow the grace note itself to be accented. Sometimes it is not clear how to perform

a grace; in these situations the value 'unknown' allows one to indicate a grace note while unambiguously stating that its performed duration remains unknown.

The @grace.time attribute is only to be used in combination with the @grace attribute. It records the amount of time (as a percentage of the written duration) that the grace note should 'steal' from the preceding note (when @grace='unacc') or the following note (when @grace='acc').

More information about grace notes in the context of other CMN ornaments is available in chapter 8 Common Music Notation Ornaments.

4.1.4.1.3 Stem Modifications

The @stem.mod attribute accommodates various stem modifiers found in the CMN repertoire. These symbols are placed on a note or chord's stem and generally indicate different types of tremolo and Sprechstimme. The following values are allowed:

1slash - 1 slash through stem

2slash - 2 slashes through stem

3slash - 3 slashes through stem

4slash - 4 slashes through stem

5slash - 5 slashes through stem

6slash - 6 slashes through stem

sprech - X placed on stem

z - Z placed on stem

The @stem.mod attibute is normally used in accordance with practices described in section 4.2.5.3 Tremolandi.

The CMN module makes the att.stems.cmn attribute class available, which adds the optional @stem.with attribute to note and chord. The attribute @stem.with allows for the indication of a stem that joins notes on adjacent staves.

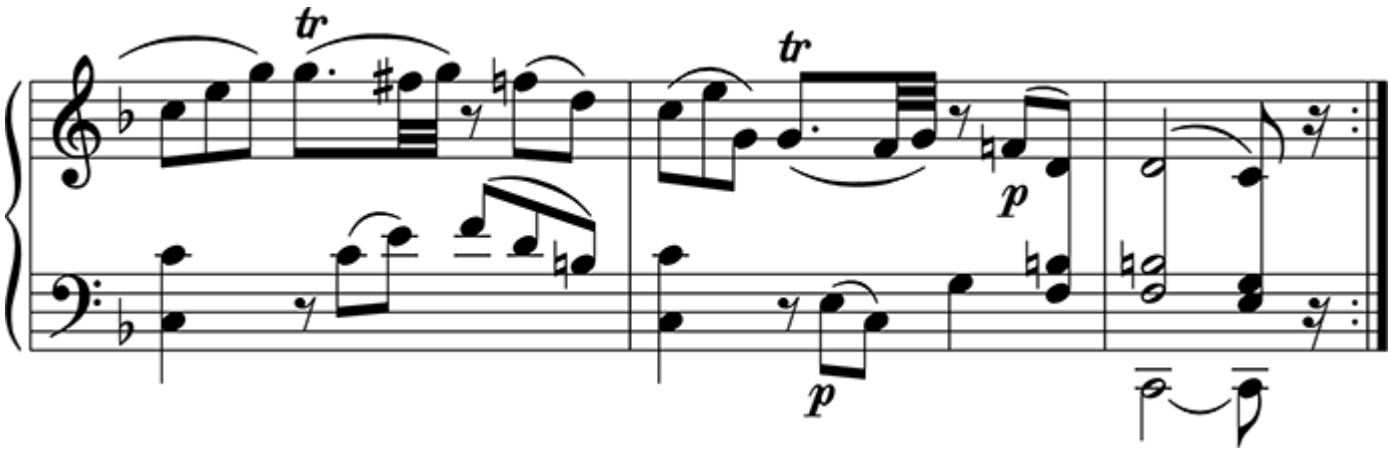


Figure 3. Cross-staff chord

The following code demonstrates one method of encoding the first chord in the last measure in the image above. The @stem.with attribute must occur on all the notes or chords attached to the cross-staff stem.

```
<measure>
 <staff n= "1">
  <layer n= "1">
    <note dur= "2" oct= "4" pname= "d" stem.with= "below"/>
  </layer>
 </staff>
 <staff n= "2">
  <layer n= "1">
    <chord dur= "2" stem.with= "above">
       <note accid= "n" oct= "3" pname= "b"/>
       <note oct= "3" pname= "f"/>
    </chord>
  </layer>
 </staff>
</measure>
```

Alternatively, the encoder may choose to treat the notes in the lower staff as logically belonging to the top staff and to 'displace' them using the @staff attribute on note. Some use cases, however, may require filling the time that those notes would normally occupy using the space element described in section 1.2.4.5 Event Spacing. Using this mechanism, the example above could also be encoded like so:

```
<measure>
 <staff n= "1">
  <layer n= "1">
    <chord dur= "2">
       <note oct= "4" pname= "d"/>
       <note accid= "n" oct= "3" pname= "b" staff= "2"/>
       <note oct= "3" pname= "f" staff= "2"/>
    </chord>
```

```
    </layer>
  </staff>
  <staff n= "2">
    <layer n= "1">
      <!-- the time used by the notes on staff 2 filled with non-sounding "space" -->
      <space dur= "2"/>
    </layer>
  </staff>
</measure>
```

The choice between these two methods of representing material that crosses staves is often software-dependent.

4.1.4.2 Rests

The @dur attribute on rest captures the written duration of the rest and allows the same values as on note and chord. The CMN module also makes three more elements available for special forms of rest:

<mRest> (measure rest) – Complete measure rest in any meter.

<multiRest> (multiple rest) – Multiple measures of rest compressed into a single symbol, frequently found in performer parts.

<mSpace> (measure space) – A measure containing only empty space in any meter.

4.1.4.2.1 Measure Rests

The mRest (measure rest) element is used to indicate a complete measure rest, independent from the meter of the current measure.

The @cutout attribute provides for the description of the rendition of the mRest. If @cutout is set to 'cutout' (the only value allowed), then the complete staff including the staff lines will not be rendered for this measure.

```
<staff>
  <layer>
    <mRest cutout= "cutout"/>
  </layer>
</staff>
```

It is a semantic error to mix an mRest with other events in the same layer. However, other 'control events', such as fermata, may be used at the same time as mRest.

4.1.4.2.2 Multiple-Measure Rests

The multiRest (multiple measure rest) element is used to encode multiple measures of rest. It is commonly used in performer parts, but due to the problem of synchronicity with other staves, it is never found in scores.

A numeric value, stored in the @num attribute, indicates the number of resting measures. The various visual forms displayed below are not captured by multiRest, but may be created by rendering software.

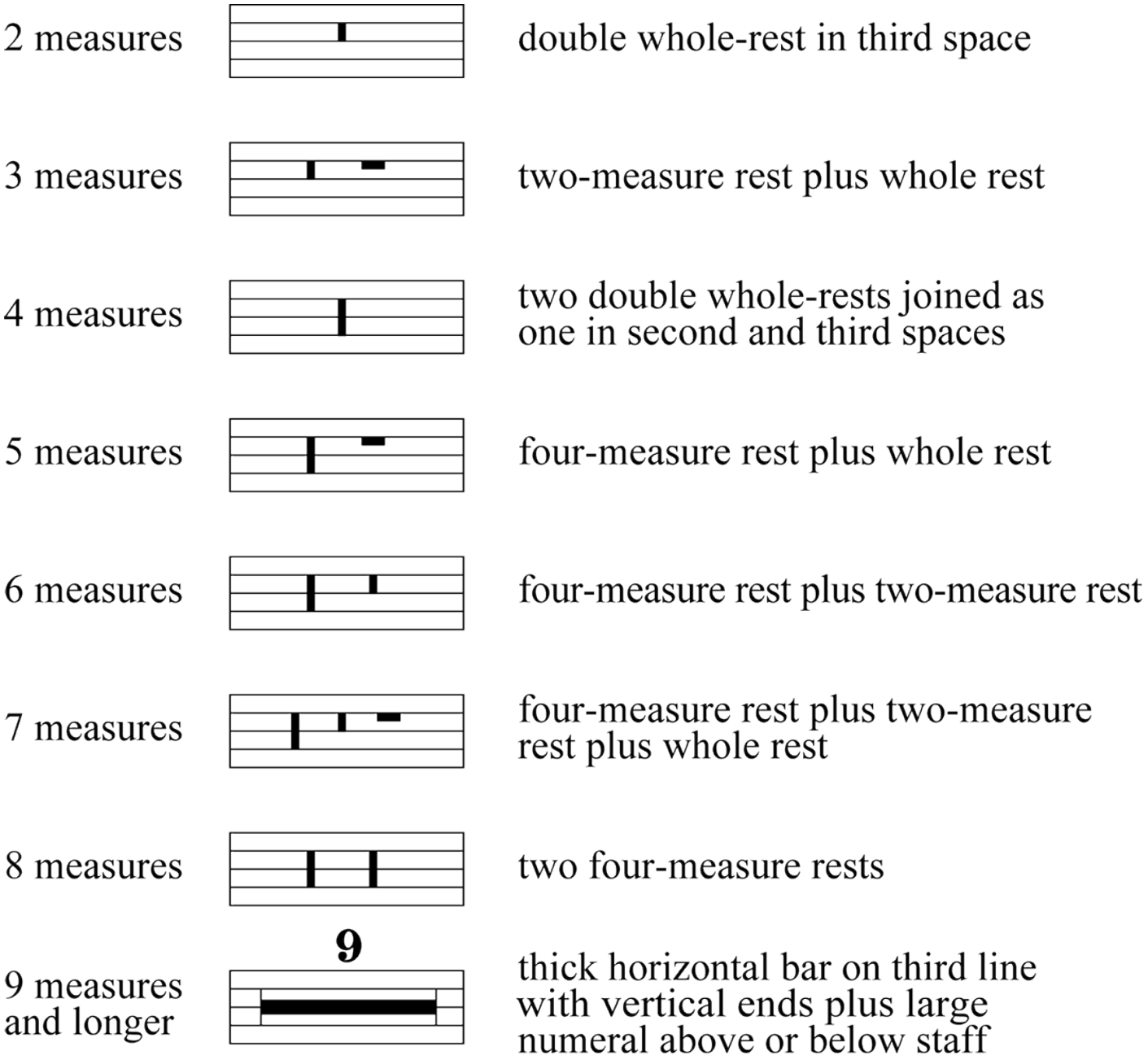


Figure 4. Forms of multiple measure rests

```
<staff>
 <layer>
   <multiRest num= "9"/>
```

```
 </layer>
</staff>
```

4.1.4.2.3 Empty Measures

The mSpace (measure space) element is closely related to the space and mRest elements. It is used to explicitly indicate that a layer has no content but that no information is missing from the encoding.

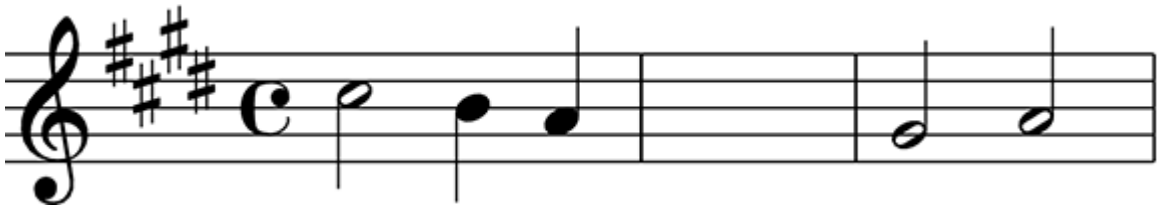


Figure 5. Empty measure

```
<measure n= "2">
 <staff>
  <layer>
    <mSpace/>
  </layer>
 </staff>
</measure>
```

4.1.5 Timestamps and Durations

MEI offers multiple ways of defining onsets and offsets of timed musical events such as notes and slurs. The most common and most musician-friendly approach to this is through the use of a combination of the attributes @tstamp and @dur, which are made available by the attribute classes att.timestamp.musical (inherited by att.controlevent) and att.duration.musical, both from the shared module.

The timestamp (@tstamp) of a musical event is calculated in relation to the meter of the current measure and resembles the so-called 'beat' position. In a common time measure with four quarter notes, the timestamp of each quarter equals its beat position in the measure: The first quarter has a timestamp of 1, the second has a timestamp of 2, and so on. MEI defines the value of @tstamp as a real number; the second eighth note position in a measure would thus be represented by the value of "1.5". The range of possible values is defined as starting with zero and ending with the number of metrical units in a measure (the 'numerator' in a time signature) + 1. This allows the capture of all graphical positions starting from the left barline ('0') and ending with the right barline of the measure ('5', in the case of 4/4 time).

For expressing durations, MEI offers the @dur attribute. This attribute is described in section 4.1.4.1.1 Basic Usage of Notes in CMN.

For ‘spanning’ elements like slurs, which are members of the model.controleventLike class, it is often more intuitive to record two timestamps – one for the onset of the event and one for its termination. Because the termination of the event may be in a succeeding measure, the second timestamp (@tstamp2) has a slightly different datatype than the one marking the initiation of the event. Its datatype is constrained to values following the formula " *xm + y* ", where *x* is the number of full measures that this particular feature lasts (or the number of bar lines crossed) and *y* is the timestamp in the target measure where the feature ends. The timestamp is expressed using the same logic as described above. For example, a value of "0m+3" in 4/4 time indicates that the element bearing this attribute, a slur for example, ends on beat 3 of the same measure where it started. A value of "1m+1.5" would indicate an end on the second eighth note of the following measure. In 6/8 time, the value "2m+3" means that the feature ends two measures later on the third eighth note.

4.2 Advanced CMN Features

Over time, in addition to the basic features of note, chord, and rest, many other symbols have been added to CMN. The following section describes some of these symbols and introduces their handling in MEI.

4.2.1 Beams

A very common feature of music from the CMN repertoire is the beaming of eighth or shorter notes. MEI provides two elements for the explicit encoding of features joined by beams.

<beam> A container for a series of explicitly beamed events that begins and ends entirely within a measure.

<beamSpan> (beam span) – Alternative element for explicitly encoding beams, particularly those which extend across bar lines.

Use of the beam element is straightforward. The beamed notes, rests, or chords are simply enclosed by the beam element:

```
<layer>
 <beam>
   <note dur= "8"/>
   <note dur= "8"/>
 </beam>
</layer>
```

Whereas in music notation every note value shorter than an eighth adds another beam (sometimes referred to as 'secondary beams'), in MEI only one beam element is used, no matter the durations of the contained notes. The visual rendition of a set of beamed notes is presumed to be handled by rendering processes.

```
<layer>
 <!--...-->
 <beam>
   <note dur= "16"/>
   <note dur= "32"/>
   <note dur= "32"/>
   <note dots= "1" dur= "16"/>
   <note dur= "32"/>
 </beam>
 <!-- ...-->
</layer>
```

From the 19th century onwards, it became quite common to break secondary beams to increase readability of longer beamed passages. The optional @breaksec attribute on notes and chords under the beam may be used

to encode the breaking of secondary beams *after* the note or chord bearing the attribute. The value of @breaksec indicates the number of continuous beams. For example:

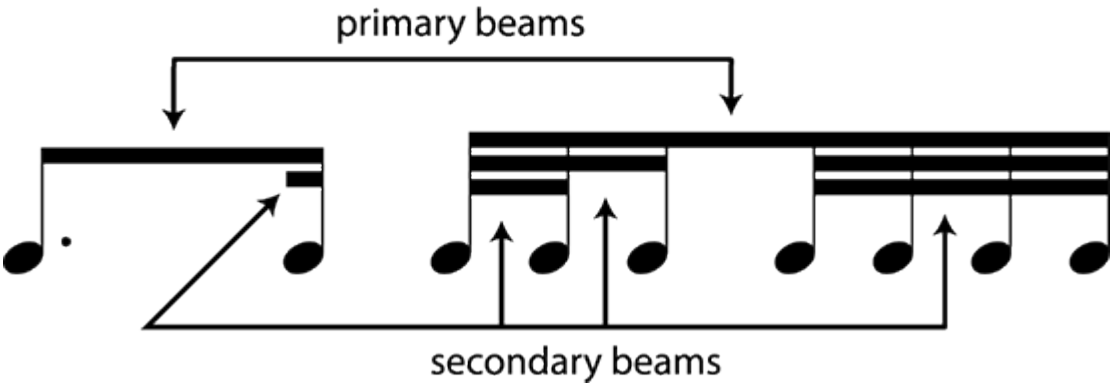


Figure 6. Primary and secondary beams

```
<layer>
 <beam>
   <note dots= "1" dur= "8"/>
   <note dur= "16"/>
 </beam>
 <beam>
   <note dur= "32"/>
   <note dur= "32"/>
   <note breaksec= "1" dur= "16"/>
   <note dur= "32"/>
   <note dur= "32"/>
   <note dur= "32"/>
   <note dur= "32"/>
 </beam>
</layer>
```

In the music of the second half of the 20th century, it is quite common to indicate acceleration or deceleration using converging beams as in the image below:

The encoding of such a beam is accomplished using the @rend attribute of the beam, which allows the following values:

acc - The secondary beams start in their usual position and gradually converge until they meet with the primary beam on the last note (or, the first eighth note under the beam).

rit - The secondary beams gradually diverge until they reach their regular distance.

mixed - The secondary beams diverge and converge arbitrarily.

norm - The beam is rendered as usual (default).

```
<layer>
 <!-- … -->
 <beam rend= "acc">
   <note dur= "8"/>
   <note/>
   <note/>
   <note/>
   <note/>
   <note dur= "32"/>
 </beam>
 <!-- … -->
</layer>
```

The duration of notes, rests, or chords under a beam which carries the @rend attribute with a value of 'acc', 'rit', or 'mixed' must be treated specially. The first and last contained elements must specify a duration which matches the number of beams displayed at the point of these events. In the case of a 'mixed' beam, each event at the point of change in the number of secondary beams must carry a @dur attribute. Beams like this may be encoded thusly:

Figure 7. Accelerando beams

```
<layer>
 <!-- … -->
 <beam rend= "mixed">
   <note dur= "8"/>
   <note dur= "8"/>
   <note/>
   <note/>
   <note/>
   <note dur= "32"/>
 </beam>
 <beam rend= "mixed">
   <note dur= "32"/>
   <note/>
   <note/>
   <note/>
   <note/>
   <note dur= "8"/>
   <note dur= "8"/>
 </beam>
 <!-- … -->
</layer>
```

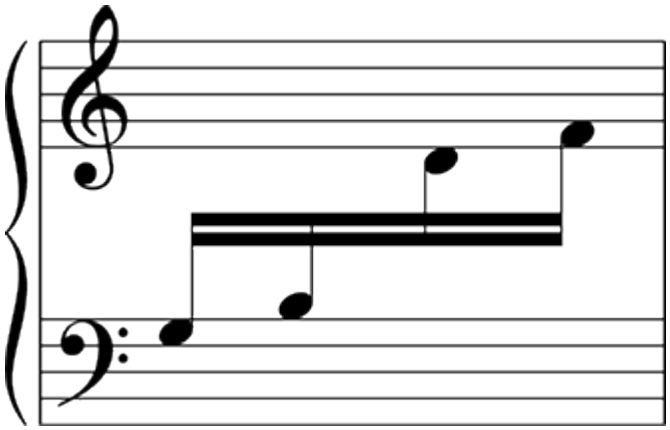


Figure 8. Cross-staff beam

Beams that connect events on different staves may be encoded in two different ways. First, a single-layer approach may be taken that treats the events lying under the beam as logically belonging to the same layer as the initial event but visually 'displaced' to an adjacent staff. In the example below, the last two notes under the beam carry a @staff attribute value that contradicts the 'normal' staff placement indicated by the @n attribute on their ancestor staff.

```
<staff n= "2">
 <layer>
   <beam>
     <note dur= "16" oct= "3" pname= "g"/>
     <note pname= "b"/>
     <note oct= "4" pname= "d" staff= "1"/>
     <note pname= "f" staff= "1"/>
   </beam>
 </layer>
</staff>
```

Alternatively, a staff-by-staff methodology may be employed in which the notes are encoded according to the staff on which they appear. This encoding style requires that each beam element account for the total time encompassed by the beam; that is, each beam must use one or more space elements to account for the time occupied by notes on the opposing staff. For example, the time used by the first two notes of the beam must be represented on staff number 1 and the time taken by the last two notes of the beam must be filled on staff number 2.

```
<measure>
 <staff n= "1">
   <layer>
     <beam beam.with= "below">
       <space dur= "8"/>
       <note oct= "4" pname= "d"/>
       <note pname= "f"/>
     </beam>
```

```
    </layer>
  </staff>
  <staff n= "2">
    <layer>
      <beam beam.with= "above">
        <note dur= "16" oct= "3" pname= "g"/>
        <note pname= "b"/>
        <space dur= "8"/>
      </beam>
    </layer>
  </staff>
</measure>
```

Downstream processing needs are the determining factor in the choice between the two alternative encoding methods.

Due to the potential problem of overlapping hierarchies, the beam element only allows the encoding of beams that do not cross barlines. When beams cross barlines, the use of the beamSpan element is required. Unlike beam, the beamSpanelement does not contain the beamed notes as its children. Instead, it references the @xml:id values of all affected notes in its @plist attribute and denotes the initial and terminal notes of the beam using @startid and @endid attributes. This configuration allows beams to cross measure boundaries. The following example demonstrates a typical example of such hierarchy-crossing beams:

```
<beamSpan endid= "#note4" plist= "#note1 #note2 #note3 #note4" startid= "#note1"/>
```

In addition to the explicit encoding of beams accommodated by the beam and beamSpan elements and the @beam attribute, MEI allows for specification of default beaming behavior using the following attributes on scoreDef, staffDef, and layerDef:

@beam.group - Provides an example of how automated beaming (including secondary beams) is to be performed.

@beam.rests - Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration.

The @beam.group attribute can be used to set a default beaming pattern to be used when no beaming is indicated at the layer level. It must contain a comma-separated list of time values that add up to a measure in the current meter, e.g., '4,4,4,4' in 4/4 time indicates that each quarter note worth of shorter notes should be beamed together. Parentheses can be used to indicate sub-groupings of secondary beams. For example, '(4.,4.,4.)' in 9/8 meter indicates one primary beam per measure with secondary beams broken at each dotted quarter duration, while '(4,4),(4,4)' in 4/4 will result in a measure of 16th notes being rendered with a primary beam covering all the notes and secondary beams for each group of four 16th notes.

The @beam.group attribute is available on scoreDef, staffDef, and layerDef elements, making it possible to set different beaming patterns for each of these. Also, the beaming pattern can be changed anywhere score parameters may be changed, for example, at the start of sections. This beaming "directive" can be overridden by using beam, beamSpan, or @beam attributes as described above. If none of these beaming specifications is

used, then no beaming is implied. Default beaming can be explicitly 'turned off' by setting @beam.group to an empty string.

4.2.2 Ties, Slurs and Phrase Marks

One of the most specific features of CMN is the use of 'curved lines' which connect notes. These lines are used to indicate various musical features, depending on their context.

A tie is a curved line connecting *two* notes of the *same pitch* . The purpose of a tie is to join the durations of both notes, so that the first note sounds for the combined duration. In other words, there is only one onset for both notes.

In MEI, ties can be encoded in different ways, depending on the level of detail that the encoder wants to preserve. The simplest solution is to use the @tie attribute found on note and chord.

```
<layer>
 <note dur= "2" oct= "4" pname= "f" tie= "i"/>
 <note dots= "1" dur= "4" oct= "4" pname= "f" tie= "t"/>
</layer>
```

This attribute allows three values:

i (initial) - Marks the start of a tie

m (medial) - Marks a participant in a tie other than the first or last

t (terminal) - Marks the end of a tie

The scope of the @tie attribute is the musical layer; that is, a tie started in one layer may only be ended by a subsequent musical event with a @tie attribute with an *m* or *t* value in the same layer. The tie-terminating event may lie in the following measure.

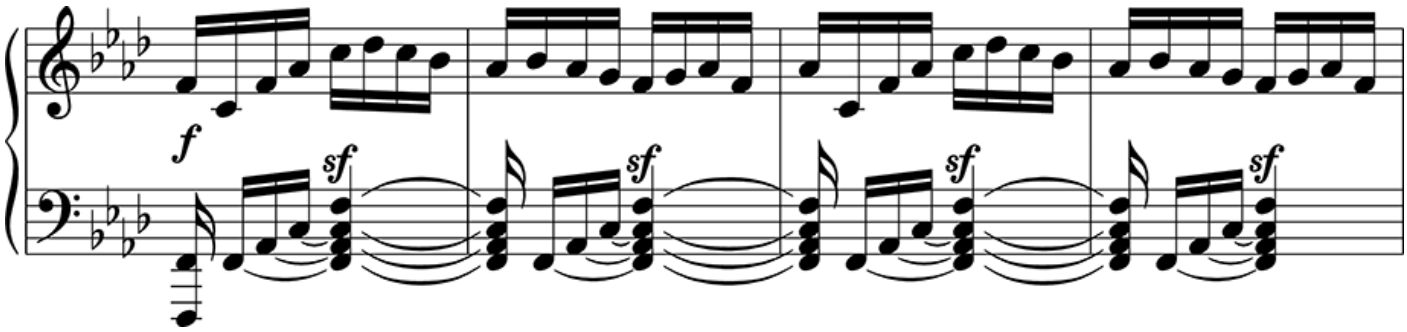


Figure 9. Ties across barlines

```
<measure n= "1">
 <!-- staff 1 omitted -->
```

```
 <staff n= "2">
   <layer n= "1">
     <chord dur= "16"/>
     <beam>
        <note pname= "f" tie= "i"/>
        <note pname= "a" tie= "i"/>
        <note pname= "c" tie= "i"/>
     </beam>
     <chord dur= "4">
        <note pname= "f" tie= "i"/>
        <note pname= "c" tie= "m"/>
        <note pname= "a" tie= "m"/>
        <note pname= "f" tie= "m"/>
     </chord>
   </layer>
 </staff>
</measure>
<measure n= "2">
 <!-- staff 1 omitted -->
 <staff n= "2">
   <layer n= "1">
     <chord dur= "16">
        <note pname= "f" tie= "t"/>
        <note pname= "c" tie= "t"/>
        <note pname= "a" tie= "t"/>
        <note pname= "f" tie= "t"/>
     </chord>
     <!-- ... -->
   </layer>
 </staff>
</measure>
<!-- measures 3 and 4 omitted -->
```

When @tie is used on chords, it functions as a shorthand indication for multiple tie markings; that is, a separate tie is drawn for every pitch in the chord that remains unchanged in the succeeding chord.

```
<staff>
 <layer>
   <chord dur= "4" tie= "i">
     <note pname= "f"/>
     <note pname= "c"/>
     <note pname= "a"/>
   </chord>
   <chord dur= "4" tie= "t">
     <note pname= "f"/>
     <note pname= "c"/>
     <note pname= "a"/>
   </chord>
 </layer>
</staff>
```

This is equivalent to the following, more verbose version:

```
<staff>
 <layer>
   <chord dur= "4">
     <note pname= "f" tie= "i"/>
     <note pname= "c" tie= "i"/>
     <note pname= "a" tie= "i"/>
   </chord>
   <chord dur= "4">
     <note pname= "f" tie= "t"/>
     <note pname= "c" tie= "t"/>
     <note pname= "a" tie= "t"/>
   </chord>
 </layer>
</staff>
```

A slur is a curved line that connects a group of notes of different pitch. It normally indicates that an instrument-specific performance technique should be applied to the affected notes. For example, in notation for winds, the notes should be played in one breath, while a single bow is indicated for string instruments.

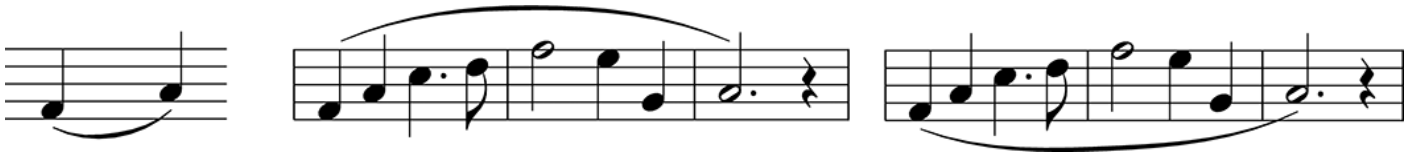


Figure 10. Slurs

In MEI, slurs may be encoded in a similar way to ties: note and chord bear a @slur attribute that allows the commencement or ending of a slur at this element. The allowed values, however, are slightly different: The *i*, *m* or *t* are followed by a single digit in the range 1 to 6, as in the following example:

```
<layer>
 <note accid= "s" dur= "4" oct= "4" pname= "f" slur= "i1"/>
 <note dur= "4" oct= "4" pname= "g" slur= "m1"/>
 <note dur= "4" oct= "4" pname= "a" slur= "t1"/>
</layer>
```

The reason for this difference is that slurs, unlike ties, may overlap, so that a second slur may start while the first slur is still ongoing. The digit indicates the level of nesting of slurs on the note; '1' indicates no nesting, while '2' indicates the existence of 2 slurs in which this note participates, and so on. In the example below, the second and third quarter notes lie under 2 slurs. The second note is covered by the slur that begins on the preceding note and by the one that it starts. The third note is affected by the slur that begins on note one and by the one that starts on note two.

```
<staff>
```

```
 <layer>
   <note dur= "2" oct= "4" pname= "g" slur= "i1"/>
   <note dur= "8" oct= "4" pname= "a" slur= "i2"/>
   <note dur= "8" oct= "4" pname= "g" slur= "t2"/>
   <note accid= "s" dur= "4" oct= "4" pname= "f" slur= "t1"/>
 </layer>
 <layer>
   <note dots= "1" dur= "2" oct= "3" pname= "b" slur= "i1"/>
   <note dur= "4" oct= "4" pname= "d" slur= "t1"/>
 </layer>
</staff>
```

To support analytical operations, @slur may take on more than one value. For example, the example above may be more explicitly encoded as:

```
<staff>
 <layer>
   <note dur= "2" oct= "4" pname= "g" slur= "i1"/>
   <note dur= "8" oct= "4" pname= "a" slur= "m1 i2"/>
   <note dur= "8" oct= "4" pname= "g" slur= "m1 t2"/>
   <note accid= "s" dur= "4" oct= "4" pname= "f" slur= "t1"/>
 </layer>
 <layer>
   <note dots= "1" dur= "2" oct= "3" pname= "b" slur= "i1"/>
   <note dur= "4" oct= "4" pname= "d" slur= "t1"/>
 </layer>
</staff>
```

In this encoding, the notes in the beamed group are marked as participating in two slurs – one connecting just the beamed notes and one connecting the first and last notes of the layer. In 'nested' slurs like this, the function of the slurs is usually different. Here, the slur connecting the 8th notes indicates legato performance, while the longer slur functions as a phrase mark.

While ties are not normally allowed to cross layers or staves, slurs may. The following example demonstrates how cross-staff slurs may be encoded using the @slur attribute:

```
<measure>
 <staff>
   <layer>
     <note dur= "4" oct= "4" pname= "g" slur= "i1"/>
     <note dur= "8" oct= "4" pname= "a" slur= "m1"/>
     <note dur= "8" oct= "4" pname= "g" slur= "m1"/>
     <note accid= "s" dur= "4" oct= "4" pname= "f" slur= "m1"/>
   </layer>
 </staff>
 <staff>
   <layer>
     <note dots= "1" dur= "2" oct= "3" pname= "b"/>
```

```
      <note dur= "4" oct= "4" pname= "d" slur= "t1"/>
    </layer>
  </staff>
</measure>
```

Slurs and ties that cross system or page breaks are often split into two separate symbols for rendering. One slur or tie ends at the last barline, another one starts at the beginning of the new system. MEI expects this to be the default rendering behaviour, so that in situations like these, the regular @tie or @slur attributes are sufficient to describe both curved lines resulting from the split.

Sometimes, however, one of these two symbols is missing in the document, or the encoder wants to provide additional (often visual) information about the slur or tie. In these cases, using an attribute is not an adequate solution. Therefore, MEI offers dedicated tie and slur elements. A third element, phrase, is used to identify a unified melodic idea (in German: *Phrasierungsbogen*), whereas the slur element is used as a generic element for all curved lines (in German: *Bogensetzung*) except ties. All three elements have nearly identical models.

Another reason for using elements instead of attributes for ties, slurs, and phrase marks is that only elements may be combined with the functionality provided in chapters 11 Editorial Markup and 10 Critical Apparatus of these Guidelines.

Although these elements are allowed within a layer to accommodate unmeasured notation, by convention in CMN they are normally placed inside measure, after the encoding of staves, alongside other so-called 'control events'.

```
<measure>
 <staff n= "1">
   <layer>
     <note dur= "4" oct= "5" pname= "c"/>
     <note dur= "4" oct= "4" pname= "f"/>
     <note dur= "4" oct= "4" pname= "g"/>
     <note dur= "4" oct= "4" pname= "c"/>
   </layer>
 </staff>
 <slur/>
 <tempo/>
 <dynam/>
</measure>
```

Obviously, to be complete the slur in the above example needs to be 'attached' to the notes somehow. The 'vertical assignment' can be indicated for the example above using the @staff and @layer attributes like so:

```
<slur layer= "1" staff= "1"/>
```

For the 'horizontal assignment', the encoder may choose between two different mechanisms. The first uses two timestamp attributes as described in section 4.1.5 Timestamps and Durations. The start and end points of the slur may be indicated thusly:

```
<slur layer= "1" staff= "1" tstamp= "1" tstamp2= "0m+4"/>
```

By using @tstamp and @tstamp2 attributes, the encoder denotes a rather loose connection – the slur (or tie) is attached to a certain position in the measure, not to a specific note or chord. If the encoder wants to specify a close connection to a particular event, the @startid and @endid attributes may be used instead. Here, the @xml:ids of the first and last note of the slur are referenced. This mechanism also allows the crossing of layers and staves.

For human readability, it is recommended to encode slur, tie and phrase features in the measure where they begin; that is, in the measure that holds the element referenced by @startid. On the other hand, for machine processability, it may be desirable to place slur, tie, and phrase elements in the measure *where they end* or even in the *last measure* regardless of their beginning and ending points in the music. This last option makes all references contained within these elements 'back references'. Back references are necessary when using processing software that treats the encoded file as a stream; that is, programs that process the file without creating an in-memory representation of its contents.

When using the tie, slur or phrase elements, the curvature of the line may be described using the @curvedir, @bulge and @bezier attributes. Whereas the first attribute allows only specification of the slur's vertical placement, the others give increasingly more precise control of the curve.

If the encoder wishes to draw attention to the appearance of a slur or tie in a given source, the @facs attribute may be used instead of (or in addition to) the curve description attributes to point to a graphic image or a zone within an image (see 12 Facsimiles).

4.2.3 Dynamics in CMN

Common Music Notation provides two different methodologies for expressing the volume of a note, phrase, section, etc. The first is a verbal instruction providing such information in human language, possibly in an abbreviated form. An example is the word *piano* , indicating a quiet volume, often abbreviated as *p* . In MEI, verbal instructions like this are encoded using the dynam element from the Shared module (see chapter 1 Shared Elements, Models, and Attributes):

```
<dynam>p </dynam>
```

By convention, dynam elements, like slur and other elements belonging to the model.controleventLike class, are encoded at the end of the measure to which they belong. This requires dynam to be assigned to a certain staff using the @staff attribute, whose value refers to the target element's @n attribute. In the absence of other information, all layers within the staff are assumed to have the same dynamic marking.

```
<dynam staff= "1"> p </dynam>
```

However, when the layers of a staff have different dynamic indications, the @layer attribute may be used to associate a dynamic marking with a particular layer:

```
<measure>
 <dynam layer= "1" tstamp= "1"> p </dynam>
 <dynam layer= "2" tstamp= "1"> mf </dynam>
</measure>
```

A value in the range 0-127 may be assigned to a dynamic marking using the @val attribute:

```
<dynam layer= "1" place= "above" staff= "2" tstamp= "1" val= "84"> f </dynam>
```

The location of a dynamic marking in relation to a staff may be specified using the @place attribute, which may be given as *above*, *within*, or *below* the staff:

```
<dynam place= "above" staff= "1"> p </dynam>
```

Dynamics must also be associated with a particular time point in a measure, using the @tstamp, or with a particular event, using the @startid attribute. Linking a control event with measures and events is discussed in section 4.1.5 Timestamps and Durations:

```
<measure>
 <staff n= "1">
   <!-- content omitted -->
 </staff>
 <staff n= "2">
   <layer n= "1">
     <note dur= "2" oct= "4" pname= "c" stem.mod= "2slash"/>
     <note dur= "2" oct= "4" pname= "e" stem.mod= "2slash"/>
   </layer>
   <layer n= "2">
     <!-- content omitted -->
   </layer>
 </staff>
 <dynam layer= "1" place= "above" staff= "2" tstamp= "1"> p </dynam>
 <dynam layer= "1" place= "above" staff= "2" tstamp= "2.5"> cresc. poco a poco </dynam>
</measure>
```

Dynamics which do not have an explicit endpoint are often referred to as 'instantaneous'. On the other hand, some dynamic directions indicate a continuous change that must have a defined end point. It is possible to specify the logical scope of continuous dynamic marks using the attributes @tstamp2, @dur or @endid. In order to capture the fact that they continue until the first beat of the next measure, the crescendi in the example above may be marked:

```
<!-- using the tstamp2 attribute -->
<dynam place= "above" staff= "2" tstamp= "2.5" tstamp2= "1m+1"> cresc. poco a poco
</dynam>
```

```
<!-- using the endid attribute -->
<dynam endid= "ID_of_ending_note" place= "above" staff= "2" tstamp= "2.5"> cresc. poco a
poco </dynam>
```

Any combination of @tstamp, @startid, @tstamp2, and @endid attributes may be used to define the scope of a dynamic, although the @tstamp and @tstamp2 or the @startid and @endid combinations are the most logical combinations. For example, the following alternatives are all possibilities for encoding up a crescendo. The choice of attributes is often task or processor dependent.

```
<!-- tstamp attribute indicates starting point, dur attribute marks the end -->
<dynam place= "above" staff= "2" tstamp= "2.5" tstamp2= "1m+1"> cresc. poco a poco
</dynam>
```

```
<!-- tstamp attribute indicates starting point, endid attribute marks the end -->
<dynam endid= "ID of last note" place= "above" staff= "2" tstamp= "2.5"> cresc. poco a
poco </dynam>
```

```
<!-- startid attribute indicates starting point, tstamp2 attribute marks the end -->
<dynam place= "above" staff= "2" startid= "ID_of_starting_note" tstamp2= "1m+1"> cresc.
poco a poco </dynam>
```

```
<!-- startid attribute indicates starting point, endid attribute marks the end -->
<dynam endid= "ID_of_ending_note" place= "above" staff= "2" startid=
"ID_of_starting_note"> cresc. poco a poco </dynam>
```

All musical elements affected by the dynam may be explicitly specified using the @plist attribute, which contains @xml:id attribute value references:

```
<dynam endid= "#note4" place= "above" plist= "#note1 #note2 #note3 #note4" staff= "2"
startid= "#note1"> cresc. poco a poco </dynam>
```

It is recommended that the list of references in @plist include all participants in the dynamic marking, including the first and last notes as in the preceding example, even though they are duplicated by @startid and @endid attributes.

In addition to verbal instructions, Common Music Notation uses graphical symbols to indicate 'continuous' dynamics. These crescendo and decrescendo (or diminuendo) symbols are encoded in MEI using the hairpin element. It also is a member of the model.controleventLike class, which means it too is used just before the close of a measure element, following the encoding of all staves. The required attribute @form specifies the direction of the symbol by taking one of two possible values: *cres* (growing louder) or *dim* (getting softer).

```
<hairpin form= "cres"/>
```

Marking the logical extent of hairpins is possible using the same attributes as for dynam. The following example shows a hairpin that begins on the second half of beat 2 (in the current measure) and ends on beat 1 (of the following measure).

```
<hairpin form= "cres" layer= "1" place= "above" staff= "2" tstamp= "2.5" tstamp2=
"1m+1"/>
```

4.2.4 Tuplets

Tuplets indicate a localized change of meter; that is, a given duration in the regular meter is divided between a group of notes with irregular (according to the current meter) rhythmic values. The most common tuplet is a so-called 'triplet', in which three notes take the time normally occupied by two.

The relation of the tuplet to the underlying meter is specified using the @num and @numbase attributes, where @num specifies the number of replacing notes and @numbase specifies the number of notes *of the same duration* to be replaced. For example, when three eighth notes replace one quarter note in common time, @num takes a value of "3", whereas @numbase reads "2", because a quarter note in common time is normally divided into two eighths. When three quarters replace two in the same meter, @numbase also reads "2". The combination of these attributes may be read as "3 in the time of 2" in either case.

The duration of the entire tuplet may be encoded using the usual 'power of 2' values, e.g., 1, 2, 4, etc., in the @dur attribute, and the @dots attribute, if necessary.

```
<layer>
 <tuplet dur= "2" num= "3" numbase= "2">
   <note dur= "4" oct= "4" pname= "g"/>
   <note accid= "s" dur= "4" oct= "4" pname= "f"/>
   <note dur= "4" oct= "4" pname= "g"/>
 </tuplet>
 <note dur= "2" oct= "4" pname= "d"/>
</layer>
```

Tuplets are often highlighted using brackets above or below the affected notes. The presence and position of these brackets can be encoded using the @bracket.place (above / below) and @bracket.visible (true / false) attributes.

Usually, however, tuplets are rendered with a bracket (@bracket.visible="true") and a single number (@num.format="count" and @num.visible="true"). However, the number-to-numbase ratio may be provided in addition to, or in some cases as a replacement for, the bracket. The @num.format attribute indicates whether a plain number (the value of @num) or a ratio (comprised of @num and @numbase, e.g., "3:2") should be displayed and @num.visible indicates the general presence of such a number.

In addition to note elements, tuplet may contain other elements, such as rest or space, to match the content of a source document or an intended rendering. In particular, the beam element is allowed so that custom beaming may be indicated, e.g., a septuplet may be divided into a group of three plus a group of four notes.

The tuplet element may also be used for repetition of the same pitch; that is, a single note or chord may be the only content of the tuplet. In some cases, optical music recognition software may treat these instances as bowed tremolandi due to the knowledge of the complete semantics of the notation at the time of recognition. However, marking these as tuplets is the recommended practice.

In some situations, a tuplet is made up of events in different measures. As this raises the issue of non-concurrent hierarchies, it is not possible to encode such situations with the tuplet element described above. Therefore, MEI offers the tupletSpan element, which is member of the model.controleventLike class. It is nested inside of measure, following all the measure's staff children. It uses the same attributes as tuplet to describe tuplets, but instead of nesting all affected notes inside itself, it references the @xml:id values of all affected notes in its @plist attribute and the initial and terminal notes of the tuplet using @startid and @endid attributes. This configuration allows tuplets to cross measure boundaries. The following example demonstrates a typical example of such hierarchy-crossing tuplets:

```
<tupletSpan endid= "#note4" plist= "#note1 #note2 #note3 #note4" startid= "#note1"/>
```

4.2.5 Articulation and Performance Instructions in CMN

This section introduces elements and attributes which may hold CMN-specific performance instructions. The functionality described herein is related to the @artic attribute and artic element introduced in 1 Shared Elements, Models, and Attributes. The following elements are relevant in this context:

<arpeg> (arpeggiation) – Indicates that the notes of a chord are to be performed successively rather than simultaneously, usually from lowest to highest. Sometimes called a "roll".

<bend> A variation in pitch (often micro-tonal) upwards or downwards during the course of a note.

<bTrem> (bowed tremolo) – A rapid alternation on a single pitch or chord.

<fermata> An indication placed over a note or rest to indicate that it should be held longer than its written value. May also occur over a bar line to indicate the end of a phrase or section. Sometimes called a 'hold' or 'pause'.

<fTrem> (fingered tremolo) – A rapid alternation between a pair of notes (or chords or perhaps between a note and a chord) that are (usually) farther apart than a major second.

<gliss> (glissando) – A continuous or sliding movement from one pitch to another, usually indicated by a straight or wavy line.

<octave> An indication that a passage should be performed one or more octaves above or below its written pitch.

4.2.5.1 Arpeggio and Glissando

In CMN, the notes of a chord are sometimes performed successively rather than simultaneously. This behavior, called arpeggiation, is normally indicated using a wavy line preceding the chord. MEI offers the arpeg element to describe arpeggios. This element is a member of the model.controleventLike class and, like other members

of this class, uses the @staff, @layer and @tstamp or the @startid and @endid attributes to connect it to the affected chord.

```
<measure>
 <staff n= "1">
   <!-- content omitted -->
 </staff>
 <staff n= "2">
   <layer>
     <note dur= "4"/>
     <note dur= "4"/>
     <chord dur= "4">
        <!-- notes omitted -->
     </chord>
     <note/>
   </layer>
 </staff>
 <arpeg staff= "2" tstamp= "3"/>
</measure>
```

The usual direction for the performance of an arpeggio is from lowest note to highest, but this is not always the case. The customary signal of an downward arpeggio is an arrowhead added to the bottom of the wavy line. The indication of the presence of an arrowhead and the direction of the arpeggio are handled separately, however. The @arrow attribute indicates the presence of an arrowhead in the arpeggiation sign, while the @order attribute records the preferred sequence of notes.

The following examples illustrate various ways in which the arrow and order attributes may be employed. The default visual rendition and performance are assumed in the absence of both attributes, while the typical downward arpeggio is indicated by the presence of both attributes. The last two possibilities occur less frequently, but are sometimes appropriate: The presence of the arrow attribute without the order attribute may be used in those cases where the arrowhead is redundant but is added to the symbol for the sake of consistency or when the direction of successive arpeggios changes frequently. The last possibility, an order attribute without an arrow attribute, is ambiguous; however, it can be used as an encoding shortcut since a downward arpeggio must have a visual indication of its direction to distinguish it from the upward arpeggio; therefore, the presence of the arrowhead can be implied.

```
<!-- default visualization and performance -->
<arpeg staff= "2" tstamp= "3"/>
```

```
<!-- downward arpeggio with arrow added to visual symbol -->
<arpeg arrow= "true" order= "down" staff= "2" tstamp= "3"/>
```

```
<!-- default rendition with (redundant) arrow added to the top of the visual symbol -->
<arpeg arrow= "true" staff= "2" tstamp= "3"/>
```

```
<!-- downward arpeggio with no visual indication of order -->
<arpeg order= "down" staff= "2" tstamp= "3"/>
```

A third, and somewhat counter-intuitive, value for @order, "nonarp", indicates that no arpeggio shall be performed. Normally rendered as a bracket instead of a wavy line, this form of arpeggio is used to indicate a non-arpeggiated chord intervening in a sequence of arpeggiated ones. This is common in music for the harp, where arpeggiation is the usual method of performing chords and deviation from the norm must be explicitly indicated.

For arpeggios that involve chords spanning multiple staves as a continuous arpeggio (instead of two separate arpeggios), the @plist attribute may be used to point to all affected chord elements' @xml:id attributes.

Whereas an arpeggio 'staggers' the onset times of the notes of a chord, a glissando denotes a situation where the pitch 'slides' from one note to another. It makes no difference whether this slide produces distinct intermediate pitches (as on the piano) or not (as on the trombone), though the latter is sometimes referred to as portamento. The visual appearance of a glissando, which MEI encodes as gliss, is normally a line connecting the two most distant notes in the glissando.

The gliss element is a member of the model.controleventLike class and therefore, like other control events, it occurs inside a measure after the staves and uses its @staff, @layer, @tstamp, @tstamp2, @startid and @endid attributes to connect it to the affected notes or chords. It is a semantic error not to specify a starting point attribute. The visual appearance of the indicating line may be recorded in the @rend attribute. Any text accompanying the line, such as "gliss.", may be provided in the @text attribute.

4.2.5.2 Bend

A bend is a variation in pitch (often microtonal) upwards or downwards during the course of a note. Typically, the performer attacks the note at 'true' pitch, changes the intonation, then returns to true pitch. The bend element can also be used for so-called scoop, plop, falloff, and doit performance effects. It should *not* be used for laissez vibrer (l.v.) indications. As with other control events, the starting point of the bend may be indicated by either a tstamp, tstamp.ges, tstamp.real or startid attribute. It is a semantic error not to specify a starting attribute.

4.2.5.3 Tremolandi

CMN has two slightly different concepts which are both called tremolo. The first is a rapid repetition of a single pitch or chord, whereas the second is a rapid alternation between two different notes or chords. In addition, either species of tremolo may be measured or unmeasured. A measured tremolo is an abbreviation for written-out notation; that is, the tremolo is intended to be perceived as notes with distinct rhythmic values. On the other hand, in an unmeasured tremolo no specific number of alternations is intended.

For the repetition of a single note or chord, MEI offers the bTrem (bowed tremolo) element, which is a member of the model.eventLike class, meaning it is encoded following the normal course of musical events within a layer. It holds exactly one note or chord element that is to be repeated.

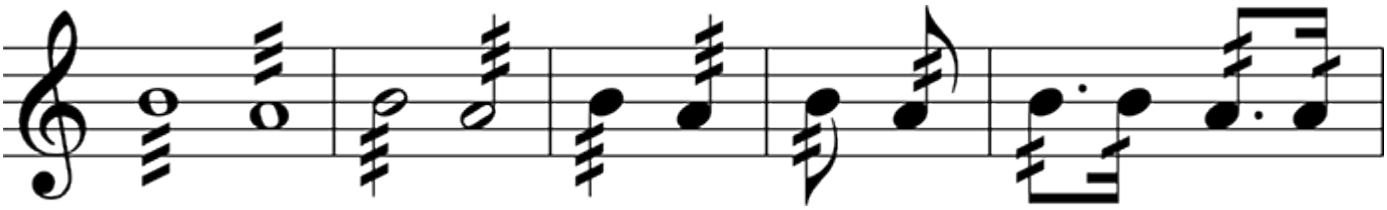


Figure 11. Bowed tremolandi

```
<bTrem>
 <note dur= "1" oct= "4" pname= "b"/>
</bTrem>
```

The @measperf attribute value indicates the exact note values in an aural rendition of a measured tremolo, i.e., quarters, 8ths, and so on. The stem modifier must also be explicity set on the child note or chord element for a complete visual representation. The number of slashes present on the note may disagree with the number of slashes that should be present according to the @measperf attribute, especially in music manuscripts.

```
<bTrem measperf= "32">
 <note dur= "4" oct= "4" pname= "g" stem.mod= "3slash"/>
</bTrem>
```

The bTrem element can be used as shorthand for a tuplet consisting of repetitions of a single note or chord. This kind of markup may be the result of an optical music recognition process in which complete semantics cannot be determined *a priori*. When used this way, the @num attribute on bTrem can record a number to be rendered along with the pseudo-tuplet. In spite of this capability, the tuplet element is preferred.

```
<bTrem num= "3">
 <note dur= "4" oct= "4" pname= "g" stem.mod= "3slash"/>
</bTrem>
```

In the case of alternating pitches, MEI offers the fTrem (fingered tremolo) element. While it mostly behaves the same as bTrem, a fingered tremolo requires exactly two child elements, either being a note or chord. The @measperf attribute value indicates the exact note values in an aural rendition of a measured tremolo, i.e., 4ths, 8ths, 16ths, etc. The number of slashes present in the source is captured by the @slash attribute. The number of slashes present may disagree with the rhythmic value indicated by the @measperf attribute, especially in manuscript sources.

```
<fTrem measperf= "32">
 <note dur= "4" oct= "4" pname= "g"/>
 <note dur= "4" oct= "4" pname= "c"/>
</fTrem>
```

4.2.5.4 Fermata

A very common feature of music notation from the CMN period is the so-called 'fermata'. It is usually written as a dot above or below an arc. It may stand above or below the staff it affects. If this symbol is used, its 'open' side always faces the staff. A fermata indicates that the note or rest under it should be held longer than its written duration would normally require. Sometimes, a fermata occurs over a barline to indicate the end of a phrase or section.

In MEI, fermatas may be encoded using an attribute on note, chord or rest. This attribute allows placement of a fermata above or below the element to which it's attached.

```
<note fermata= "above"/>
```

However, if there is further information about the fermata that should be addressed in the encoding, MEI offers the fermata element. This element, which is a member of the model.controleventLike class and therefore requires the use of such attributes as @staff, @layer, @tstamp and @startid, allows specification of the orientation of the fermata using its @form attribute. In addition, the @shape attribute may be used to indicate whether the fermata is rendered as a semicircle ("curved"), semisquare ("square"), or triangle ("angular"). If the fermata should be rendered using some other symbol, a user-defined symbol may be referred to using an @altsym or @extsym attribute.

```
<fermata form= "inv" place= "above" shape= "square" staff= "2" tstamp= "4"/>
```

```
<fermata altsym= "#myFermata.1" place= "above" staff= "2" tstamp= "5"/>
```

4.2.5.5 Octave Shift

An indication that a passage should be performed one or more octaves above or below its written pitch is represented by the octave element.

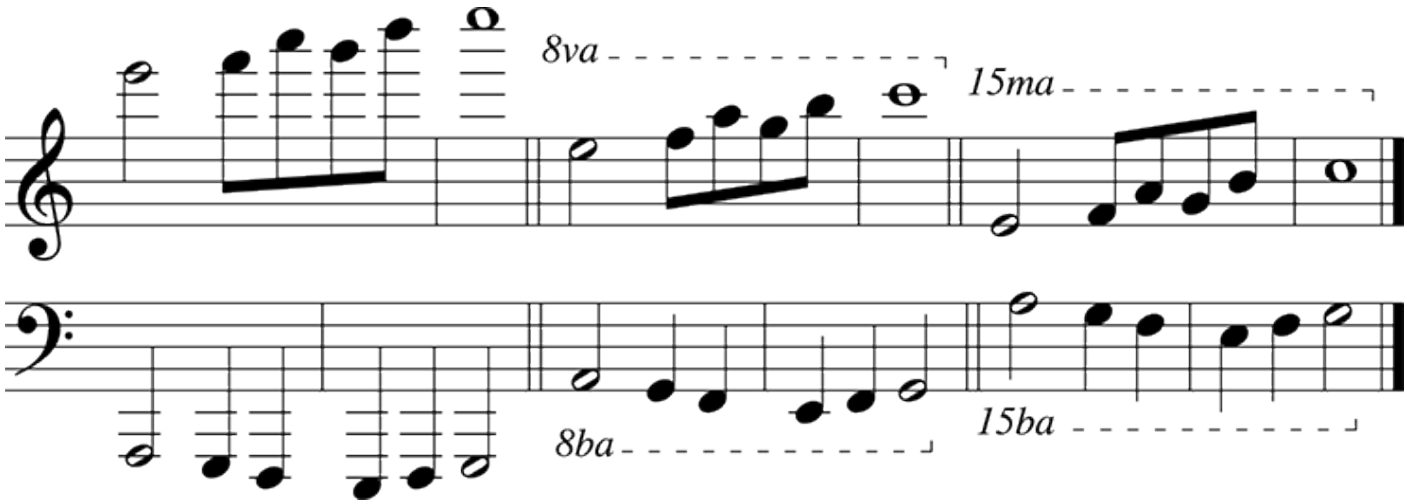


Figure 12. Octave displacement

Its @dis and @dis.place attributes record the amount and direction of displacement, respectively. The @rend attribute captures the appearance of the continuation line associated with the octave displacement. The starting point of the octave displacement may be indicated by either a @tstamp, @tstamp.ges, @tstamp.real or @startid attribute, while the ending point may be recorded by either a @tstamp2, @dur, @dur.ges or @endid attribute. It is a semantic error not to specify one starting-type attribute and one ending-type attribute.

4.2.6 Instrument-specific Symbols in CMN

CMN contains a number of symbols which are closely related to a specific instrument. MEI offers elements for three of these symbols, namely breath marks, harp pedal diagrams, and piano pedals.

4.2.6.1 Breath Marks

A breath mark indicates a point at which the performer of a wind instrument or singer may breathe. It is sometimes also used to indicate a short pause or break for instruments *not* requiring breath, which allows it to also serve as a guide to phrasing. In MEI, breath marks are encoded using the breath element, which is a member of model.controleventLike. It is a semantic error not to specify a starting point attribute.

```
<measure>
 <staff n= "1">
   <layer>
     <note dur= "2" oct= "3" pname= "g" syl= "Wald,"/>
     <note dur= "4" oct= "3" pname= "c" syl= "so"/>
   </layer>
 </staff>
 <breath staff= "1" tstamp= "1.5"/>
</measure>
```

The usual sign for the breath mark is a comma; however, other visual forms of the breath mark may be indicated using the @altsym attribute (see chapter 22 User-defined Symbols for further details).

4.2.6.2 Harp Pedals

Modern harps have seven pedals which allow adjustment of their strings to different pitches. The settings for these pedals occur at the beginning of the harp notation and/or whenever it is necessary to change the harp's tuning. These settings may be rendered using letter pitches (in the order of the pedals from left to right) or in a diagrammatic fashion, such as the form invented by Carlos Salzedo.

In MEI, harp pedal settings are encoded using the harpPedal element. It is a member of the model.controleventLike class and is therefore placed within measure, following all staff children. The @staff and @layer attributes may be used to assign it to a certain staff or layer. Either a @tstamp or @startid attribute must be used to indicate the placement within the measure (see 4.1.5 Timestamps and Durations and 19 Pointers and References for further details about those linking mechanisms).

The musical intention of the element is described using the @c, @d, @e, @f, @g, @a and @b attributes, which affect the corresponding strings of the harp. All of these attributes may take the values "*f*" (flat), "*s*" (sharp) or "*n*" (natural), where "n" is the default value, which is assumed when one of these attributes is not specified.

```
<measure>
 <!-- staves omitted -->
 <harpPedal a= "f" b= "f" e= "f" staff= "2" tstamp= "1"/>
</measure>
```

In the preceding example, the A, B, and E pedals are in the flat position, while the other, non-specified pedals are in the natural position.

4.2.6.3 Piano Pedal

Music for piano also often includes indications of the use of pedals. In MEI, these symbols are encoded using the pedal element. As a member of the model.controleventLike class, it is located within measure and refers to a staff, layer and timestamp using the @staff, @layer and @tstamp attributes. Alternatively, the @startid attribute may be used to identify a note or chord to which the mark should be assigned.

The meaning of the mark is captured using the @dir attribute, which provides the following values:

down - depress the pedal

up - release the pedal

bounce - release, then immediately depress the pedal again

half - depress the pedal half way

```
<measure>
 <!-- staves omitted -->
 <pedal dir= "down" staff= "2" tstamp= "1"/>
</measure>
```

4.2.7 Ossia

The term ossia, Italian for "or", denotes an alternative for a certain passage which is provided by the composer *without any preference* of one alternative over another. An ossia often provides a simpler (easier to perform) version of the original content. Another frequent use case for ossia is the provision of indications about performance practice, such as an alternative version with ornamentation written out in full. In all cases, it is up to the performer to choose between the alternatives.

Most often an ossia is rendered above the main staff on a reduced-size staff. Sometimes, however, the alternate material occurs on the same staff as the primary text, but in a separate layer. In this case, the alternative material is usually rendered in small-sized notation on the normal-sized staff. For both situations, MEI offers the ossia element, which may be nested either inside measure to reflect an ossia on a separate staff, or inside staff to reflect an inline ossia in a separate layer. The following example demonstrates an ossia on a separate staff:

```
<measure>
 <staff n= "1">
  <!-- first staff, without ossia -->
 </staff>
 <ossia>
  <staff>
   <!-- alternative content on reduced-size staff -->
  </staff>
  <staff n= "2">
   <!-- original content on regular staff -->
  </staff>
 </ossia>
 <staff n= "3">
  <!-- third staff, without ossia -->
 </staff>
</measure>
```

The example above demonstrates that only one of the two staff elements within ossia has an @n attribute. This mechanism allows one to distinguish between the "regular" and the "alternative" content: The one bearing the @n attribute goes in line with the preceding measure's staff, the other one is printed in reduced size above. In this case, the vertical order of staves follows document order: The top-most staff is encoded as the first child, the lowest comes last. In combination with the presence of the @n attribute, this allows the capture of multiple simultaneous ossia staves.

All staves within ossia, even the alternative ones without a direct reference, obey the definitions of the associated staffDef, which can be derived from the value of the @n attribute. Alternatively, a separate staffDef may be given at the beginning of the contained layer element(s).

In case of an inline ossia, the whole setup of elements moves down one step in the hierarchy, as seen in the following example:

```
<measure>
 <staff n= "1">
   <!-- content omitted -->
 </staff>
 <staff n= "2">
   <ossia>
     <layer n= "1">
       <!-- original content in regular layer -->
     </layer>
     <layer>
       <!-- alternative content in separate layer -->
     </layer>
   </ossia>
 </staff>
 <staff n= "3">
   <!-- content omitted -->
 </staff>
</measure>
```

4.2.8 Directions and Rehearsal marks

In CMN scores, there is often a large number of natural language instructions. Some of them concern the loudness and the speed of the performance, in which case MEI offers the elements dynam (described at 4.2.3 Dynamics in CMN) and tempo. In other cases, however, they provide other instructions for the performer. Instead of providing separate elements for all possible types of such directions, MEI offers the generic dir element. Although this element is not CMN specific (it is defined in 1 Shared Elements, Models, and Attributes), it is especially important in this repertoire.

A tempo or character indication is often provided above the topmost staff of the first measure of a score, movement, or section. This indication, such as "Allegro moderato" or "Andante maestoso", may be regarded as a label. Though it is possible to label the movement, etc. using a @label attribute attached to the enclosing structural entity (that is, on mdiv or section), it is often required to capture the exact position, spelling, or other features of the label as found in the underlying source material. In these cases, an element is necessary.

Labels which address the tempo at which the music should be performed should be encoded using the tempo element, which is a specialized form of dir. tempo is a member of the model.controleventLike class and as such occurs as a child of measure, following all staff children. Its @staff, @layer and @tstamp attributes are used to ensure correct semantic positioning, and @place indicates a visual position with respect to the staff.

```
<measure n= "1">
 <!-- all staves omitted -->
 <tempo place= "above" staff= "1" tstamp= "1"> Allegro moderato </tempo>
</measure>
```

Rehearsal marks are another specialized kind of directive. Consisting of letters, numbers, or a combination of both, rehearsal marks are used in scores and corresponding performer parts to identify convenient points to restart rehearsal after breaks or interruptions. For this reason, they are often visually emphasized by placing them within a square or circle. In MEI, they are encoded using the reh element, which holds the textual content of the rehearsal mark. The visual rendition of the rehearsal mark, including the surrounding shape, may be captured using the rend element described in chapter 1.3.2 Text Rendition.

The following detail from an edition of Hector Berlioz' *Symphonie Fantastique* shows a typical example:

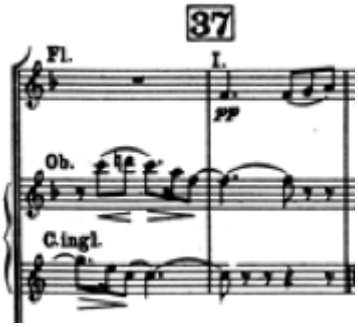


Figure 13. Rehearsal mark

```
<measure>
 <staff n= "1">
   <!-- content omitted -->
 </staff>
 <staff n= "2">
   <!-- content omitted -->
 </staff>
 <staff n= "3">
   <!-- content omitted -->
 </staff>
 <reh place= "above" staff= "1" tstamp= "1">
   <rend rend= "box"> 37 </rend>
 </reh>
</measure>
```

The following example demonstrates how rehearsal marks often apply to more than one staff. In this instance, the rehearsal mark is placed above staff 1 and below staves 7 and 11.

```
<measure>
 <reh place= "above" staff= "1" tstamp= "1"> A </reh>
```

```
 <reh place= "below" staff= "7 11" tstamp= "1"> A </reh>
</measure>
```

4.2.9 Repetition in CMN

Repetition is a characteristic feature of music. Many musical forms rely on repetition (sometimes with modification) of distinct sections of the music. Repetition in this sense can be thought of as 'structural'. At the same time, composers and engravers of music often use local symbols for repeating smaller portions of music instead of writing them in full more than once. In this case, the repetition is better defined as a species of abbreviation.

4.2.9.1 Structural Repetition

Large-scale structural repetition, utilizing section and expansion elements, is discussed in section 1.1.2.3 Content of Musical Divisions. This section will focus on repetition within sections.

4.2.9.2 Measure-Level Repetition Symbols

In addition to repetition at the section level, CMN includes a number of different symbols for measure-level repetitions. Many of these symbols are found in manuscripts and may be regarded as personal conventions of their respective authors. Some signs, however, have been widely adopted. For example, it is common to indicate the repetition of a single beat or an entire measure with one or more diagonal lines, sometimes with dots at the upper left and lower right, much like a percent sign. The illustration below contains the most common signs:

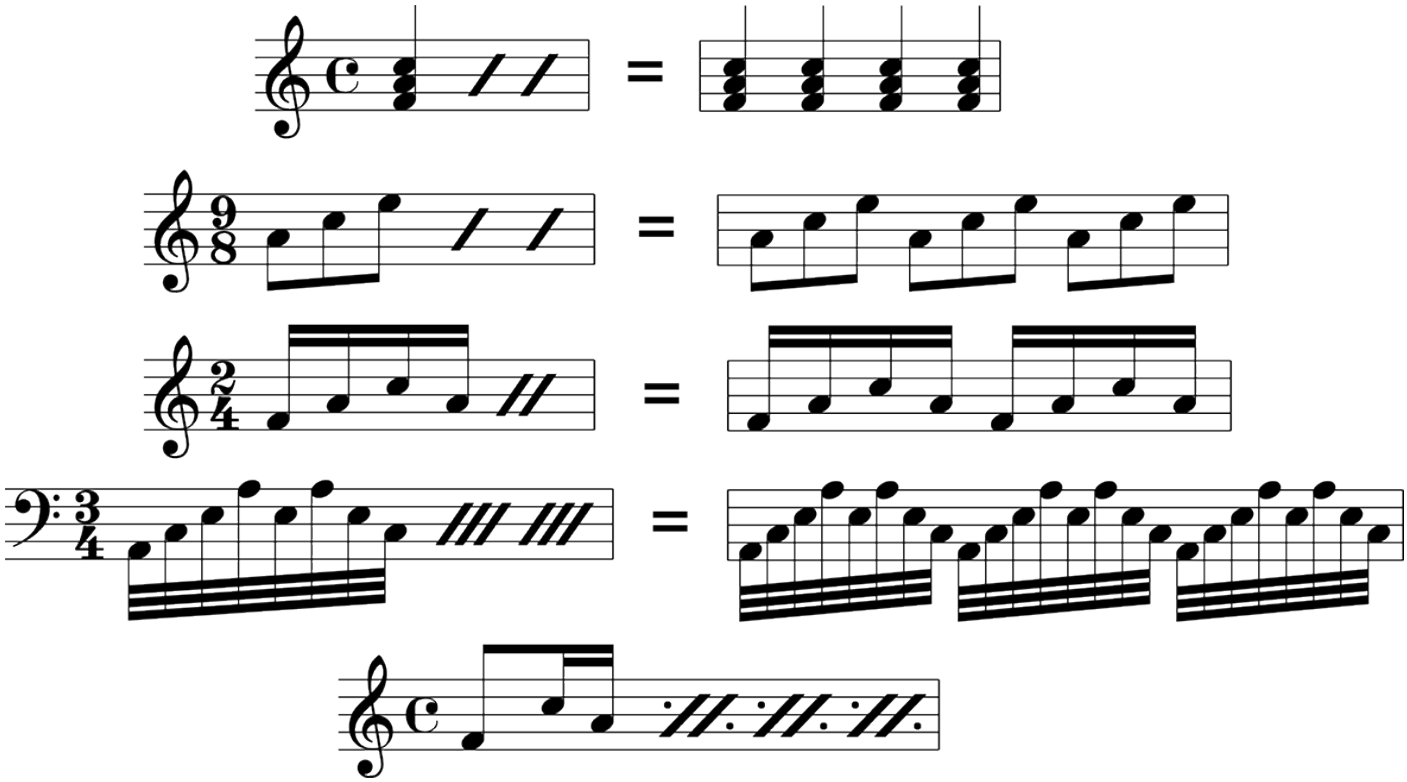


Figure 14. Beat repeat signs

In general, MEI places primary emphasis on the capture of the semantic meaning of symbols, not their visual rendition. In this case, the focus is on the material being repeated, for example, a beat, a measure, a 2-measure fragment, etc. The following elements are provided for this purpose:

<beatRpt> (beat repeat) – An indication that material on a preceding beat should be repeated.

<halfmRpt> (half-measure repeat) – A half-measure repeat in any meter.

<mRpt> (measure repeat) – An indication that the previous measure should be repeated.

<mRpt2> (2-measure repeat) – An indication that the previous two measures should be repeated.

<multiRpt> (multiple repeat) – Multiple repeated measures.

The beatRpt element is used to represent a single repeated beat. Its visual rendition can be recorded using the @rend attribute. This attribute indicates the number of slashes required to render the appropriate repeat symbol, which, as demonstrated in the preceding figure, depends on the rhythmic content of the beat being repeated. When a beat that consists of a single note or chord is repeated, the repetition sign is typically rendered as a single thick, slanting slash; therefore, the value '1' should be used. The following values should be used when the beat is divided into even notes: 4ths or 8ths=1, 16ths=2, 32nds=3, 64ths=4, 128ths=5. When the beat is comprised of mixed duration values, the symbol is always rendered as 2 slashes and 2 dots.

In addition to its indication of a repeated beat, the beatRpt element is sometimes used in popular music notation, especially in guitar or percussion parts, to indicate a repeated rhythmic pattern. The beatRpt element

can be used, but when these parts require durations longer or shorter than a beat, note elements with appropriately-shaped note heads should be employed instead.

The mRpt element is available for repetition of an entire measure. Like mRest, it must be the sole child of layer, no other events should be used. The @n attribute of mRpt should not be used to record the number displayed above the measure in the figure below. Instead, the numbering of repetitions of the written-out measure can be enabled using the @multi.number attribute available on the scoreDef and staffDef elements.

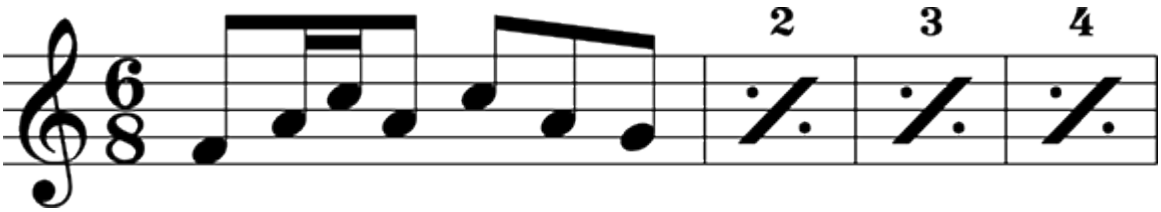


Figure 15. Measure repetition

```
<section>
 <measure>
   <staff>
     <layer>
        <beam>
           <note dur= "8" oct= "4" pname= "f"/>
           <note dur= "16" pname= "a"/>
           <note oct= "5" pname= "c"/>
           <note dur= "8" oct= "4" pname= "a"/>
        </beam>
        <beam>
           <note dur= "8" oct= "5" pname= "c"/>
           <note oct= "4" pname= "a"/>
           <note pname= "g"/>
        </beam>
     </layer>
   </staff>
 </measure>
 <measure>
   <staff>
     <layer>
        <mRpt/>
     </layer>
   </staff>
 </measure>
 <measure>
   <staff>
     <layer>
        <mRpt/>
     </layer>
   </staff>
 </measure>
 <measure>
```

```
    <staff>
      <layer>
        <mRpt/>
      </layer>
    </staff>
  </measure>
</section>
```

The halfmRpt element represents the incorrect, but frequently found, use of the measure repeat (or similar) sign to indicate repetition of half of a measure. This practice mostly occurs in hand-written notation and usually involves the repetition of the second half of a measure in duple time. This element is necessary because the function of the symbol, not the visual symbol itself, is of primary importance. The following example from the beginning of Beethoven's *Waldstein* sonata illustrates such usage:

Figure 16. Half-measure repeat

```
<section>
 <measure>
   <staff n= "1">
     <!-- omitted -->
   </staff>
   <staff n= "2">
     <layer n= "1">
        <!-- omitted -->
     </layer>
     <layer n= "2">
        <chord dur= "2" stem.mod= "1slash">
           <note oct= "2" pname= "g"/>
           <note oct= "1" pname= "b"/>
        </chord>
        <halfmRpt/>
     </layer>
   </staff>
 </measure>
 <measure>
   <staff n= "1">
     <!-- omitted -->
   </staff>
   <staff n= "2">
     <layer n= "2">
        <halfmRpt/>
```

```
        <halfmRpt/>
      </layer>
    </staff>
  </measure>
</section>
```

As seen in the example above, it is possible to continuously repeat half measures, even across barlines.

The mRpt2 and multiRpt elements (like the multiRest element) never occur in scores, only in performer parts, where it is often necessary to abbreviate the notation due to page size limitations.

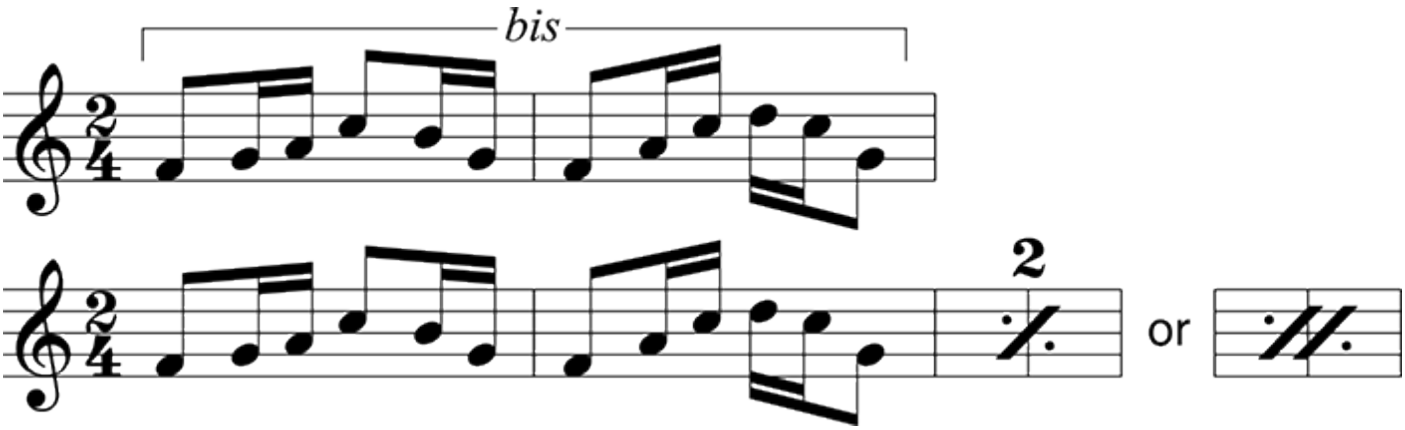


Figure 17. Two-measure repetition

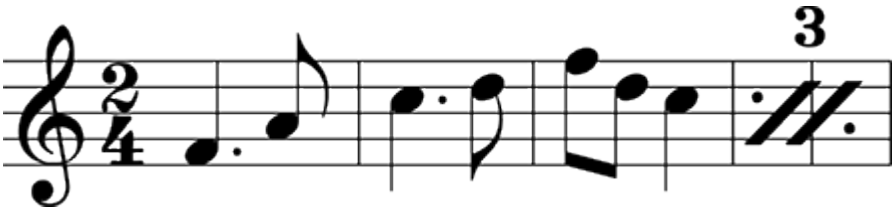


Figure 18. Multi-measure repetition

The mRpt2 element represents repetition of a 2-measure fragment, while multiRpt is for repetition of fragments longer than two measures. In modern publishing practice, repeats of more than two measures are written out using repeat signs. This element is provided, however, for handling non-standard practices often found in manuscripts. The @num attribute on multiRpt records the number of preceding measures to be repeated.

All elements described above allow for association of the sign with a symbol in a digital facsimile (via the @facs attribute) and with a user-defined symbol (using @altsym). See 12 Facsimiles and 22 User-defined Symbols for further details. In addition, the @expand attribute is available on the foregoing elements to inform a rendering process whether to use the repeat symbol or the full content represented by it. A value of "true" indicates that the content should be displayed, while a "false" value means to show only the repeat symbol.

5 Mensural Notation

This chapter describes the module for encoding mensural notation from the late 13th century to about 1600. Historically, mensural notation preceded the development of Common Music Notation (CMN) and it included a wide range of features that persist in CMN and that can be encoded in a standard manner in MEI. In mensural notation, pitches are notated as in CMN, leaving out here the major exception of *musica ficta*. The pitch is given by the position of the note on the staff and the current clef as in CMN, and the mensural module introduces no modification to MEI regarding how pitches are encoded.

There are a certain number of differences, however, regarding the representation of duration in mensural notation. The mensural module introduces specific attribute values for notes and rests for appropriately encoding mensural durations. One of the main particularities is that the actual duration of a note is not given only by its symbol but also by position and the context in which the symbol appears. The general context is given by one of the 16 mensural *species* provide four levels of division: *modus major*, *modus minor* , *tempus* and *prolatio*. Depending on the context, certain rules must be applied in order to determine the duration of a note. In these cases, encoding both the sign and its actual duration is highy desirable.

Another particularity of mensural notation is the use of proportions that are indicated by numeric proportions or by specific mensuration signs. The proportions indicate that the durations have to be modified accordingly and they can be combined in a very complex manner. Over time, proportions and mensuration signs were simplified and became time signatures in CMN. The attributes and elements that are necessary for encoding proportions and mensural signs are made available by the module.

In mensural notation, notes can also be notated in ligatures that regroup two or more notes. Ligatures were a legacy from an earlier notation system that were still widely used in Renaissance music notation. They gradually disappeared during the seventeenth century. The mensural module provides multiple ways of encoding the ligatures.

5.1 Note and Rest Values

When the mensural module is included, @dur on note, rest, and other elements can take the following values:

- maxima
- longa
- brevis
- semibrevis
- minima
- semiminima
- fusa
- semifusa

5.1.1 Actual Duration with Alterations and Imperfections

In ternary divisions, the dichotomy between the duration sign of the notes and their actual duration requires specific attention. The rules of mensural notation can require the alteration or the imperfection of a note; that is, an increase or reduction in its performed duration. In these cases, if the encoding is intended to be suitable for more than just graphically representing the notation, encoding only the duration of the sign can quickly become insufficient. It that case, it is recommended to encode the sign in the @dur attribute and its performed duration using the @num and @numbase attributes.

The following example illustrates an alteration (the second *brevis*) in *modus minor perfectus* and *tempus imperfectum*. The performed duration of each note is given as a proportion of a whole note using the @num and @numbase:

```
<layer>
 <note dur= "longa" num= "6" numbase= "1"/>
 <note dur= "brevis" num= "2" numbase= "1"/>
 <note dur= "brevis" num= "4" numbase= "1"/>
 <note dur= "longa" num= "6" numbase= "1"/>
</layer>
```

The following example illustrates an imperfection (the two *longae*) in *modus minor perfectus* and *tempus perfectum* with the same *longa- brevis- brevis- longa* sequence but with an additional *punctus divisionis* between the two *breves*:

```
<layer>
 <note dur= "longa" num= "6" numbase= "1"/>
 <note dur= "brevis" num= "3" numbase= "1"/>
 <dot form= "div"/>
```

```
  <note dur= "brevis" num= "3" numbase= "1"/>
  <note dur= "longa" num= "6" numbase= "1"/>
</layer>
```

5.2 Mensuration Signs

Using the mensural module, mensuration signs can be indicated with the attributes available on the scoreDef and staffDef elements. Mensuration signs encoded using attributes on scoreDef are regarded as default values which may be overridden by values attached to individual staffDef elements.

The division levels corresponding to *modus maior*, *modus minor*, *tempus* and *prolatio* can be encoded in the @modusmaior, @modusminor, @tempus and @prolatio attributes respectively. Their value must be 3 (perfect) or 2 (imperfect).

The mensur signs themselves can be encoded in the @sign attribute with a possible value of "C" or "O". Its orientation can be encoded in the @orient attribute, for example, with the value "reversed" for a flipped C sign. The number of slahes (up to 6) can be given in the @slash attribute. There is also a @dot attribute for indicating the presence of a dot.

mensur elements can also be used instead of staffDef and its attributes.

5.3 Proportions

Proportions can also be indicated within the staffDef element. The @num and @numbase attributes are available for encoding the numerator and the denominator of the proportion respectively. There is also a proport element that can be used as an alternative.

5.4 Ligatures

Ligatures can be encoded using the ligature element. The @form attribute is available for specifying if the ligature is recta or obliqua.

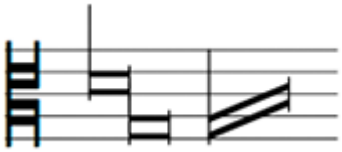


Figure 19. Recta and obliqua ligatures

```
<layer>
 <ligature form= "recta">
   <note dur= "semibrevis" oct= "4" pname= "d"/>
   <note dur= "semibrevis" oct= "3" pname= "g"/>
 </ligature>
 <ligature form= "obliqua">
   <note dur= "semibrevis" oct= "3" pname= "g"/>
   <note dur= "semibrevis" oct= "4" pname= "c"/>
 </ligature>
</layer>
```

In cases where the ligature contains both recta and obliqua notes, the @lig attribute of the note element can be used to specify the form of the ligature at the note level.

Figure 20. Ligature with more than two notes with recta and obliqua

```
<ligature form= "recta">
 <note dur= "longa" oct= "3" pname= "a"/>
 <note dur= "longa" oct= "4" pname= "e"/>
 <note dur= "semibrevis" lig= "obliqua" oct= "4" pname= "d"/>
 <note dur= "semibrevis" lig= "obliqua" oct= "4" pname= "c"/>
 <note dur= "brevis" oct= "3" pname= "b"/>
 <note dur= "brevis" oct= "4" pname= "e"/>
</ligature>
```

5.5 Music Data Organization

The data organization based on measure elements that usually prevails in MEI is not appropriate for mensural notation because most music until 1600 was written in a non-measured manner. Even though it is not defined by the mensural module, a more suitable alternate data organization without measures is available: staff elements may occur directly within the section element without being organized into measures first. The organization of events (notes, rests, etc.) within the staff and layer elements remains unchanged.

```
<section>
 <staff n= "1">
  <layer>
    <note dur= "longa" oct= "5" pname= "c"/>
    <note dur= "brevis" oct= "4" pname= "g"/>
    <note dur= "brevis" oct= "4" pname= "e"/>
  </layer>
 </staff>
 <staff n= "2">
  <layer>
    <note dur= "maxima" oct= "3" pname= "c"/>
  </layer>
 </staff>
</section>
```

This feature may also be used to encode measured music without using the measure element. That is, the same data organization described above may be used, but with the addition of barlines, indicated by the barLine element, for those situations where a measure-by-measure organization is not appropriate, for exampe, when measures are not coincident in all the staves of a score.

6 Neume Notation

This chapter describes the elements, model classes, and attribute classes that are part of the MEI.neumes module.

6.1 Overview of the Neumes Module

The module described in this chapter makes available the following components:

<syllable> Neume notation can be thought of as "neumed text". Therefore, the syllable element provides high-level organization in this repertoire.

<ineume> (interrupted neume) – A graphically interrupted neume; that is, a neume which is logically a single entity but is written using multiple signs.

<uneume> (uninterrupted neume) – A graphically-uninterrupted neume sign.

6.2 Module Background

Neume encoding in MEI was initially developed as part of the Hildegard von Bingen project at the University of Tübingen. MEI was chosen as the basic representation format after a comparison of existing music encoding formats . The initial work on this module was performed by Gregor Schräder (Ein XML-Datenformat zur Repräsentation kritischer Musikedition unter besonderer Berücksichtigung von Neumennotation) , supervised by Prof. Stefan Morent.

This module was originally developed against version 1.8 of the MEI DTD, and has subsequently been translated to the TEI ODD schema.

6.3 Neume Notation

Most neume notation is used to set music to an existing text. The syllable is the fundamental unit of structure, with the neumes themselves serving as a means of "sonifying" the text. A syllable may be expressed via one or more neumes, with the particular neume shape chosen depending on the pitch contour that is being employed and the desired interpretation. For example, two pitches in rising succession might be encoded as a "podatus" (sometimes also called a "pes"), or it might be encoded as two separate punctums, depending on whether it should be sung smoothly connected or with a slight amount of space between the notes.

There are a limited number of possiblities for the most popular musical contours. In general, groups of two to four notes are given unique names, assigned depending on their contour. A "clivis" would be two joined descending notes, while a "podatus" is two joined ascending notes. Table 1 shows most of the named neume shapes. Neume groups of more than four notes are simply called "compound" neumes.

Figure 21. Table 1. Variant neume notation. (From Parrish, "The notation of medieval music," 6)

As shown in Table 1, it is possible to have many different styles of neume shapes, derived from local practices of regional groups. In general, these styles are all interpreted in a similar fashion; however, there is evidence that the performance practice of some styles of neume notation differed with regard to rhythm and cadence. This version of the MEI neumes module does not attempt to encode any rhythmic information present in the neume notation. While it may be possible to encode rhythmic values on note elements, this practice is highly discouraged and, if present, should be interpreted as a modern transcription not present in the original sources.

Neume notation existed before the invention of the staff. Staffless neume notation ("adiastemtic", "cheironomic" or "in campo aperto") existed primarily as a mnemonic device, reminding performers of the contour of the melody but lacking any absolute pitch information. These neumes were written above the text. With the invention of the staff lines and the clef, "heightened" or "diastematic" neume notation could be used to provide exact interval information. In some cases the staff lines are not actually drawn on the page, but their position relative to an imaginary line and initial clef is consistent.

The syllable element is used as the primary organizational element for neume notation within a layer element. Within syllable, the syl element defined in the MEI.shared module is used for encoding the textual content, while the uneume and ineume elements are used to encode the neumes themeselves. Within these neume module elements, other standard MEI mechanisms are available to accommodate, for example, editorial or critical markup.

6.4 Examples

Some of these examples are excerpts from works of Hildegard von Bingen, with the encoding performed by Stefan Morent and Gregor Schräder.

6.4.1 Basic Encoding

The example illustrates the most basic encoding of neume notation. Encoded here is the opening of Hildegarde's "O Splendidissima Gemma" with the text "O splendidissima". Information about the staff has been omitted for brevity, but it was originally encoded on a 5-line staff with two clefs, a "C" and a "F" on lines 5 and 3, respectively.

```
<layer>
 <syllable>
   <syl n= "initial">
     <rend color= "red"> O </rend>
   </syl>
   <uneume name= "porrectus">
     <note oct= "3" pname= "e"/>
     <note oct= "3" pname= "d"/>
     <note oct= "3" pname= "e"/>
   </uneume>
 </syllable>
 <syllable>
   <syl>splen_ </syl>
   <uneume name= "clivis">
     <note oct= "3" pname= "g"/>
     <note oct= "3" pname= "e"/>
   </uneume>
   <uneume name= "pes">
     <note oct= "3" pname= "d"/>
     <note oct= "3" pname= "e"/>
   </uneume>
 </syllable>
 <syllable>
   <syl>di_ </syl>
   <ineume name= "climacus">
     <uneume name= "virga">
        <note oct= "3" pname= "f"/>
     </uneume>
     <uneume name= "punctum">
        <note oct= "3" pname= "d"/>
     </uneume>
     <uneume name= "punctum">
        <note oct= "3" pname= "c"/>
     </uneume>
   </ineume>
```

```
  </syllable>
  <syllable>
    <syl>dis_ </syl>
    <uneume name= "virga">
      <note oct= "3" pname= "e"/>
    </uneume>
  </syllable>
  <syllable>
    <syl>si_ </syl>
    <ineume name= "scandicus">
      <uneume name= "punctum">
        <note oct= "2" pname= "a"/>
      </uneume>
      <uneume name= "punctum">
        <note oct= "2" pname= "b"/>
      </uneume>
      <uneume name= "virga">
        <note oct= "3" pname= "c"/>
      </uneume>
    </ineume>
  </syllable>
  <syllable>
    <syl>ma </syl>
    <uneume name= "clivis">
      <note oct= "2" pname= "b"/>
      <note oct= "2" pname= "a"/>
    </uneume>
  </syllable>
</layer>
```

6.4.2 Encoding Variants

Variant readings across sources may be encoded. In this example, source "D" has a punctum on the syllable "so" that is not present in source "R".

```
<syllable>
  <syl>so_ </syl>
  <uneume name= "punctum" xml:id= "neumes.d18e">
    <note oct= "3" pname= "g"/>
  </uneume>
  <app xml:id= "neumes.app1">
    <rdg source= "#D">
      <uneume name= "punctum" xml:id= "neumes.d19e">
        <note oct= "3" pname= "g"/>
      </uneume>
    </rdg>
    <rdg source= "R"/>
  </app>
</syllable>
```

6.4.3 Supplied Notes

In the case of neume notation where no absolute pitch is indicated, you may use the supplied element to indicate an editorially-added pitch. This element's @source attribute may be used to supply a reference to a source with the absolute pitch provided.

```
<syllable>
 <syl>so_ </syl>
 <uneume name= "pes" xml:id= "neumes.d13">
   <supplied>
     <note oct= "3" pname= "g"/>
   </supplied>
 </uneume>
</syllable>
```

7 Analytical Information

This chapter describes the use of attributes that capture data which may be useful for analytical purposes. The analysis module provides attributes that record relationships between entities found in the encoding. These attributes may be used differently by different users, depending on the purpose of the analysis. These Guidelines recommend that encoders employ commonly accepted analytical practices, such as "functional analysis" or "Schenkerian analysis", and document their use in the encodingDesc described in section 2.2 Encoding Description. For general information on musical analysis, please consult Grove Music Online, " Analysis".

7.1 General Relationships Between Elements

The relationships between event elements, such as note, chord, and rest, are the basic material of musical analysis; the attributes described below ensure a closed network of these relations and provide the opportunity to record data useful for common analytical tasks. In the context of a formal analysis, for instance, the attributes presented here can be useful in the capture information about the structure of a musical work.

The analysis module offers several attributes in the att.common.anl class for the description of basic relationships:

@copyof Points to an element of which the current element is a copy.
@corresp Used to point to other elements that correspond to this one in a generic fashion.
@next Used to point to the next event(s) in a user-defined collection.
@prev Points to the previous event(s) in a user-defined collection.
@sameas Points to an element that is the same as the current element but is not a literal copy of the current element.
@synch Points to elements that are synchronous with the current element.

The att.alignment class also contains an attribute for describing temporal relationships:

@when Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document.

These attributes accommodate the encoding of linkages between the element carrying the attribute and one or more other elements. All of them use URIs to establish the connection. While the examples below illustrate relationships between musical events, their use is not restricted to musical events. On the contrary, these attributes can be used to capture information about relations between any elements.

Using these attributes makes it possible to create relationships between events, which are often widely-spaced in both encoded order and time. The attributes allow a large number of connections, enhancing the informational content, and therefore the potential usefulness, of the encoding.

The @copyof attribute points to an element of which the current element is a copy. It can be used to repeat a note, for example, without encoding the whole note element again. The copy is a 'deep'one; that is, the @copyof attribute copies all attributes and child elements which belong to the copied element, such as the @dur and @oct attributes of a copied note. The value of the @copyof attribute must be a URI, which usually refers to an element in the current document. The following example demonstrates use of the @copyof attribute:

```
<section>
 <measure n= "1">
  <staff n= "1">
    <layer>
      <note dur= "4" oct= "4" pname= "g" xml:id= "analysis.note1_1"/>
    </layer>
  </staff>
 </measure>
 <measure n= "2">
  <staff n= "1">
    <layer>
      <note copyof= "#analysis.note1_1"/>
    </layer>
  </staff>
 </measure>
</section>
```

In this example. the note in the second measure has exactly the same characteristics as the note in the first measure.

Using @copyof is not limited to copying events. The @copyof attribute can also be used to copy an entire measure or staff. When there are many repeated features, the use of the @copyof greatly reduces encoding effort. The image and the following encoding of the beginning of Schubert's *Erlkönig* illustrates the benefit of using the @copyof attribute.

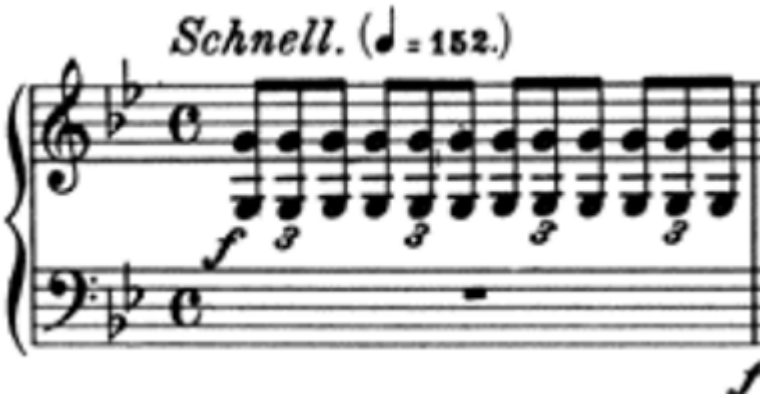


Figure 22. First measure of Schubert's Erlkönig

```
<measure>
 <staff n= "1">
   <layer>
     <mRest/>
   </layer>
 </staff>
 <staff n= "2">
   <layer>
     <tuplet num= "3" num.visible= "true" xml:id= "analysis.tup1">
        <chord dur= "8">
           <note oct= "3" pname= "g"/>
           <note oct= "4" pname= "g"/>
        </chord>
        <chord dur= "8">
           <note oct= "3" pname= "g"/>
           <note oct= "4" pname= "g"/>
        </chord>
        <chord dur= "8">
           <note oct= "3" pname= "g"/>
           <note oct= "4" pname= "g"/>
        </chord>
     </tuplet>
     <tuplet copyof= "#analysis.tup1" xml:id= "analysis.tup2"/>
     <tuplet copyof= "#analysis.tup1" xml:id= "analysis.tup3"/>
     <tuplet copyof= "#analysis.tup1" xml:id= "analysis.tup4"/>
   </layer>
 </staff>
 <staff n= "3">
   <layer>
     <mRest/>
   </layer>
 </staff>
</measure>
```

This example can be reduced further by using @copyof inside the initial tuplet to represent the repeated chords:

```
<measure>
 <staff n= "1">
   <layer>
     <mRest/>
   </layer>
 </staff>
 <staff n= "2">
   <layer>
     <tuplet num= "3" num.visible= "true" xml:id= "analysis.tup5">
        <chord dur= "8" xml:id= "analysis.t1c1">
           <note oct= "3" pname= "g"/>
           <note oct= "4" pname= "g"/>
        </chord>
```

```
        <chord copyof= "#analysis.t1c1"/>
        <chord copyof= "#analysis.t1c1"/>
      </tuplet>
      <tuplet copyof= "#analysis.tup5" xml:id= "analysis.tup6"/>
      <tuplet copyof= "#analysis.tup5" xml:id= "analysis.tup7"/>
      <tuplet copyof= "#analysis.tup5" xml:id= "analysis.tup8"/>
    </layer>
  </staff>
  <staff n= "3">
    <layer>
      <mRest/>
    </layer>
  </staff>
</measure>
```

While @copyof signifies a duplicate copy of an element, the @sameas indicates that the current element represents exactly the same entity as the one referenced in @sameas. Use of @sameas is used for describing the same entity from multiple perspectives, e.g., the same event in two layers. The following example illustrates the sharing of one note head between two voices in the first full measure of a chorale:

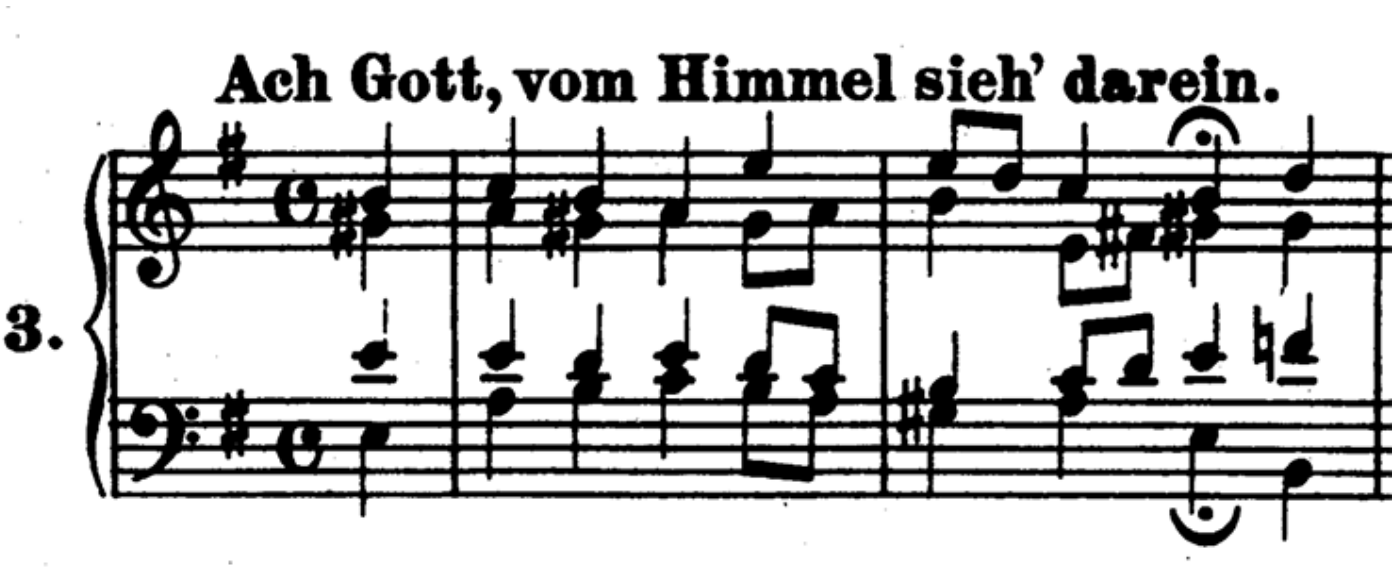


Figure 23. Bach Chorale, Ach Gott, vom Himmel sieh' darein, m. 1-2

```
<measure n= "1" xml:id= "analysis.m_sc_22">
  <staff n= "1">
    <layer n= "1">
      <note dur= "4" oct= "5" pname= "c" xml:id= "analysis.n_sc_23_3"/>
      <note dur= "4" oct= "4" pname= "b" xml:id= "analysis.n_sc_24_3"/>
      <note dur= "4" oct= "4" pname= "a" sameas= "analysis.n_sc_25_2" xml:id=
      "analysis.n_sc_25_3"/>
      <note dur= "4" oct= "5" pname= "e" xml:id= "analysis.n_sc_26_3"/>
```

```
    </layer>
    <layer n= "2">
      <note dur= "4" oct= "4" pname= "a" xml:id= "analysis.n_sc_23_2"/>
      <note accid= "s" dur= "4" oct= "4" pname= "g" xml:id= "analysis.n_sc_24_2"/>
      <note dur= "4" oct= "4" pname= "a" sameas= "analysis.n_sc_25_3" xml:id=
      "analysis.n_sc_25_2"/>
      <beam>
        <note dur= "8" oct= "4" pname= "g" xml:id= "analysis.n_sc_26_2"/>
        <note dur= "8" oct= "4" pname= "a" xml:id= "analysis.n_sc_27_2"/>
      </beam>
    </layer>
  </staff>
  <staff n= "2">
    <layer n= "1">
      <note dur= "4" oct= "4" pname= "e" xml:id= "analysis.n_sc_23_1"/>
      <note dur= "4" oct= "4" pname= "d" xml:id= "analysis.n_sc_24_1"/>
      <note dur= "4" oct= "4" pname= "e" xml:id= "analysis.n_sc_25_1"/>
      <beam>
        <note dur= "8" oct= "4" pname= "d" xml:id= "analysis.n_sc_26_1"/>
        <note dur= "8" oct= "4" pname= "c" xml:id= "analysis.n_sc_27_1"/>
      </beam>
    </layer>
    <layer n= "2">
      <note dur= "4" oct= "3" pname= "a" xml:id= "n_sc_23_0"/>
      <note dur= "4" oct= "3" pname= "b" xml:id= "n_sc_24_0"/>
      <note dur= "4" oct= "4" pname= "c" xml:id= "n_sc_25_0"/>
      <beam>
        <note dur= "8" oct= "3" pname= "b" xml:id= "n_sc_26_0"/>
        <note dur= "8" oct= "3" pname= "a" xml:id= "n_sc_27_0"/>
      </beam>
    </layer>
  </staff>
</measure>
```

While @copyof and @sameas have defined semantics, the @corresp may be used to create user-defined relationships between elements. The example below demonstrates the encoding of a relationship between #note3 and the fermata, even though the fermata is not placed directly above the note.

```
<measure n= "1" right= "end">
  <staff n= "1">
    <layer n= "1">
      <note dur= "4" oct= "4" pname= "c" xml:id= "analysis.note1"/>
      <note dur= "4" oct= "4" pname= "d" xml:id= "analysis.note2"/>
      <note dur= "2" oct= "4" pname= "e" xml:id= "analysis.note3"/>
    </layer>
  </staff>
  <fermata corresp= "#analysis.note3" place= "above" tstamp= "4.75"/>
</measure>
```

The @corresp attribute only marks the correspondence between the current element and one or more other entities. To describe the nature of the correspondence, one must use annot.

The @next and @prev attributes point to elements which follow or precede the current element in some fashion other than that indicated by encoding order. The use of these attributes helps to avoid confusion in the sequence of events, for example, in voice leading across layers or staves, when the encoding reflects the physical arrangement of voices. In the second measure of the following example, the target of the next attribute occurs after the pointing element in time, but before it in encoding order:

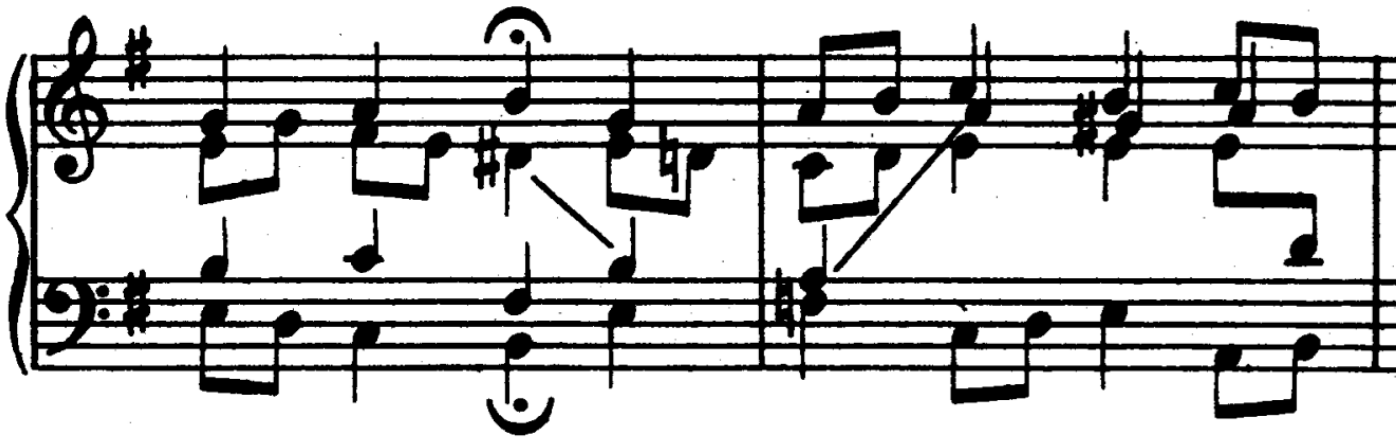


Figure 24. Bach Chorale, Ach Gott, vom Himmel sieh' darein, m. 6-7

```
<section>
 <measure n= "6" xml:id= "analysis.m_sc_62">
  <staff n= "1">
    <layer n= "1">
       <note dur= "4" oct= "4" pname= "g" xml:id= "analysis.n_sc_63_3"/>
       <note dur= "4" oct= "4" pname= "a" xml:id= "analysis.n_sc_65_3"/>
       <note dur= "4" fermata= "above" oct= "4" pname= "b" xml:id=
       "analysis.n_sc_67_3"/>
       <note dur= "4" oct= "4" pname= "g" xml:id= "analysis.n_sc_68_3"/>
    </layer>
    <layer n= "2">
       <beam>
          <note dur= "8" oct= "4" pname= "e" xml:id= "analysis.n_sc_63_2"/>
          <note dur= "8" oct= "4" pname= "g" xml:id= "analysis.n_sc_64_2"/>
       </beam>
       <beam>
          <note dur= "8" oct= "4" pname= "f" xml:id= "analysis.n_sc_65_2"/>
          <note dur= "8" oct= "4" pname= "e" xml:id= "analysis.n_sc_66_2"/>
       </beam>
       <note accid= "s" dur= "4" next= "analysis.n_sc_67_0" oct= "4" pname= "d" xml:id=
       "analysis.n_sc_67_2"/>
       <beam>
          <note dur= "8" oct= "4" pname= "e" xml:id= "analysis.n_sc_68_1"/>
          <note accid= "n" dur= "8" oct= "4" pname= "d" xml:id= "analysis.n_sc_69_1"/>
```

```
      </beam>
    </layer>
  </staff>
  <staff n= "2">
    <layer n= "1">
      <note dur= "4" oct= "3" pname= "b" xml:id= "analysis.n_sc_63_1"/>
      <note dur= "4" oct= "4" pname= "c" xml:id= "analysis.n_sc_65_1"/>
      <note dur= "4" oct= "3" pname= "f" xml:id= "analysis.n_sc_67_1"/>
      <note dur= "4" oct= "3" pname= "b" xml:id= "analysis.n_sc_68_2"/>
    </layer>
    <layer n= "1">
      <beam>
        <note dur= "8" oct= "3" pname= "e" xml:id= "n_sc_63_0"/>
        <note dur= "8" oct= "3" pname= "d" xml:id= "n_sc_64_0"/>
      </beam>
      <note dur= "4" oct= "3" pname= "c" xml:id= "n_sc_65_0"/>
      <note dur= "4" fermata= "below" oct= "2" pname= "b" xml:id= "n_sc_67_0"/>
      <note dur= "4" oct= "3" pname= "e" xml:id= "n_sc_68_0"/>
    </layer>
  </staff>
</measure>
<measure n= "7" xml:id= "m_sc_70">
  <staff n= "1">
    <layer n= "1">
      <beam>
        <note dur= "8" oct= "4" pname= "a" xml:id= "analysis.n_sc_71_3"/>
        <note dur= "8" oct= "4" pname= "b" xml:id= "analysis.n_sc_72_3"/>
      </beam>
      <note dur= "4" oct= "5" pname= "c" xml:id= "analysis.n_sc_73_3"/>
      <note dur= "4" oct= "4" pname= "b" xml:id= "analysis.n_sc_75_3"/>
      <beam>
        <note dur= "8" oct= "5" pname= "c" xml:id= "analysis.n_sc_76_3"/>
        <note dur= "8" oct= "4" pname= "b" xml:id= "analysis.n_sc_77_3"/>
      </beam>
    </layer>
    <layer n= "2">
      <beam>
        <note dur= "8" oct= "4" pname= "c" xml:id= "analysis.n_sc_71_1"/>
        <note dur= "8" oct= "4" pname= "d" xml:id= "analysis.n_sc_72_1"/>
      </beam>
      <note dur= "4" oct= "4" pname= "a" xml:id= "analysis.n_sc_73_2"/>
      <note accid= "s" dur= "4" oct= "4" pname= "g" xml:id= "analysis.n_sc_75_2"/>
      <note dur= "4" oct= "4" pname= "a" xml:id= "analysis.n_sc_76_2"/>
    </layer>
    <layer n= "3">
      <space dur= "4"/>
      <note dur= "4" oct= "4" pname= "e" xml:id= "analysis.n_sc_73_1"/>
      <note dur= "4" oct= "4" pname= "e" xml:id= "analysis.n_sc_75_1"/>
      <beam>
        <note dur= "8" oct= "4" pname= "e" xml:id= "analysis.n_sc_76_1"/>
        <note dur= "8" oct= "4" pname= "d" xml:id= "analysis.n_sc_77_1"/>
      </beam>
```

```
      </layer>
    </staff>
    <staff n= "2">
      <layer n= "1">
        <note dur= "4" next= "analysis.n_sc_73_2" oct= "3" pname= "a" xml:id=
        "analysis.n_sc_71_2"/>
      </layer>
      <layer n= "2">
        <note accid= "n" dur= "4" oct= "3" pname= "f" xml:id= "n_sc_71_0"/>
        <beam>
          <note dur= "8" oct= "3" pname= "c" xml:id= "n_sc_73_0"/>
          <note dur= "8" oct= "3" pname= "d" xml:id= "n_sc_74_0"/>
        </beam>
        <note dur= "4" oct= "3" pname= "e" xml:id= "n_sc_75_0"/>
        <beam>
          <note dur= "8" oct= "2" pname= "a" xml:id= "n_sc_76_0"/>
          <note dur= "8" oct= "2" pname= "b" xml:id= "n_sc_77_0"/>
        </beam>
      </layer>
    </staff>
  </measure>
</section>
```

This attribute may also be useful to clarify a sequence of entites which occurs across some form of interruption, in this case, notes before and after a system or page break where there is no custos or direct in the source:

```
<measure n= "1">
  <staff n= "1">
    <layer>
      <note dur= "4" next= "analysis.m1s1e2" oct= "4" pname= "f" stem.dir= "up" xml:id=
      "analysis.m1s1e1"/>
      <pb/>
      <note dur= "8" next= "m1s1e3" oct= "3" pname= "b" prev= "analysis.m1s1e1" stem.dir=
      "up" xml:id= "analysis.m1s1e2"/>
      <note dur= "8" oct= "4" pname= "c" prev= "analysis.m1s1e2" stem.dir= "up" xml:id=
      "analysis.m1s1e3"/>
    </layer>
  </staff>
</measure>
```

A one-to-many relationship between the current element and the entities being referred to can be expressed by using a list of space-separated URIs in @corresp.

The @synch attribute points to an element that is synchronous with; that is, begins at the same moment in time, as the current element. It is useful when the encoding order differs from the order in which entities occur in time.

The @when attribute may be used to indicate the point of occurrence of the feature bearing this attribute along a time line. Its value must be the ID of a when element. For more detailed information regarding the use of @when, please see 18 Performances.

7.2 Event-Specific Analytical Information

In addition to the common analytical attributes, the analysis module also offers other, more specific attributes on certain musical elements:

@inth Encodes the harmonic interval between pitches occurring at the same time.

@intm Encodes the melodic interval from the previous pitch. The value may be a general directional indication (u, d, s), an indication of diatonic interval direction, quality, and size, or a precise numeric value in half steps.

@mfunc Describes melodic function using Humdrum **embel syntax.

@deg Captures relative scale degree information using Humdrum **deg syntax -- an optional indicator of melodic approach (^ = ascending approach, v = descending approach), a scale degree value (1 = tonic ... 7 = leading tone), and an optional indication of chromatic alteration. The amount of chromatic alternation is not indicated.

@pclass Holds pitch class information.

@psolfa Contains sol-fa designation, e.g., do, re, mi, etc., in either a fixed or movable Do system.

7.2.1 Melodic Intervals

The @intm attribute offers several methods for encoding the melodic interval from a preceding pitch. First, Parsons Code allows for description of the contour of the melody in very general terms; that is, as up, down, or same note. Parsons Code is helpful for identifying musical works with clearly defined melodies and analyzing the relationship between successive notes of monophonic tunes. For more information about the Parsons Code, please see the "The Directory of Tunes and Musical Themes" by Denys Parsons (2002). The next example shows interval relationships indicated by the Parsons Code:

```
<measure n= "1">
 <staff n= "1">
  <layer>
    <note dur= "4" oct= "4" pname= "c"/>
    <note dur= "4" intm= "u" oct= "4" pname= "d"/>
    <note dur= "4" intm= "u" oct= "4" pname= "e"/>
    <note dur= "4" intm= "u" oct= "4" pname= "f"/>
    <note dur= "2" intm= "u" oct= "4" pname= "g"/>
    <note dur= "2" intm= "s" oct= "4" pname= "g"/>
    <note dur= "4" intm= "d" oct= "4" pname= "f"/>
  </layer>
 </staff>
</measure>
```

Alternatively, diatonic interval quality and size may be indicated by a letter signifying the interval quality (A= augmented, d= diminished, M = major, m = minor, P = perfect) followed by a number indicating the size of the interval. The interval direction may be encoded using a leading plus (+) or minus (-) sign:

```
<measure>
 <staff>
  <layer>
    <note dur= "4" oct= "5" pname= "c"/>
    <note dur= "4" intm= "+M2" oct= "5" pname= "d"/>
    <note dur= "4" intm= "-M2" oct= "5" pname= "c"/>
    <note dur= "4" intm= "-m2" oct= "4" pname= "b"/>
    <note dur= "4" intm= "-P8" oct= "3" pname= "b"/>
  </layer>
 </staff>
</measure>
```

As a third option, signed integers may be used to record the difference in half steps between the previous pitch and the current one. Decimal values accommodate the description of microtonal intervals:

```
<measure>
 <staff>
  <layer>
    <note dur= "4" oct= "4" pname= "c"/>
    <note dur= "4" intm= "1.1" oct= "4" pname= "d"/>
    <note dur= "4" intm= "7.9" oct= "5" pname= "d"/>
    <note dur= "4" intm= "-2.334" oct= "5" pname= "c"/>
  </layer>
 </staff>
</measure>
```

7.2.2 Melodic Function

The @mfunc attribute describes melodic function of a note or neume using the Humdrum **embel syntax. In the following example, the note B is labeled as a lower neighbor while all other notes are labeled as chord tones:

```
<section>
 <measure n= "2">
  <staff n= "1">
    <layer>
      <chord dur= "4" stem.dir= "up" xml:id= "analysis.chord1">
        <note dur= "4" mfunc= "ct" oct= "4" pname= "f" xml:id= "analysis.m2e1"/>
        <note dur= "4" mfunc= "ct" oct= "4" pname= "a" xml:id= "analysis.m2e2"/>
        <note dur= "4" mfunc= "ct" oct= "5" pname= "c" xml:id= "analysis.m2e3"/>
      </chord>
      <note accid= "f" dur= "4" mfunc= "ln" oct= "4" pname= "b" stem.dir= "down"
      xml:id= "analysis.m2e4"/>
```

```
      </layer>
    </staff>
  </measure>
  <measure n= "3">
    <staff n= "1">
      <layer>
        <chord dur= "4" stem.dir= "up" xml:id= "analysis.chord2">
            <note dur= "4" mfunc= "ct" oct= "4" pname= "c" xml:id= "analysis.m3e5"/>
            <note dur= "4" mfunc= "ct" oct= "4" pname= "e" xml:id= "analysis.m3e6"/>
            <note dur= "4" mfunc= "ct" oct= "4" pname= "g" xml:id= "analysis.m3e7"/>
        </chord>
      </layer>
    </staff>
  </measure>
</section>
```

7.2.3 Harmonic Intervals

@inth Encodes the harmonic interval between pitches occurring at the same time.

In contrast with @intm, which characterizes melodic (sequential) intervals, the @inth attribute is used to encode the harmonic interval between the current note and other pitches occurring at the same moment in time. The notes of interest may or may not be marked as a chord. In the markup below, for example, the values of @inth capture the harmonic intervals between notes distributed across multiple staves and layers.

```
<measure>
  <staff>
    <layer n= "1">
      <note dur= "4" inth= "M3 P5" oct= "4" pname= "c" xml:id= "analysis.e1"/>
    </layer>
    <layer n= "2">
      <note dur= "4" inth= "M3 m3" oct= "4" pname= "e" xml:id= "analysis.e2"/>
    </layer>
  </staff>
  <staff n= "2">
    <layer n= "3">
      <note dur= "4" inth= "P5 m3" oct= "4" pname= "g" xml:id= "analysis.e3"/>
    </layer>
  </staff>
</measure>
```

Use of the @inth permits detailed specification of intervallic information for every note and its function in relation to other simultaneously-occurring notes and hence about the harmonic nature of the musical work.

7.2.4 Scale Degrees

@deg Captures relative scale degree information using Humdrum **deg syntax -- an optional indicator of melodic approach (^ = ascending approach, v = descending approach), a scale degree value (1 = tonic ... 7 = leading tone), and an optional indication of chromatic alteration. The amount of chromatic alternation is not indicated.

The @deg attribute can be used to represent key-dependent scale-degree information for music in major or minor keys.

Scale-degree values are relative to the prevailing major or minor key. In the case of minor keys, scale degrees are characterized with respect to the harmonic minor scale. For example, the pitch F in the key of A minor is the submediant (6), but F is the lowered submediant (6-) in the key of A major.

Melodic approach can be indicated by a leading caret (^) or lowercase v, representing ascending and descending approaches, respectively.

Chromatic alteration of the scale degree can be represented using a trailing plus (+) or minus (-) signs, signifying raised or lowered scale degree, respectively. The actual amount of chromatic alteration is not indicated.

```
<!-- Fifth scale degree in the prevailing scale -->
<note deg= "5"/>
```

```
<!-- Augmented 5th -->
<note deg= "5+"/>
```

```
<!-- Lowered 6 scale degree approached from below -->
<note deg= "^6-"/>
```

```
<!-- Leading tone approached from above -->
<note deg= "v7"/>
```

7.2.5 Pitch Class

The @pclass attribute can be used to encode information about the pitch class to which a note belongs. The attribute's value must be an integer less than or equal to 11. It is only allowed on the note element. The @pclass attribute comes from "musical set theory" elaborated first by Howard Hanson and Allen Forte as a new method for organizing tones. It provides a concept for categorizing musical objects (notes) and describing their relationships. It is a kind of grouping and combining, mostly developed in connection with atonal music. However, the concept of set theory is general and can also be applied to tonal music. A pitch class means the summary of every pitch with specific characteristics that means a pitch class set is an unordered collection of pitches, e.g., every pitch with the name C.

A pitch class may contain a large number of pitches, because different octaves and enharmonic spellings of pitch make no difference. The notes C, E, and G would be 0, 4 and 7 in pitch class notation, for example, regardless of the octave in which they are performed. The example below contains the same pitch in four different enharmonic spellings, but all are part of the same pitch class.

```
<chord>
 <note dur= "2" oct= "5" pclass= "2" pname= "d"/>
 <note accid= "ss" dur= "4" pclass= "2" pname= "c"/>
 <note accid= "ff" dur= "1" pclass= "2" pname= "e"/>
</chord>
```

For further information on pitch class set theory, please consult the following sources:

- http://www.mta.ca/faculty/arts-letters/music/pc-set_project/pc-set_new/pages/introduction/toc.html
- "Analyzing Atonal Music: Pitch Class Set Theory and its Contexts" by Michael Schuijler (2008)
- Cohen, Allen Laurence (2004). Howard Hanson in Theory and Practice

7.2.6 Solmization

Solmization is a system which associates a syllable with each note of a musical scale. There are various forms of solmization used throughout the world. In Europe and North America, solfège is the most common practice. In this system, the seven syllables for a major scale are do, re, mi, fa, so, la and ti. In the 'fixed-do' system, the syllable "do" is always associated with the pitch "c", while in the 'movable-do' system, "do" is associated with the tonic note. The @psolfa attribute is only allowed on note and uneume elements. Its value is unconstrained in order to accommodate various solmization systems.

```
<measure>
 <staff n= "1">
  <layer>
   <note dur= "4" oct= "4" pname= "c" psolfa= "do"/>
   <note dur= "4" oct= "4" pname= "d" psolfa= "re"/>
   <note dur= "4" oct= "4" pname= "e" psolfa= "mi"/>
   <note dur= "4" oct= "4" pname= "f" psolfa= "fa"/>
  </layer>
 </staff>
</measure>
```

7.3 Metrical Conformance

It is often helpful to record whether a given staff, layer, or measure obeys the meter established for it. The following attributes are provided for this purpose:

@metcon Indicates the relationship between the content of a staff or layer and the prevailing meter.

@metcon Indicates the relationship between the content of a measure and the prevailing meter.

When used on staff or layer elements, the @metcon attribute can be used to indicate if the duration of the contained events is equal to ("c"), less than ("i"), or greater than ("o") that predicted by the time signature. When used on the measure element, @metcon takes a boolean value, where "true" indicates conformance by all staff and layer descendants of the measure.

In the first example below, the layer, staff, and measure all match the prevailing meter. In the second example, however, the first layer does not comply with the meter, making the staff containing it and measure as a whole non-compliant. When there is a single layer or when all the layers on a staff agree with each other, metrical compliance can be indicated on the staff element. When, however, not all layers have the same value for @metcon, then it is necessary to omit @metcon at the staff level. The value of @metcon on the measure level can usually be computed based on the values of its layer and staff sub-elements.

```
<!-- in 2/4 -->
<measure metcon= "true" n= "1">
 <staff n= "1">
   <layer>
     <note dur= "4" oct= "4" pname= "f"/>
     <note dur= "8" oct= "4" pname= "b"/>
     <note dur= "8" oct= "4" pname= "a"/>
   </layer>
 </staff>
</measure>
```

```
<!-- in 2/4 -->
<measure metcon= "false" n= "1">
 <staff n= "1">
   <layer metcon= "i">
     <note dur= "4" oct= "4" pname= "f"/>
     <note dur= "8" oct= "4" pname= "b"/>
   </layer>
   <layer metcon= "true">
     <note dur= "4" oct= "4" pname= "d"/>
     <note dur= "8" oct= "4" pname= "g"/>
     <note dur= "8" oct= "4" pname= "f"/>
   </layer>
 </staff>
```

```
</measure>
```

8 Common Music Notation Ornaments

This module includes elements and attributes for the encoding of ornaments typical of 'Common Music Notation' (CMN). Ornaments are formulae of embellishment that can be realized by adding supplementary notes to one or more notes of the melody. In written form, these are usually expressed as symbols written above or below a note, though some have a more complex written expression, such as those that involve multiple notes and/or include grace notes.

These symbols may have different resolutions depending on a large number of factors, such as historical context, national boundaries, composer, scribe, etc. The elements described here, therefore, are not bound to a specific symbol; they are, instead, meant to encode the encoder's interpretation of a symbol and its position on the staff.

Nonetheless, in order to establish common ground, the guidelines suggest commonly accepted symbols and realizations for the ornaments supported by MEI.

The following sections will introduce each element in detail for all types of ornaments supported.

8.1 Encoding Common To All Ornaments

When encoding CMN, ornaments should be encoded within a measure, following the staff elements, and connected to events on the staff via attributes. The @startid attribute is used to refer to the @xml:id of the starting note. Additionally, if the ornament involves more than one events on the staff, the @endid attribute can be used to anchor the ornament to a concluding event.

The following example demonstrates the encoding of an inverted mordent over a middle C:

```
<measure n= "1">
 <staff n= "1">
  <layer n= "1">
   <note dur= "4" oct= "4" pname= "c" xml:id= "cmnOrnaments.co_1_n1"/>
  </layer>
 </staff>
 <mordent form= "inv" place= "above" staff= "1" startid= "co_1_n1"/>
</measure>
```

Alternatively, the relationship of an ornament to a note can be expressed in terms of beats with the attribute @tstamp. If the ornament involves more than one event on the staff, the @tstamp2 attribute can be used to indicate the ending time stamp, as is explained in section 4.1.5 Timestamps and Durations. These methods may also be utilized simultaneously.

The following example shows the use of @tstamp for an ornament. Assuming that the following measure is in 2/2, the ornament (in this case, a mordent) is related to the note on the second beat.

```
<measure n= "1">
 <staff n= "1">
  <layer n= "1">
   <note dur= "2" oct= "4" pname= "c"/>
   <note dur= "2" oct= "4" pname= "c"/>
  </layer>
 </staff>
 <mordent form= "inv" place= "below" staff= "1" tstamp= "2"/>
</measure>
```

The relationship between an ornament and the notes on staff must always be encoded. It is, in fact, a semantic error not to specify a starting event or time stamp for an ornament.

In their resolution, ornaments will involve auxiliary notes, which typically follow the key signature or the scale of the current key. When the ornament involves other chromatic auxiliaries, an accidental is expressed next to or above the ornament sign. The attributes @accidlower and @accidupper, available on all ornaments described in this chapter, can be used to record this accidental. The attribute values ‘upper’ and ‘lower’ indicate whether the accidental is associated with an upper or lower auxiliary note, not the position of the accidental sign.

8.1.1 Overriding Default Resolutions

The symbols and sounded resolutions suggested for each ornament in this chapter are to be considered defaults. Nevertheless, because of the great historical and geographical variance in the notation of ornaments, the encoder is given methods to override the default resolutions.

It is possible, for example, to specify in the meiHead a new default sounded resolution for an ornament. As discussed in the section 2.2 Encoding Description, the element encodingDesc holds a description (optional, but recommended) of the methods and editorial principles which govern the transcription or encoding of the source material. Let us take a trill as an example. The section regarding trills does not set a specific number of alternations between the principal and secondary notes; the encoder, however, may specify an exact number in the encoding description.

```
<encodingDesc>
 <editorialDecl>
   <p>All trills should be resolved by playing three alternations. </p>
 </editorialDecl>
</encodingDesc>
```

Alternatively, resolutions can be defined on a case-by-case basis by encoding a specific resolution using the choice element. See the section 8.3.1 Special Cases below for an example of a specific resolution of a trill.

8.2 Mordents

A mordent is an ornament that involves an auxiliary note a step above or below the principal note. The presence of a mordent is encoded with the mordent element and its attributes:

<mordent> An ornament indicating rapid alternation of the main note with a secondary note, usually a step below, but sometimes a step above.

@form Traditionally, the 'normal' mordent is written as a short wavy line with a vertical line through it and the inverted mordent is written without the vertical line. However, the meaning of these signs is sometimes reversed. See Read, p. 245-246. Another attribute in the visual domain would be necessary in order to be completely explicit about which visual symbol is actually to be rendered.

@long When the long attribute is set to 'yes', a double or long mordent, consisting of 5 notes, is indicated.

@accidlower Records the written accidental associated with a lower neighboring note.

@accidupper Records the written accidental associated with an upper neighboring note.

It is recommended, but not required, to use the attribute @form to encode the typology of mordents. Two common types are supported: those mordents that involve a note lower than the principal note, and those that involve a note higher than the principal note.

The attribute @form accepts the following values:

norm - usually corresponding to the symbol: . This mordent is commonly performed as the principal note, followed by its lower neighbor, with a return to the principal note.

inv - usually corresponding to the symbol: . This mordent is commonly performed as the principal note, followed by its upper neighbor, with a return to the principal note.

The following example demonstrates the encoding of simple mordents:

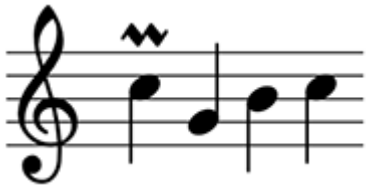


Figure 25. Example of simple mordent

```
<measure n= "1">
 <staff n= "1">
  <layer n= "1">
    <note dur= "4" oct= "5" pname= "c" stem.dir= "down"/>
    <note dur= "4" oct= "4" pname= "g" stem.dir= "up"/>
    <note dur= "4" oct= "4" pname= "b" stem.dir= "down"/>
    <note dur= "4" oct= "5" pname= "c" stem.dir= "down"/>
  </layer>
 </staff>
 <mordent form= "inv" staff= "1" tstamp= "1"/>
</measure>
```

Occasionally, mordents can be longer, employing five notes instead of three. The @long attribute can be used to identify mordents of this type. The following example shows the encoding of a long mordent:

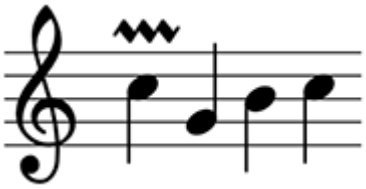


Figure 26. Example of a long mordent

```
<measure n= "1">
 <staff n= "1">
  <layer n= "1">
    <note dur= "4" oct= "5" pname= "c" stem.dir= "down"/>
    <note dur= "4" oct= "4" pname= "g" stem.dir= "up"/>
    <note dur= "4" oct= "4" pname= "b" stem.dir= "down"/>
    <note dur= "4" oct= "5" pname= "c" stem.dir= "down"/>
  </layer>
 </staff>
 <mordent form= "inv" long= "true" staff= "1" tstamp= "1"/>
</measure>
```

8.3 Trills

Trills are a type of ornament that consists of a rapid alternation of a note with one a semitone or tone above. A trill is encoded with the trill element and its attributes:

<trill> Rapid alternation of a note with another (usually at the interval of a second above).

@accidlower Records the written accidental associated with a lower neighboring note.
@accidupper Records the written accidental associated with an upper neighboring note.

Trills in modern notation are usually expressed with the abbreviation "tr" above a note on the staff. Often the abbreviation is followed by a wavy line that indicates the length of the trill.

The following example demonstrates the encoding of simple trills:

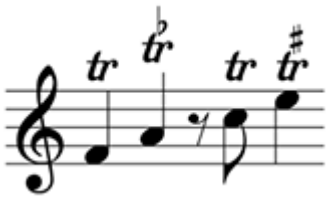


Figure 27. Example of simple trills.

```
<measure n= "1">
 <staff n= "1">
  <layer n= "1">
    <note dur= "4" oct= "4" pname= "f" stem.dir= "up"/>
    <note dur= "4" oct= "4" pname= "a" stem.dir= "up"/>
    <rest dur= "8"/>
    <note dur= "8" oct= "5" pname= "c" stem.dir= "down"/>
    <note dur= "4" oct= "5" pname= "e" stem.dir= "down"/>
  </layer>
 </staff>
 <trill place= "above" staff= "1" tstamp= "1"/>
 <trill accidupper= "f" place= "above" staff= "1" tstamp= "2"/>
 <trill place= "above" staff= "1" tstamp= "3.5"/>
 <trill accidupper= "s" place= "above" staff= "1" tstamp= "4"/>
</measure>
```

It has been specified earlier that it is a semantic error not to encode a starting event or time stamp for an ornament. This starting point of a trill can be expressed with the @startid attribute and/or with the @tstamp attribute. Specifying the end point is not required, although the @tstamp2 attribute can be used to indicate the use of a wavy line extender as shown in this example:

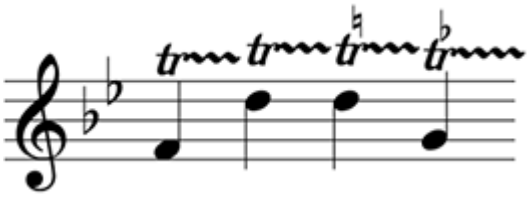


Figure 28. Example of trills followed by wavy lines.

```
<score>
 <scoreDef>
   <staffGrp>
     <staffDef clef.line= "2" clef.shape= "G" key.sig= "2f" lines= "5" n= "1"/>
   </staffGrp>
 </scoreDef>
 <section>
   <measure n= "1">
     <staff n= "1">
        <layer n= "1">
           <note dur= "4" oct= "4" pname= "f" stem.dir= "up"/>
           <note dur= "4" oct= "5" pname= "d" stem.dir= "up"/>
           <note dur= "4" oct= "5" pname= "d" stem.dir= "down"/>
           <note dur= "4" oct= "5" pname= "g" stem.dir= "down"/>
        </layer>
     </staff>
     <trill place= "above" staff= "1" tstamp= "1" tstamp2= "2"/>
     <trill place= "above" staff= "1" tstamp= "2" tstamp2= "3"/>
     <trill accidupper= "n" place= "above" staff= "1" tstamp= "3" tstamp2= "4"/>
     <trill accidupper= "f" place= "above" staff= "1" tstamp= "4" tstamp2= "5"/>
   </measure>
 </section>
</score>
```

Chromatic alterations of auxiliary notes are occasionally expressed on the staff using small notes enclosed in parentheses, as shown in the example below. However, the attribute @accidupper is still to be used to encode the alteration. Display of the auxiliary note in this 'cautionary' manner is left to down-stream rendering processes.

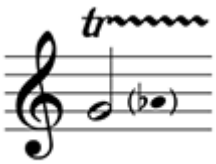


Figure 29. Example alterations expressed on the staff.

```
<measure n= "1">
 <staff n= "1">
```

```
    <layer n= "1">
      <note dur= "2" oct= "4" pname= "g" stem.dir= "up"/>
    </layer>
  </staff>
  <trill accidupper= "f" place= "above" staff= "1" tstamp= "1"/>
</measure>
```

Some trills may be introduced by a turn or followed by an inverted turn leading to the next note (see Le garzantine, Musica 2003, p. 911). In such cases, the trill is encoded as in previous examples and associated with the principal note. Starting or concluding turns are notated on the staff (in layer) as grace notes.

The following example, from a keyboard sonata by Joseph Haydn, shows a trill with concluding grace notes:

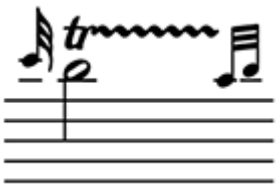


Figure 30. Haydn, Sonata in D major, Hoboken XVI:33 (Wiener Urtex no. 34), mvmt. 1.

```
<measure n= "2" xml:id= "cmnOrnaments.d1e412">
  <staff n= "1">
    <layer n= "1">
      <note accid.ges= "s" dur= "32" grace= "unacc" oct= "6" pname= "c" stem.dir= "up"
      xml:id= "cmnOrnaments.d1e414"/>
      <note dur= "2" oct= "5" pname= "b" stem.dir= "down" xml:id= "cmnOrnaments.d1e432"/>
      <beam>
        <note dur= "32" grace= "unacc" oct= "5" pname= "a" stem.dir= "up"/>
        <note dur= "32" grace= "unacc" oct= "5" pname= "b" stem.dir= "up"/>
      </beam>
    </layer>
  </staff>
  <trill ho= "+1" place= "above" staff= "1" tstamp= "1" tstamp2= "2.5" vo= "6.5"/>
</measure>
```

8.3.1 Special Cases

Symbols and abbreviations for trills have changed and evolved considerably throughout history. Strategies to clarify the encoding and interpretation of ornaments have been discussed in section 8.1.1 Overriding Default Resolutions above. However, in order to aid the encoder in making educated choices in the encoding of non-standard trills, this section shows two examples diverging from modern standard use.

The abbreviation "tr" followed by a wavy line spanning multiple notes is sometimes used to indicate multiple trills:

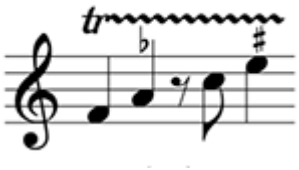


Figure 31. Example of multiple trills.

The encoding of this kind of trill may vary depending on the purpose of the encoding. For representation of the source, a single trill is sufficient:

```
<measure n= "1">
 <staff n= "1">
  <layer n= "1">
    <note dur= "4" oct= "4" pname= "f" stem.dir= "up"/>
    <note dur= "4" oct= "4" pname= "a" stem.dir= "up"/>
    <rest dur= "8"/>
    <note dur= "8" oct= "5" pname= "c" stem.dir= "down"/>
    <note dur= "4" oct= "5" pname= "e" stem.dir= "down"/>
  </layer>
 </staff>
 <trill place= "above" staff= "1" tstamp= "1" tstamp2= "0m+4"/>
</measure>
```

To support analytical and aural rendering applications, however, each trill may be explicitly encoded, as the following example demonstrates:

```
<measure n= "1">
 <staff n= "1">
  <layer n= "1">
    <note dur= "4" oct= "4" pname= "f" stem.dir= "up"/>
    <note dur= "4" oct= "4" pname= "a" stem.dir= "up"/>
    <rest dur= "8"/>
    <note dur= "8" oct= "5" pname= "c" stem.dir= "down"/>
    <note dur= "4" oct= "5" pname= "e" stem.dir= "down"/>
  </layer>
 </staff>
 <trill place= "above" staff= "1" tstamp= "1"/>
 <trill accidupper= "f" place= "above" staff= "1" tstamp= "2"/>
 <trill place= "above" staff= "1" tstamp= "3.5"/>
 <trill accidupper= "s" place= "above" staff= "1" tstamp= "4"/>
</measure>
```

However, when it is necessary to support multiple outputs, use of the choice element and appropriate sub-elements is recommended. In this case, the orig and reg elements can be used to represent the original source and a regularization provided by the editor, respectively:

```
<choice>
 <orig>
   <trill place= "above" staff= "1" tstamp= "1" tstamp2= "0m+4"/>
 </orig>
 <reg>
   <trill place= "above" staff= "1" tstamp= "1"/>
   <trill accidupper= "f" place= "above" staff= "1" tstamp= "2"/>
   <trill place= "above" staff= "1" tstamp= "3.5"/>
   <trill accidupper= "s" place= "above" staff= "1" tstamp= "4"/>
 </reg>
</choice>
```

Another situation that requires disambiguation of an ornament's name and its potential rendition is due to the fact that the symbols for trills and mordents have been often used interchangeably in the past. The following example, taken from *Klavierbüchlein für Wilhelm Friedemann Bach* (1720), shows a trill (Trillo) identified by the symbol associated with a mordent in modern practice. Nonetheless, J.S. Bach's suggested resolution should be encoded with a variant of the procedure presented above.

In the example below, the child elements of choice; that is, orig and reg, represent non-exclusive options; that is, both may be processed by applications that aim to support both visual and aural renditions.

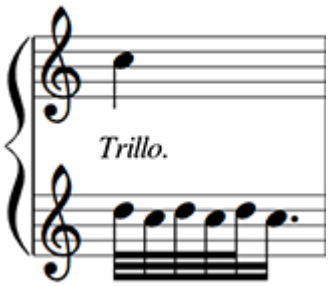


Figure 32. Trill transcribed from J.S. Bach's Klavierbüchlein für Wilhelm Friedemann Bach (1720)

```
<measure n= "1">
 <staff n= "1">
   <layer n= "1">
     <note dur= "4" oct= "5" pname= "c" stem.dir= "down"/>
   </layer>
 </staff>
 <choice>
   <orig>
     <trill place= "above" staff= "1" tstamp= "1"/>
   </orig>
   <reg>
     <note dur= "32" oct= "5" pname= "d"/>
     <note dur= "32" oct= "5" pname= "c"/>
     <note dur= "32" oct= "5" pname= "d"/>
     <note dur= "32" oct= "5" pname= "c"/>
```

```
      <note dur= "32" oct= "5" pname= "d"/>
      <note dots= "1" dur= "16" oct= "5" pname= "c"/>
    </reg>
  </choice>
</measure>
```

Depending on the purpose of the encoding, it may be more convenient to encode the regularized text within the stream of events, along with a corresponding choice with regard to the existence of the trill marking, as in the following example:

```
<measure>
  <staff>
    <layer>
      <choice>
        <orig>
          <note dur= "4" oct= "5" pname= "c" stem.dir= "down"/>
        </orig>
        <reg>
          <note dur= "32" oct= "5" pname= "d"/>
          <note dur= "32" oct= "5" pname= "c"/>
          <note dur= "32" oct= "5" pname= "d"/>
          <note dur= "32" oct= "5" pname= "c"/>
          <note dur= "32" oct= "5" pname= "d"/>
          <note dots= "1" dur= "16" oct= "5" pname= "c"/>
        </reg>
      </choice>
    </layer>
  </staff>
  <choice>
    <orig>
      <trill place= "above" staff= "1" tstamp= "1"/>
    </orig>
    <reg/>
  </choice>
</measure>
```

The orig element contains the single-note-with-trill transcription of the original text, while the reg element represents the realization-without-trill version.

This approach facilitates substitution of the realization of the trill for the original written note (as well as the opposite procedure) and is therefore the recommended markup for applications where exchange of this kind is desirable.

8.4 Turns

A turn is an ornament that typically consists of four notes: the upper neighbor of the principal note, the principal note, the lower neighbor, and the principal note again.

The presence of a turn is encoded with the turn element and its attributes:

@form Indicates the style of the turn.
@delayed When the delayed attribute is set to 'true', the turn begins on the second half of the beat. See Read, p. 246.

@accidlower Records the written accidental associated with a lower neighboring note.
@accidupper Records the written accidental associated with an upper neighboring note.

It is recommended, but not required, to use the attribute @form to encode the typology of the turn.

The attribute @form accepts the following values:

norm - usually corresponding to the symbol:  . This turn is commonly performed beginning on a note higher than the principal note.

inv - usually corresponding to the symbol:  . This turn is commonly performed beginning on a note lower than the principal note.

The following example shows the encoding of a simple turn:

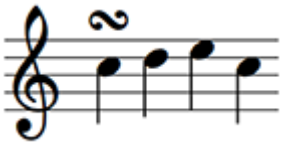


Figure 33. Example of a simple turn.

```
<measure n= "1">
 <staff n= "1">
  <layer n= "1">
    <note dur= "4" oct= "5" pname= "g" stem.dir= "down"/>
    <note dur= "4" oct= "5" pname= "d" stem.dir= "down"/>
    <note dur= "4" oct= "5" pname= "e" stem.dir= "down"/>
    <note dur= "4" oct= "5" pname= "c" stem.dir= "down"/>
  </layer>
 </staff>
 <turn form= "norm" staff= "1" tstamp= "1"/>
</measure>
```

Turns can sometimes be performed after the principal note (usually on the second half of the beat, see Read 1979, p. 246) and leading to the following event. To indicate this, the turn symbol is typically written in between the principal note and the next. These kind of turns are encoded with the attribute @delayed.

The following example from Beethoven's piano sonata no. 1 in F minor, op. 2, no. 1, mvmt. 2 demonstrates the encoding of turns with the @delayed attribute. Note that the @tstamp attribute indicates the actual starting point in time, while @startid points to the principal note.

Figure 34. Delayed turn.

```
<measure>
 <staff n= "1">
  <layer n= "1">
    <note dots= "1" dur= "4" oct= "5" pname= "g" stem.dir= "down" tie= "i"/>
    <beam>
       <note dots= "1" dur= "16" oct= "5" pname= "g" stem.dir= "down" tie= "t"/>
       <note dur= "32" oct= "5" pname= "a" stem.dir= "down"/>
    </beam>
  </layer>
 </staff>
 <turn accidlower= "s" place= "above" staff= "1" tstamp= "2.75"/>
</measure>
```

8.5 Other Ornaments

CMN ornaments that are not mordents, trills, or turns can be encoded with a generic ornam.

This element allows the encoder to represent ornaments as textual strings (e.g. with a Unicode symbol) or with a user defined symbol. Chromatic auxiliaries can be represented with @accidlower and @accidupper. The ornam element can also be a control element. That is, it can be linked via its attributes to other events. The starting point of the directive may be indicated by either a tstamp, tstamp.ges, tstamp.real or startid attribute, while the ending point may be recorded by either a tstamp2, dur, dur.ges or endid attribute. It is a semantic error not to specify a starting point attribute.

For example, Johann Sebastian Bach used non-standard ornaments in the *Klavierbüchlein für Wilhelm Friedemann Bach* :

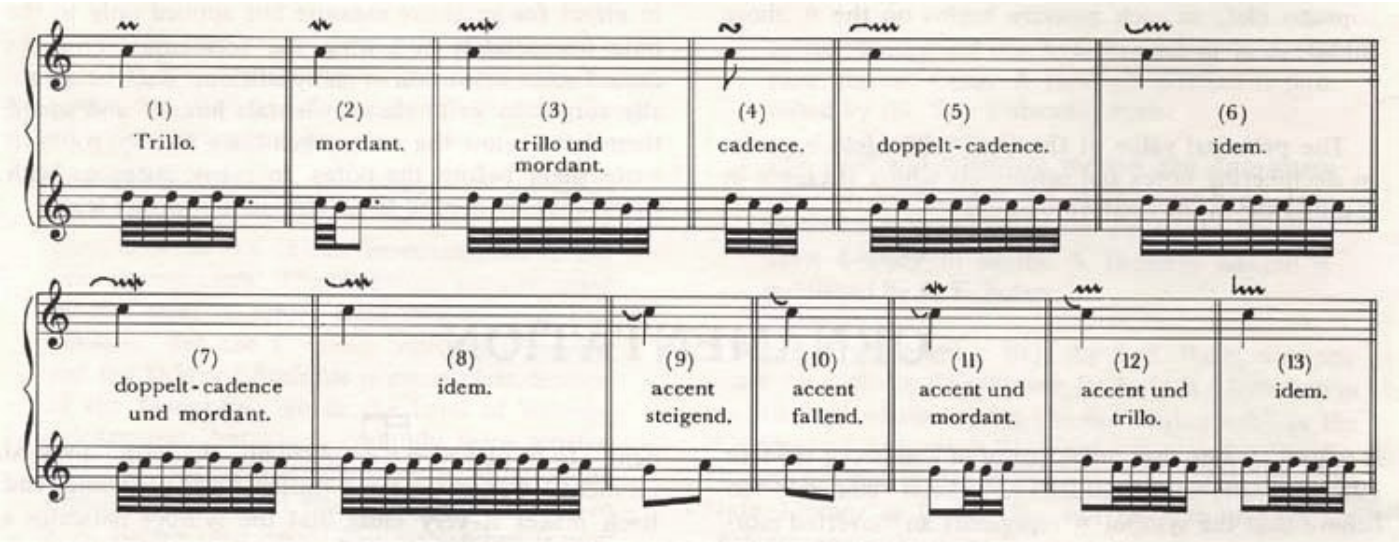


Figure 35. Table of ornaments used by Johann Sebastian Bach in the Klavierbüchlein für Wilhelm Friedemann Bach

The ornament for (5) doppelt-cadence could be encoded in the following way, by adopting the Unicode code-points defined by the SMuFL standard:

```
<ornament tstamp= "1"> &#xe5c0; </ornament>
```

A resolution, or expansion of the ornament can be provided as discussed in 8.3.1 Special Cases below.

8.6 Ornaments in Combinations

Particularly in baroque keyboard music, but also in the early classical period, various combinations of ornaments can be found. Despite being written vertically above the same note, they are to be performed in sequence.

The following example from C.P.E. Bach's sonata W.62/1 shows a turn followed by a inverted mordent:

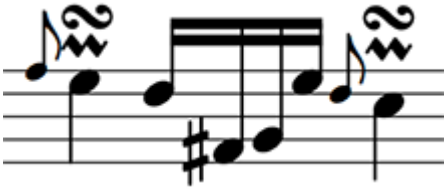


Figure 36. Example of multiple ornaments. From C.P.E. Bach's sonata W.62/1.

When encoding the example above, both ornaments will be positioned above the same note. The encoded order of the elements, moreover, should correspond to the performed sequence, which in this example is top to bottom: first the turn, then the mordent.

```
<measure n= "3">
 <staff n= "1">
  <layer n= "1">
    <note dur= "8" grace= "unknown" oct= "5" pname= "f" stem.dir= "up"/>
    <note dur= "4" oct= "5" pname= "e" stem.dir= "down" xml:id=
    "cmnOrnaments.co_m_1_n1"/>
    <beam>
       <note dur= "16" oct= "5" pname= "d" stem.dir= "up"/>
       <note accid= "s" dur= "16" oct= "4" pname= "f" stem.dir= "up"/>
       <note dur= "16" oct= "4" pname= "g" stem.dir= "up"/>
       <note dur= "16" oct= "5" pname= "e" stem.dir= "up"/>
    </beam>
    <note dur= "8" grace= "unknown" oct= "5" pname= "d" stem.dir= "up"/>
    <note dur= "4" oct= "5" pname= "c" stem.dir= "up" xml:id=
    "cmnOrnaments.co_m_1_n2"/>
  </layer>
 </staff>
 <turn form= "norm" staff= "1" startid= "#co_m_1_n1"/>
 <mordent form= "inv" staff= "1" startid= "#co_1_m_n1"/>
 <turn form= "norm" staff= "1" startid= "#co_m_1_n2"/>
 <mordent form= "inv" staff= "1" startid= "#co_m_1_n2"/>
</measure>
```

9 Musical Corpora

The term corpus may refer to any collection of musical data, although it is often reserved for collections which have been organized or collected with a particular end in view, generally to illustrate a particular characteristic of, or to demonstrate the variety found in, a group of related texts. The principal distinguishing characteristic of a corpus is that its components have been selected or structured according to some conscious set of design criteria.

In MEI, a corpus is regarded as a composite text because, although each discrete document in a corpus clearly has a claim to be considered as a text in its own right, it is also regarded as a subdivision of some larger object, if only for convenience of analysis. In corpora, the component samples are clearly distinct texts, but the systematic collection, standardized preparation, and common markup of the corpus often make it useful to treat the entire corpus as a unit, too. Corpora share a number of characteristics with other types of composite texts, including anthologies and collections. Most notably, different components of composite texts may exhibit different structural properties, thus potentially requiring elements from different MEI modules.

Aside from these high-level structural differences, and possibly differences of scale, the encoding of language corpora and the encoding of individual texts present identical sets of problems. Therefore, any of the encoding techniques and elements presented in other chapters of these Guidelines may therefore prove relevant to some aspect of corpus encoding and may be used in corpora.

9.1 Corpus Module Overview

The meiCorpus module defines a single element:

> **<meiCorpus>** (MEI corpus) – A group of related MEI documents, consisting of a header for the group, and one or more <mei> elements, each with its own complete header.

The meiCorpus element is intended for the encoding of corpora, though it may also be useful in encoding any collection of disparate materials. The individual samples in the corpus are encoded as separate mei elements, and the entire corpus is enclosed in an meiCorpus element. Each sample has the usual structure for a mei document, comprising an meiHead followed by a music element. The corpus, too, has a corpus-level meiHead element, in which the corpus as a whole, and encoding practices common to multiple samples may be described. The overall structure of an MEI-conformant corpus is thus:

```
<meiCorpus>
 <meiHead type= "corpus">
   <!-- metadata for the corpus -->
 </meiHead>
 <mei>
   <meiHead type= "text">
     <!-- metadata for sample 1 -->
   </meiHead>
   <music>
     <!-- the encoding of sample 1 -->
   </music>
 </mei>
 <mei>
   <meiHead type= "text">
     <!-- metadata for sample 2 -->
   </meiHead>
   <music>
     <!-- the encoding of sample 2 -->
   </music>
 </mei>
</meiCorpus>
```

This two-level structure allows for metadata to be specified at the corpus level, at the individual text level, or at both. However, metadata which relates to the whole corpus rather than to its individual components should be removed from the individual component metadata and included only in the meiHead element prefixed to the whole.

In some cases, the design of a corpus is reflected in its internal structure. For example, a corpus of musical incipits might be arranged to combine all compositions of one type (symphonies, songs, chamber music, etc.) into some higher-level grouping, possibly with sub-groups for date of publication, instrumentation, key, etc. The meiCorpus element provides no support for reflecting such internal structure in the markup: it treats the corpus as an undifferentiated series of components, each tagged with an mei element.

If it is essential to reflect the organization of a corpus into sub-components, then the members of the corpus should be encoded as composite texts instead, using the group element described section 1.1.2 Music Element. The mechanisms for corpus characterization described in this chapter, however, are designed to reduce the need to do this. Useful groupings of components may easily be expressed using the classification and identification elements described in section 2.3.12 Classification, and those for associating declarations with corpus components described in section 2.1.7.1 Associating Metadata and Data. These mechanisms also allow several different methods of text grouping to co-exist, each to be used as needed at different times. This helps minimize the danger of cross-classification and mis-classification of samples, and helps improve the flexibility with which parts of a corpus may be characterized for different applications.

All composite texts share the characteristic that their different component texts may be of structurally similar or dissimilar types. If all component texts may all be encoded using the same module, then no problem arises. If however they require different modules, then the various modules must all be included in the schema.

9.2 Combining Corpus and Text Headers

An MEI-conformant document may have more than one header only in the case of a TEI corpus, which must have a header in its own right, as well as the obligatory header for each text. Every element specified in a corpus-header is understood as if it appeared within every text header in the corpus. An element specified in a text header but not in the corpus header supplements the specification for that text alone. If any element is specified in both corpus and text headers, the corpus header element is over-ridden for that text alone.

The titleStmt for a corpus text is understood to be prefixed by the titleStmt given in the corpus header. All other optional elements of the fileDesc should be omitted from an individual corpus text header unless they differ from those specified in the corpus header. All other header elements behave identically, in the manner documented in chapter 2 The MEI Header. This makes it possible to state information which is common to the whole of the corpus in the corpus header, while still allowing for individual texts to vary from this common metadata.

For example, the following markup shows the structure of a corpus consisting of three texts, the first and last of which share the same encoding description. The second one has its own encoding description.

```
<meiCorpus>
 <meiHead>
   <fileDesc>
     <!-- corpus file description-->
   </fileDesc>
   <encodingDesc>
     <!-- default encoding description -->
   </encodingDesc>
   <revisionDesc>
     <!-- corpus revision description -->
   </revisionDesc>
 </meiHead>
 <mei>
   <meiHead>
     <fileDesc>
       <!-- file description for this corpus text -->
     </fileDesc>
   </meiHead>
   <music>
     <!-- first corpus text -->
   </music>
 </mei>
 <mei>
   <meiHead>
     <fileDesc>
       <!-- file description for this corpus text -->
     </fileDesc>
     <encodingDesc>
       <!-- encoding description for this corpus text, over-riding the default -->
```

```
    </encodingDesc>
  </meiHead>
  <music>
    <!-- second corpus text -->
  </music>
 </mei>
 <mei>
  <meiHead>
    <fileDesc>
      <!-- file description for third corpus text -->
    </fileDesc>
  </meiHead>
  <music>
    <!-- third corpus text -->
  </music>
 </mei>
</meiCorpus>
```

9.3 Recommendations for the Encoding of Large Corpora

These Guidelines include proposals for the identification and encoding of a far greater variety of textual features and characteristics than is likely to be either feasible or desirable in any one corpus, however large and ambitious. For most large-scale corpus projects, it will therefore be necessary to determine a subset of recommended elements appropriate to the anticipated needs of the project ; these mechanisms include the ability to exclude selected element types, add new element types, and change the names of existing elements.

Because of the high cost of identifying and encoding many textual features, and the difficulty in ensuring consistent practice across very large corpora, encoders may find it convenient to divide the set of elements to be encoded into the following four categories:

required - texts included within the corpus will always encode textual features in this category, should they exist in the text

recommended - textual features in this category will be encoded wherever economically and practically feasible; where present but not encoded, a note in the header should be made.

optional - textual features in this category may or may not be encoded; no conclusion about the absence of such features can be inferred from the absence of the corresponding element in a given text.

proscribed - textual features in this category are deliberately not encoded; they may be transcribed as unmarked up text, or represented as gap elements, or silently omitted, as appropriate.

10 Critical Apparatus

This chapter describes how to encode differences between multiple exemplars of the same musical work (often referred to in MEI as 'sources'). The mechanisms and elements described in this chapter are closely related to their counterparts in the TEI guidelines. It is also important to refer to chapter 11 Editorial Markup of these guidelines, especially concerning the choice element described therein.

10.1 General Usage

The following elements are defined in the critApp Module:

<app> (apparatus) – Contains one or more alternative encodings.

<lem> (lemma) – Contains the lemma, or base text, of a textual variation.

<rdg> (reading) – Contains a single reading within a textual variation.

An app element always encapsulates the differences between varying sources. Therefore, it must contain at least two child elements. Possible child elements are lem and rdg, which use the same model, but have a different meaning: Whereas lem is used for prioritizing one alternative, a rdg has no such additional meaning and simply indicates a reading as found in one or more sources. Accordingly, lem is allowed only once in app, whereas rdg may appear as often as necessary.

```
<app>
 <lem>
   <!-- preferred reading -->
 </lem>
 <rdg>
   <!-- alternative reading -->
 </rdg>
 <rdg>
   <!-- alternative reading -->
 </rdg>
</app>
```

The rdg (and lem) elements use the @source attribute to point to one or more descriptions of the bibliographic sources containing the material they mark:

```
<!-- In the document content: -->
<app>
 <rdg source= "#critApp.source1">
   <!-- reading of source 1 -->
 </rdg>
 <rdg source= "#critApp.source2 #critApp.source3">
   <!-- reading of sources 2 *and* 3 -->
 </rdg>
```

```
</app>
```

```
<!-- Earlier in the document header: -->
<sourceDesc>
 <source xml:id= "critApp.source1">
   <!-- bibliographic description of source 1 -->
 </source>
 <source xml:id= "critApp.source2">
   <!-- bibliographic description of source 2 -->
 </source>
 <source xml:id= "critApp.source3">
   <!-- bibliographic description of source 3 -->
 </source>
</sourceDesc>
```

The @seq attribute may be used on lem or rdg to record the sequence of a series of readings. In the following example, the material in source B is marked as sequential to (and perhaps derived from) the reading in source A:

```
<app>
 <rdg seq= "1" source= "#critApp.sourceA">
   <!-- material in source 1 -->
 </rdg>
 <rdg seq= "2" source= "#critApp.sourceB">
   <!-- material in source 2 -->
 </rdg>
</app>
```

If a source has additional content that is not found in other sources, an empty rdg element may be used to indicate the lack of material in the other sources. In the following example, source 1 includes material that is not found in sources 2 and 3:

```
<app>
 <rdg source= "#critApp.source1">
   <!-- additional content of source 1 -->
 </rdg>
 <rdg source= "#critApp.source2 #critApp.source3"/>
</app>
```

When working with a large number of sources, it might seem tedious to provide references for all sources. However, use of the rdg element without @source is not recommended because such an encoding is not explicit and is therefore difficult to process.

10.2 Variants in Musical Content

The app element may be used to accommodate textual variation at nearly any point in a musical text. For example, it may be used to indicate minor differences such as stem directions:

```
<layer>
 <!-- preceding notes -->
 <app>
   <rdg source= "#critApp.source1">
     <note dur= "2" oct= "4" pname= "b" stem.dir= "down"/>
   </rdg>
   <rdg source= "#critApp.source2">
     <note dur= "2" oct= "4" pname= "b" stem.dir= "up"/>
   </rdg>
 </app>
 <!-- following notes -->
</layer>
```

or to indicate more significant differences, such as the insertion of extra measures:

```
<section>
 <measure/>
 <measure/>
 <app>
   <rdg source= "#critApp.source1"/>
   <rdg source= "#critApp.source2">
     <!-- source 2 has 2 measures not found in source 1 -->
     <measure/>
     <measure/>
   </rdg>
 </app>
 <measure/>
</section>
```

However, the flexibility in the location of app places a burden on the encoder to ensure that the app, rdg, and lem elements are used correctly; that is, the content of every rdg and lem has to be a valid replacement for its parent app.

10.3 Variants in Score Definitions

In addition to its use for differentiation of the musical content of multiple sources, app may also be utilized to describe the layout of different scores, even when the musical content itself remains the same. An example of this is two sources that have the same content, but a different ordering of staves on which the content is written. By definition, the order of staves is derived from the order of staffDef elements in scoreDef, not from the order of staff elements within a measure. The staff element in a measure points to its corresponding staffDef using either 1) the same value for @n on both elements, or 2) a value in @def which is an explicit reference to a particular staffDef using its @xml:id value.

When using the first of these two approaches, it is possible to point dynamically to the correct staff definition for a given source. The following example demonstrates how this can be accomplished for two sources, both presenting a two-staff score, but with differing staff order. No further app element is necessary within the measure to describe the alternative score order of the sources.

```
<score>
 <app>
   <rdg source= "#critApp.source1">
     <scoreDef>
        <staffGrp>
           <staffDef n= "1"/>
           <staffDef n= "2"/>
        </staffGrp>
     </scoreDef>
   </rdg>
   <rdg source= "#critApp.source2">
     <scoreDef>
        <staffGrp>
           <!-- The order of <staffDef> elements defines score order, not its @n
           attribute! -->
           <staffDef n= "2"/>
           <staffDef n= "1"/>
        </staffGrp>
     </scoreDef>
   </rdg>
 </app>
 <section>
   <measure>
     <staff n= "1"/>
     <staff n= "2"/>
   </measure>
 </section>
</score>
```

when unique values for @n on layerDef and layer are provided, it is possible to reallocate layers in the same fashion as staves.

This mechanism may also be used to describe not only differing page orientations, formats and margins, but also clefs and keys.

10.4 Nesting Apparati

In some situations, musical sources will agree at one level while differing at a lower level. For these cases, app elements may be nested to any level necessary. In the following example, there are three sources, two of which agree on the addition of a measure, but differ in the content of the added measure:

```
<section>
 <measure/>
 <app>
   <rdg source= "#critApp.source1"/>
   <rdg source= "#critApp.source2 critApp.#source3">
     <!-- whereas source1 omits it, source2 and source3 have an additional measure -->
     <measure>
        <staff>
           <layer>
               <app>
                    <!-- while source2 provides a measure rest, source3 has a whole note
                    -->
                    <rdg source= "#critApp.source2">
                         <mRest/>
                    </rdg>
                    <rdg source= "#critApp.source3">
                         <note dur= "1" oct= "3" pname= "g"/>
                    </rdg>
               </app>
           </layer>
        </staff>
     </measure>
   </rdg>
 </app>
 <measure/>
</section>
```

When nesting app elements, it is important that the value(s) in the child rdg element's @source attribute must be a strict subset of the ancestor rdg element's @source value.

11 Editorial Markup

It is often necessary to render an account of any changes made to a musical text during its creation (and any subsequent editing) and to accommodate editorial comment necessitated by an editorial process. The elements and attributes described in this chapter may be used to record such editorial interventions, whether made by the composer, the copyists of the manuscript, the editor of a earlier edition used as a copy text, or the current encoder/editor.

The scope of the elements described herein is therefore the description of features relating to the genesis, later revision and editorial interpretation of a text. Mechanisms for describing multiple sources are described in chapter 10 Critical Apparatus of these Guidelines.

The elements described in this chapter may be contained by a wide range of other MEI elements and, in turn, may contain a variety of elements. The encoder must assume responsibility for the appropriateness of the markup; that is, a great many combinations of editorial and transcriptional markup are technically possible, but care must be taken to see that the encoding does not contravene the rationale of these Guidelines.

For most of the elements discussed here, some encoders may wish to indicate both a responsibility; that is, a coded value indicating the person or agency responsible for making the editorial intervention in question, and an indication of the degree of certainty which the encoder wishes to associate with the intervention. Because these requirements are common to many of the elements discussed in this section, they are provided by an attribute class, att.edit, to which these elements subscribe. Any of the elements discussed here thus may potentially carry the following optional attributes:

@cert Signifies the degree of certainty or precision associated with a feature.

@resp Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header.

Many of the elements discussed here can be used in two ways. Their primary purpose is to indicate that their content represents an editorial intervention (or, in some cases, the lack of intervention) of a specific kind. Sometimes, pairs or other meaningful groupings of such elements can be recorded, then wrapped within the special purpose choice element:

<choice> Groups a number of alternative encodings for the same point in a text.

Wrapping elements this way enables the encoder to represent, for example, a text in its 'original', uncorrected form alongside the same text in one or more 'edited' forms. Making use of this style of representation, software may dynamically switch between the Urtext 'view' of the text and one or more 'views' of the text after the application of the encoded editorial interventions.

Elements which can be combined in this way constitute the model.choicePart class. The default members of this class are sic, corr, reg, orig, unclear, add, and del; their functions and usage are described in greater detail below.

Three categories of editorial intervention are discussed by the remainder of this chapter:

- indication or correction of apparent errors;
- indication of regularization of variant, irregular, non-standard, or eccentric forms; and
- editorial additions, suppressions, and omissions.

11.1 Abbreviations

MEI offers methods for marking abbreviations in prose, as in the following example:

```
<p>... the next passage shall be performed in
 <abbr>pno: </abbr>
... </p>
```

or abbreviations in the music itself, as in the following example:

```
<abbr>
 <bTrem measperf= "16">
   <note dur= "4" oct= "5" pname= "c" stem.mod= "2slash"/>
 </bTrem>
</abbr>
```

The type attribute may be used to classify the abbreviation according to a convenient typology. Sample values include:

suspension - the abbreviation provides the first letter(s) of the word or phrase, omitting the remainder;

contraction - the abbreviation omits some letter(s) in the middle;

brevigraph - the abbreviation comprises a special symbol or mark;

superscription - the abbreviation includes writing above the line;

acronym - the abbreviation comprises the initial letters of the words of a phrase;

title - the abbreviation is for a title of address (Dr, Ms, Mr, ...);

organization - the abbreviation is for the name of an organization;

geographic - the abbreviation is for a geographic name.

This tag is the mirror image of the expan tag (not to be confused with the expansion element described in 1.1.2.3 Content of Musical Divisions). Both abbr and expan allow the encoder to transcribe an abbreviation and its expansion. In the case of abbr, the original is transcribed as the content of the element and the expansion as an attribute value, while expan reverses this. The choice between the two is up to the user. For example:

```
<div>
 <!-- using abbr -->
 <p>... the next passage shall be performed in
   <abbr expan= "piano"> pno: </abbr>
 ... </p>
```

```
<!-- using expan -->
<p>... the next passage shall be performed in
  <expan abbr= "pno:"> piano </expan>
... </p>
</div>
```

The abbr tag is not required; if appropriate, the encoder may transcribe abbreviations in the source text silently, without tagging them. If abbreviations are not transcribed directly but expanded silently, then the MEI header should indicate this is the case. The @cert attribute signifies the degree of certainty ascribed to the expansion of the abbreviation. The @expan attribute gives an expansion of the abbreviation. The @resp attribute contains an ID reference to an element containing the name of the editor or transcriber responsible for supplying the expansion of the abbreviation.

When the content of the @abbr or @expan attributes requires additional markup, an attribute cannot be used. In this case, the abbreviated and expanded forms must be presented within elements. Furthermore, as alternatives to each other, the abbr and expan elements must be wrapped by the choice element, as described above. The previous example, where the 'o:' in 'pno:' is written as superscript, would be encoded as:

```
<p>... the next passage shall be performed in
 <choice>
   <abbr>pn
     <rend rend= "sup"> o: </rend>
   </abbr>
   <expan>piano </expan>
 </choice>
</p>
```

11.1.1 Instructions

Many musical scores make use of various kinds of shorthand notation which omit some parts of the score that have already been written elsewhere. Typical exampleS for this are symbols that indicate repetition of the preceding measure or beat. In MEI, these symbols can be encoded using the mRpt and beatRpt elements respectively. Often, similar graphical symbols (often one or two slashes, "//") are used to mean that the current staff should have the same or similar content as another staff.

colla parte directives have a less strictly-defined scope than the 'Rpt elements' (beatRpt, halfmRpt, mRpt, mRpt2, multiRpt). That is, rather than specifying the repetition of content of a particular duration, like a measure or beat, *colla parte* instructions can refer to material of any length. In order to encode such scribal shorthand, MEI offers the cpMark element, which allows filling of blank spaces in the score with horizontally and/or vertically distant material.

> **<cpMark>** (copy/colla parte mark) – A verbal or graphical indication to copy musical material written elsewhere.

Like any other 'controlEvent', cpMark is placed in the score using the @staff and @tstamp attributes. The end point of the mark itself, when necessary, may be indicated using the @tstamp2 attribute. The source material, which is intended to be inserted in the space indicated by the copy mark, can be identified by the attributes @origin.tstamp, @origin.tstamp2, @origin.staff and @origin.layer. While @origin.tstamp provides the relative distance from the beginning of the "gap", @origin.tstamp is relative to the position identified by @origin.tstamp. However, @origin.tstamp defaults to the same value as @tstamp2 and should only be provided when necessary. When neither @origin.staff nor @origin.tstamp are not provided, they take the same values as the cpMark's @staff and @tstamp attributes; that is, they indicate a strict 'vertical' or 'horizontal' copy.

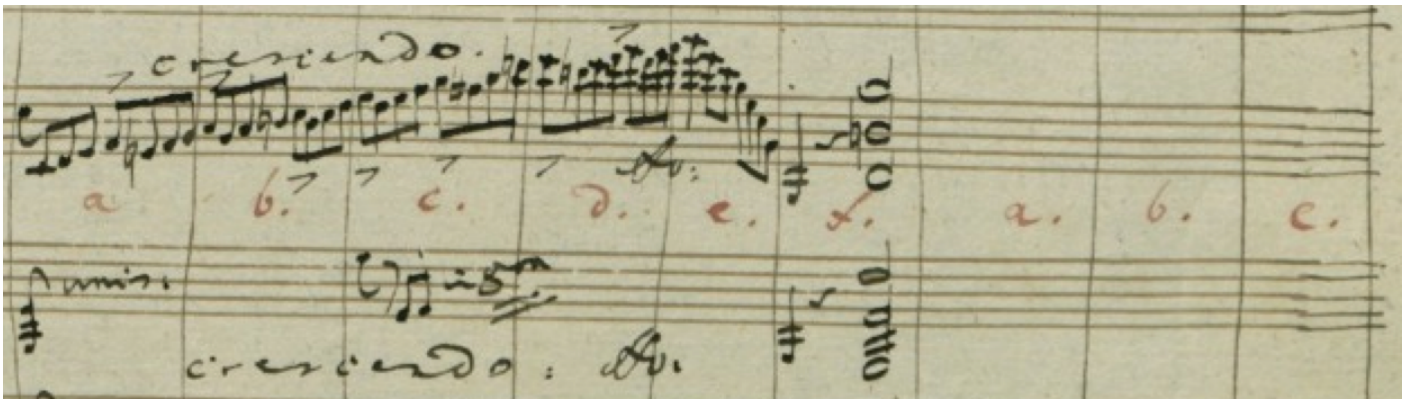


Figure 37. Copy marks in the first and second violin of C.M.v.Weber's Freischütz, Autograph, Nr.3 (Walzer), measures 223-231

In the example above, there are no less than three different copy instructions, which need to be encoded with four cpMark elements. First, Weber inserts characters from "a" to "f" in red ink to identify filled measures. Then, he repeats the same characters in *empty* measures, which indicates that the content from the *filled* measures should be copied here. While one could try to encode this with just one cpMark element, it is both clearer and easier to process when using two elements.

The second and third shorthand indications are written in the second violin (lower staff). Here, Weber writes "unis.[ono]", silently omitting the reference to the first violin. His next shorthand ("in 8va") additionally instructs the copyist to double the written material in another octave. This information can be captured using the @dis and @dis.place attributes on cpMark.

```
<cpMark origin.tstamp= "-6m+1" staff= "8" tstamp= "1" tstamp2= "5m+4"> a. b. c. d. e. f.
g. </cpMark>
<cpMark origin.tstamp= "-6m+1" staff= "9" tstamp= "1" tstamp2= "5m+4"> a. b. c. d. e. f.
g. </cpMark>
<cpMark origin.staff= "8" staff= "9" tstamp= "1.5" tstamp2= "1m+3.5"> unis: </cpMark>
<cpMark dis= "8" dis.place= "below" origin.staff= "8" staff= "9" tstamp= "2" tstamp2=
"2m+3.5"> in 8va </cpMark>
```

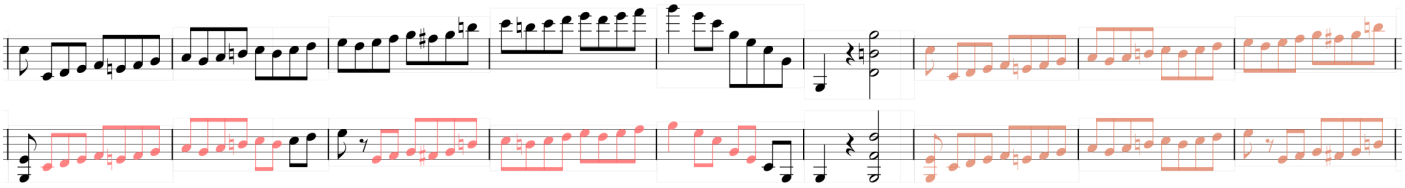


Figure 38. A transcription of the example above with all shorthand resolved and colored

Text used as a copy mark, like the letters in the Weber example, may be encoded as content of the cpMark element. In the case of non-text marks, the @altsym, @extsym and @facs attributes may be used to refer to a graphical surrogate.

Depending on the purpose of the encoding, the omitted parts in the score may be filled with space and mSpace elements of appropriate duration or silently overwritten with the content that the cpMark identifies. Also, these two options may be combined through the use a choice element whose abbr and expan children explicitly encode a transcription of the original 'gap' (in abbr) and the result of the insertion of the indicated material (in expan).

11.2 Apparent Errors

When the source material to be encoded is manifestly faulty, an encoder or transcriber may elect simply to correct it without comment, although for scholarly purposes it will often be more generally useful to record both the correction and the original state of the text. The elements described here enable all three approaches, and allows the last to be done is such a way as make it easy for software to present either the original or the correction.

<sic> Contains apparently incorrect or inaccurate material.

<corr> (correction) – Contains the correct form of an apparent erroneous passage.

The following examples show alternative treatment of the same material. The text to be encoded contains a chord (c4, e4, g4, a4), where c4, e4, and a4 are quarter notes, but g4 is a half note.

An encoder may choose to silently correct the engraver's error:

```
<chord>
 <note dur= "4" oct= "4" pname= "c"/>
 <note dur= "4" oct= "4" pname= "e"/>
 <note dur= "4" oct= "4" pname= "g"/>
 <note dur= "4" oct= "4" pname= "a"/>
</chord>
```

or the correction may be made explicit:

```
<chord>
 <note dur= "4" oct= "4" pname= "c"/>
 <note dur= "4" oct= "4" pname= "e"/>
 <corr>
   <note dur= "4" oct= "4" pname= "g"/>
 </corr>
 <note dur= "2" oct= "4" pname= "a"/>
</chord>
```

Alternatively, the encoder may simply record the typographic error without correcting it, either without comment or with a sic element to indicate the error is not a transcription error in the encoding:

```
<chord>
 <note dur= "4" oct= "4" pname= "c"/>
 <note dur= "4" oct= "4" pname= "e"/>
 <sic>
   <note dur= "2" oct= "4" pname= "g"/>
 </sic>
 <note dur= "4" oct= "4" pname= "a"/>
```

```
</chord>
```

If the encoder elects to record the original source text and provide a correction for the sake of transparency, both sic and corr may be used, wrapped in a choice element. The order of the sic and corr elements is not significant:

```
<chord>
 <note dur= "4" oct= "4" pname= "c"/>
 <note dur= "4" oct= "4" pname= "e"/>
 <choice>
   <sic>
     <note dur= "2" oct= "4" pname= "g"/>
   </sic>
   <corr>
     <note dur= "4" oct= "4" pname= "g"/>
   </corr>
 </choice>
 <note dur= "4" oct= "4" pname= "a"/>
</chord>
```

An indication of the person or agency responsible for the emendation can be provided as follows:

```
<!-- within the header for this document: -->
<respStmt>
 <name role= "editor" xml:id= "editTrans.JK"> Johannes Kepper </name>
</respStmt>
<!-- … -->
<chord>
 <note dur= "4" oct= "4" pname= "c"/>
 <note dur= "4" oct= "4" pname= "e"/>
 <choice>
   <sic>
     <note dur= "2" oct= "4" pname= "g"/>
   </sic>
   <corr resp= "#JK">
     <note dur= "4" oct= "4" pname= "g"/>
   </corr>
 </choice>
 <note dur= "4" oct= "4" pname= "a"/>
</chord>
```

Here the @resp attribute has been used to indicate responsibility for the correction. Its value (#editTrans.JK) is an example of the pointer values discussed in section 19 Pointers and References. In this case, the @resp attribute points to a name element within the metadata header, but any element might be indicated in this way, if the correction has been taken from some other source. The @resp attribute is available for all elements which are members of the att.responsibility class. The att.edit class makes available a @cert attribute,which may be used to indicate the degree of editorial confidence in a particular correction, as in the following example:

```
<chord>
 <note dur= "4" oct= "4" pname= "c"/>
 <note dur= "4" oct= "4" pname= "e"/>
 <choice>
   <sic>
     <note dur= "2" oct= "4" pname= "g"/>
   </sic>
   <corr cert= "high">
     <note dur= "4" oct= "4" pname= "g"/>
   </corr>
 </choice>
 <note dur= "4" oct= "4" pname= "a"/>
</chord>
```

Where, as here, the correction takes the form of amending information present in the text being encoded, the encoder should use the corr element. Where the correction is present in the text being encoded, and consists of some combination of visible additions and deletions, the elements add or del should be used. For additional information on the use of add and del, see section 11.4.2 Additions and Deletions below. Where the correction takes the form of an addition of material not present in the original because of physical damage or illegibility, the supplied element may be used. Where the 'correction' is simply a matter of expanding abbreviated notation, the expan element may be used.

11.3 Regularization and Normalization

When the musical source makes extensive use of unusual symbol shapes or non-standard notation features, it may be desirable for a number of reasons to regularize it; that is, provide 'standard' or 'regularized' forms that are equivalent to the non-standard forms.

As with other such changes to the source text, the changes may be made silently (in which case the MEI header should still specify the types of silent changes made) or may be explicitly marked using the following elements:

<reg> (regularization) – Contains material which has been regularized or normalized in some sense.

<orig> (original) – Contains material which is marked as following the original, rather than being normalized or corrected.

<choice> Groups a number of alternative encodings for the same point in a text.

Consider this traditional soprano clef appearing somewhere in the course of a musical piece:

An encoder may choose to preserve this original clef, but flag it as nonstandard from the perspective of current practice by using the orig element with no attributes specified, as follows:

```
<orig>
 <clef line= "2" shape= "C"/>
</orig>
```

Alternatively, the encoder may indicate that the clef has been modernized into a G-clef by using the reg element with no attributes specified, as follows:

```
<reg>
 <clef line= "2" shape= "G"/>
</reg>
```

As another alternative, the encoder may encode both the old and modernized shapes, so that applications may render both at the reader's will:

```
<choice>
 <orig>
   <clef line= "2" shape= "C"/>
 </orig>
 <reg>
   <clef line= "2" shape= "G"/>
 </reg>
</choice>
```

As described above, the @resp attribute may be used to specify the agent responsible for the regularization.

11.4 Additions, Deletions, and Omissions

The following elements are used to indicate when single notational symbols have been omitted from, added to, or marked for deletion from, a musical text. Like the other editorial elements described in this chapter, they allow for a wide range of editorial practices:

<gap> Indicates a point where material has been omitted in a transcription, whether as part of sampling practice or for editorial reasons described in the MEI header.

<unclear> Contains material that cannot be transcribed with certainty because it is illegible or inaudible in the source.

@reason Holds a short phrase describing the reason for missing textual material (gap), why material is supplied (supplied), or why transcription is difficult (unclear).

<add> (addition) – Marks an addition to the text.

<del> (deletion) – Contains information deleted, marked as deleted, or otherwise indicated as superfluous or spurious in the copy text by an author, scribe, annotator, or corrector.

11.4.1 Omissions, Unclear Readings, Damage, and Supplied Readings

Encoders may choose to omit parts of the source for reasons ranging from illegibility, (making transcription difficult or impossible), to editorial policy, e.g., systematic exclusion of poetry or prose from an encoding. The full details of the policy decisions concerned should be documented in the MEI header (see section 2.2 Encoding Description). Each place in the text at which omission has taken place should be marked with a gap element, optionally with further information about the reason for the omission, its extent, and the person or agency responsible for it, as in the following examples:

```
<gap extent= "2" reason= "illegible" unit= "quarter_note"/>
```

```
<gap extent= "several notes" reason= "overwriting illegible"/>
```

Note that the extent of the gap may be marked precisely using attributes @unit and @quantity, or more descriptively using the @extent attribute.

Unlike TEI, MEI does not offer a *desc* element for further description of the reason for a gap. Instead, an annot may refer to the gap via its @startid, @endid, or @plist attributes and provide additional information.

The unclear element is used to mark passages in the original which cannot be read with confidence, or about which the transcriber is uncertain for other reasons, as for example when transcribing a illegible source. Its @reason and @resp attributes are used, as with the gap element, to indicate the cause of uncertainty and the person responsible for the conjectured reading.

```
<note dur= "4" oct= "4" pname= "c">
 <unclear reason= "ink blot">
   <artic artic= "acc"/>
 </unclear>
</note>
```

Where the difficulty in transcription arises from an identifiable cause, the @agent attribute signifies the causative agent. The @cert attribute signifies the degree of certainty ascribed to the transcription of the text contained within the unclear element. Where the difficulty in transcription arises from action (partial deletion, etc.) assignable to an identifiable hand, the @hand attribute may record the hand responsible for the action.

When the reason for a gap in the encoding is damage of the document carrier (the paper on which the document is written, for example), the damage element should be used instead of the gap element. In the case of damage resulting from an identifiable cause, the @agent attribute signifies the causative agent. The @degree attribute signifies the degree of damage according to a convenient scale. A damage tag with this attribute should only be used where the text may be read with some confidence; data supplied from other sources should be tagged as supplied. The @extent attribute indicates approximately how much text is in the damaged area, in notes, measures, inches, or any appropriate unit, where this cannot be deduced from the contents of the tag. For example, the damage may span structural divisions in the text so that the tag must then be empty of content. In the case of damage (deliberate defacement, etc.) assignable to an identifiable hand, the @hand attribute signifies the hand responsible for the damage.

Sometimes the editor provides information not present in the source material. These conjectures or emendations are marked up in MEI using the supplied element.

The following example demonstrates the use of the supplied element in combination with gap within subst:

```
<beam>
 <note dur= "4" oct= "3" pname= "c"/>
 <note dur= "4" oct= "3" pname= "d"/>
 <subst>
   <gap extent= "two eighth notes" reason= "missing notes"/>
   <supplied>
     <note dur= "4" oct= "3" pname= "e"/>
     <note dur= "4" oct= "3" pname= "f"/>
   </supplied>
 </subst>
 <note dur= "4" oct= "3" pname= "g"/>
 <note dur= "4" oct= "3" pname= "a"/>
</beam>
```

When the presumed loss of text arises from an identifiable cause, @agent signifies the causative agent. When the presumed loss of text arises from action (partial deletion, etc.) assignable to an identifiable hand, the @hand attribute signifies the hand responsible for the action. The @reason attribute indicates why the text has to be supplied, e.g. 'overbinding', 'faded ink', 'lost folio', 'omitted in original', etc. The @source attribute contains the source of the supplied text. The editor(s) responsible for supplied material may be recorded in the @resp

attribute. The value of @resp must point to one or more identifiers declared in the document header. The @cert attribute signifies the degree of certainty ascribed to the supplied material.

11.4.2 Additions and Deletions

The add and del elements may be used to record where material has been added or deleted in the source material.

The following example demonstrates the usage of add to mark up a note being added to an existing chord:

```
<chord>
 <note pname= "c"/>
 <note pname= "e"/>
 <note pname= "g"/>
 <add>
   <note accid= "f" pname= "b"/>
 </add>
</chord>
```

The next example shows how del may be used to capture the information that two measures have been cancelled. As seen in this example, the @rend attribute is used to specify the method of deletion.

```
<section>
 <measure>
   <!-- … -->
 </measure>
 <measure>
   <!-- … -->
 </measure>
 <del rend= "strike">
   <measure>
     <!-- … -->
   </measure>
   <measure>
     <!-- … -->
   </measure>
 </del>
 <measure>
   <!-- … -->
 </measure>
</section>
```

Additional information for both elements may be specified using attributes. Whereas the @hand attribute marks responsibility for the textual change, the @resp attribute is used to refer to the editor who identified this textual change as such. The @cert attribute signifies the degree of certainty ascribed to the identification of the hand of the deletion or addition.

The add element should not be used to mark editorial changes, such as supplying a note omitted by mistake from the source text or a passage present in another source. In these cases, either the corr or supplied tags should be used instead.

11.4.3 Substitutions, Restorations, and Handshifts

When several interventions to the musical text are to be regarded as a single action, they may be grouped using the subst element. The most common combination is a replacement of portions of the musical text using both the add and del element, as seen in the following example:

```
<layer>
 <!-- preceding content -->
 <subst>
   <del>
     <note dur= "4" oct= "4" pname= "c"/>
   </del>
   <add>
     <beam>
        <note dur= "8" oct= "4" pname= "c"/>
        <note dur= "8" oct= "4" pname= "d"/>
     </beam>
   </add>
 </subst>
 <!-- subsequent content -->
</layer>
```

An intervention closely related to substitution is the restoration of a previously deleted section. For this purpose MEI offers the restore element, which may contain a del or other content directly.

The following example illustrates an instance where a lyric which was cancelled and later restored by overwriting it:

```
<note dur= "4" oct= "4" pname= "c">
 <syl>
   <restore desc= "overwritten">
     <del>God </del>
   </restore>
 </syl>
</note>
```

The @desc attribute gives a prose description of the means of restoration. The @cert attribute signifies the degree of certainty ascribed to the identification of the hand of the restoration. The @type attribute may be used to indicate the action cancelled by the restoration. The @resp attribute contains an ID reference to an element containing the name of the editor or transcriber responsible for identifying the hand of the restoration. The @hand attribute signifies the hand of the agent which made the restoration.

MEI offers a handShift milestone element that can be used to mark a change of scribe or scribal style.

The @character attribute describes characteristics of the hand, particularly those related to the quality of the writing, e.g., 'shaky', 'thick', regular'. A description of the tint or type of ink, e.g., 'brown' or the writing medium, e.g., 'pencil', may be placed in the @medium attribute.

```
<layer>
 <note pname= "f"/>
 <note pname= "a"/>
 <handShift medium= "blue ink"/>
 <note pname= "c"/>
 <note pname= "e"/>
</layer>
```

The new hand may be identified using the @new attribute, while the previous hand may be recorded in the @old attribute. The @resp attribute contains an ID reference to an element containing the name of the editor or transcriber responsible for identifying the change of hand. The @cert attribute signifies the degree of certainty ascribed to the identification of the new hand.

When using this element within a layer, it is important to ensure that all layers and staves are considered. Every handShift affects only the content of its own layer and staff, even in the following measures. Therefore, there must be a separate handShift for every staff and layer. This mechanism allows the description of shifts at timestamps that differ between each staff.

12 Facsimiles

Most often, MEI is used for the preparation of a digital musical text based on an existing music document, or with the intention of rendering the encoded notation into a document or audio rendition. MEI can, however, be used to provide a different kind of digital reproduction of a source document, which relies on the description and provision of digital imagery. Both approaches may be combined, so that the encoding of the musical content and digital facsimiles may add different facets to the same MEI document.

12.1 Elements of the Facsimile Module

This module makes available the following elements for encoding facsimiles:

<facsimile> Contains a representation of some written source in the form of a set of images rather than as transcribed or encoded text.

<surface> Defines a writing surface in terms of a rectangular coordinate space, optionally grouping one or more graphic representations of that space, and rectangular zones of interest within it.

<zone> Defines an area of interest within a surface or graphic file.

These element are used to add a separate subtree to MEI, starting with the facsimile element inside music, as seen in the following example:

```
<mei>
 <meiHead>
   <!-- metadata header -->
 </meiHead>
 <music>
   <facsimile>
     <!-- The facsimile subtree starts here. -->
   </facsimile>
   <body>
     <!-- The encoding of the musical content goes here. -->
   </body>
 </music>
</mei>
```

It is possible to have more than one facsimile element in this location. This is especially useful when multiple sources are encoded in the same file using the mechanisms described in chapter 11 Editorial Markup of these Guidelines. In this case, the @decls (declarations) attribute of facsimile may be used to refer to a source defined in the document's header, as seen in the following example:

```
<mei>
 <meiHead>
   <fileDesc>
     <sourceDesc>
```

```
      <source xml:id= "facsimile.source1">
         <!-- description of source -->
      </source>
    </sourceDesc>
  </fileDesc>
 </meiHead>
 <music>
  <facsimile decls= "#facsimile.source1">
    <!-- facsimile content -->
  </facsimile>
 </music>
</mei>
```

Within a facsimile element, each page of the source is represented by a surface element. Each surface may be assigned an identifying string utilizing the @label attribute. In addition, it may encapsulate more detailed metadata about itself in a figDesc element. The coordinate space of the surface may be recorded in abstract terms in the @ulx, @uly, @lrx, and @lry attributes. For navigation purposes, surface has a @startid attribute that accommodates pointing to the first object appearing on this particular writing surface.

```
<facsimile>
 <surface label= "page 1" lrx= "2000" lry= "3000" startid= "#measure1" ulx= "0" uly=
 "0"/>
</facsimile>
```

Within surface elements, one may nest one or more graphic elements, each providing a reference to an image file that represents the writing surface. Multiple graphic elements are permitted in order to accommodate alternative versions (different resolutions or formats, for instance) of the surface image. In spite of changes in resolution or format, all images must contain the same content, i.e., the entire writing surface.

```
<facsimile>
 <surface>
  <graphic height= "2000" target= "image1.jpg" unit= "px" width= "3000"/>
  <graphic height= "1000" target= "image1smaller.jpg" unit= "px" width= "1500"/>
  <graphic height= "200" target= "image1smallest.png" unit= "px" width= "300"/>
 </surface>
</facsimile>
```

The preceding markup will provide the basis for most page-turning applications. Often, however, it is desirable to focus attention on particular areas of the graphical representation of the surface. The zone element fulfills this purpose:

```
<surface lrx= "3000" lry= "2000" ulx= "0" uly= "0">
 <graphic height= "2000" target= "image1.jpg" unit= "px" width= "3000"/>
 <zone lrx= "370" lry= "410" ulx= "300" uly= "200"/>
 <zone lrx= "439" lry= "410" ulx= "367" uly= "200"/>
 <zone lrx= "512" lry= "410" ulx= "436" uly= "200"/>
```

```
</surface>
```

The coordinates of each zone *define a space relative to the coordinate space of its parent surface* . Note that this is not necessarily the same coordinate space defined by the width and height attributes of the graphic that represents the surface. The zone coordinates in the preceding example do not represent regions within the graphic, but rather regions of the *writing surface*.

Because the coordinate space of a zone is defined relative to that of a surface, it is possible to provide multiple graphic elements *and* multiple zone elements within a single surface. In the following example, two different images representing the entire surface are provided alongside specification of two zones of interest within the surface:

```
<surface lrx= "3000" lry= "2000" ulx= "0" uly= "0">
 <graphic height= "2000" target= "image1.jpg" unit= "px" width= "3000"/>
 <graphic height= "1995" target= "image1cropped.jpg" unit= "px" width= "2995"/>
 <zone lrx= "370" lry= "410" ulx= "300" uly= "200"/>
 <zone lrx= "30" lry= "30" ulx= "0" uly= "0"/>
</surface>
```

A zone element may contain figDesc or graphic elements that provide detailed descriptive information about the zone and additional images, e.g., at a different/higher resolution, of the rectangle defined by the zone. The data objects contained within the zone may also be specified through the use of the @data attribute, which contains ID references to one more elements in the content tree of the MEI file, such as a note, measure, etc.

```
<!-- In the facsimile subtree: -->
<zone data= "#facsimile.measure1" xml:id= "facsimile.zone1"/>
<!-- somewhere in the content: -->
<measure xml:id= "facsimile.measure1">
 <!-- measure content -->
</measure>
```

Conversely, an element in the content may refer to the facsimile subtree using its @facs attribute, which is made available by the att.facsimile attribute class. The last example could therefore be encoded with pointers in the other direction:

```
<!-- In the facsimile subtree: -->
<zone xml:id= "facsimile.zone2"/>
<!-- somewhere in the content: -->
<measure facs= "#facsimile.zone2" xml:id= "facsimile.measure2">
 <!-- measure content -->
</measure>
```

The pb element defined in the shared module makes special use of the @facs attribute, in that it does not point to a zone, but a surface element instead. A pb marks the beginning of a page, so it can be concluded that all

elements in the content tree which are encoded between any two pb elements encode musical symbols written on the page (surface) referenced by the first of these two pb element's @facs attribute.

13 Figures and Tables

Apart from music and text, musical documents, both historical and contemporary, may also contain material in graphical or tabular format. In such materials, details of layout and presentation may also be of comparatively greater significance or complexity than they are for running text. Although some types of graphical material can be represented directly with markup, it is more common practice to include such information by using a reference to an external entity (typically a URL) encoded in a suitable graphical format.

The module defined by this chapter defines special purpose 'container' elements that can be used to encapsulate occurrences of such data within an MEI-conformant document in a portable way. Specific recommendations for the encoding of figures, figure descriptions and graphics as well as tables with their sub-elements tr, td and th are provided at the beginnig of this chapter. As there exists a wide variety of different graphic formats, a short list of formats that are widely used at the present time, is given in section 13.1.2 Images. Each one includes a very brief description. The chapter closes with attribute and model classes which are defined by the module.

The module described in this chapter makes available the following components:

13.1 Figures

The fig element groups elements representing or containing graphic information such as an illustration or figure. This element is modelled on the figure element in the Text Encoding Initiative (TEI). The fig element is used to contain images, captions, and textual descriptions of the pictures. The images themselves are specified using the graphic element, whose @target attribute provides the location of an image. For example:

```
<fig>
 <graphic target= "../samples/snippets/mei2012-30shortexamples/beam-grace/
 grace-300.png"/>
</fig>
```

The graphic element may occur multiple times within the markup of the figure in order to indicate the availablity of different image formats or resolutions:

```
<fig>
 <graphic target= "../samples/snippets/mei2012-30shortexamples/beam-grace/
 grace-72.png"/>
 <graphic target= "../samples/snippets/mei2012-30shortexamples/beam-grace/
 grace-300.png"/>
 <graphic target= "../samples/snippets/mei2012-30shortexamples/beam-grace/
 grace-600.png"/>
</fig>
```

13.1.1 Figure Captions and Descriptions

The element caption may be used to transcribe (or supply) a title or descriptive heading for the graphic itself, as in the following example:

```
<fig>
 <caption>Grace notes </caption>
 <graphic target= "../samples/snippets/mei2012-30shortexamples/beam-grace/
 grace-300.png"/>
</fig>
```

The figure description (figDesc) element usually contains a brief prose description of the appearance or content of a graphic figure, for use when documenting an image, perhaps without displaying it. This element is intended for use as an alternative to the content of its parent fig element; for example, for display when the equipment in use cannot display graphic images. It may also be used for indexing or documentary purposes, in which case best practice suggests the use of controlled vocabulary terms.

```
<fig>
```

```
 <graphic target= "emblem1.png"/>
 <caption>Emblemi d'Amore </caption>
 <figDesc>A pair of naked winged cupids, each holding a flaming torch, in a rural
 setting. </figDesc>
</fig>
```

Occasionally, a figure description may have a complex structure. In this case, one or more textual component elements (p [paragraph], table, list, quote, or lg [linegroup]) may be used to model the internal structure of the description:

```
<fig>
 <caption>Grace notes </caption>
 <figDesc>
   <p>The example shows grace notes within beams ... </p>
   <p>This illustration was created by ... </p>
 </figDesc>
 <graphic target= "../samples/snippets/mei2012-30shortexamples/beam-grace/
 grace-300.png"/>
</fig>
```

13.1.2 Images

The graphic element indicates the location of an inline graphic, illustration, or figure. As noted above, there exists a wide variety of different graphics formats, and the following list is in no way exhaustive. Moreover, inclusion of any format in this list should not be taken as indicating endorsement by the MEI of this format or any products associated with it. Some of the formats listed here are proprietary to a greater or lesser extent and cannot therefore be regarded as standards in any meaningful sense. They are, however, widely used by many different vendors. The following formats are widely used at the present time, and are likely to remain supported by more than one vendor's software:

- BMP: Microsoft bitmap format
- CGM: Computer Graphics Metafile
- GIF: Graphics Interchange Format
- JPEG: Joint Photographic Expert Group
- PBM: Portable Bit Map
- PCX: IBM PC raster format
- PICT: Macintosh drawing format
- PNG: Portable Network Graphics format
- Photo-CD: Kodak Photo Compact Disk format
- QuickTime: Apple real-time image system
- SMIL: Synchronized Multimedia Integration Language format
- SVG: Scalable Vector Graphics format

- TIFF: Tagged Image File Format

Brief descriptions of all the above are given below. Where possible, current addresses or other contact information are shown for the originator of each format. Many formal standards, especially those promulgated by the ISO and many related national organizations (ANSI, DIN, BSI, and many more), are available from those national organizations. Addresses may be found in any standard organizational directory for the country in question.

13.1.2.1 Vector Graphic Formats

CGM: Computer Graphics Metafile - This vector graphics format is specified by an ISO standard, ISO 8632:1987, amended in 1990. It defines binary, character, and plain-text encodings; the non-binary forms are safer for blind interchange, especially over networks. Documentation is available from ISO and from its member national bodies, such as AFNOR, ANSI, BSI, DIN, JIS, etc.

SVG: Scalable Vector Graphics format - SVG is a language for describing two-dimensional vector and mixed vector or raster graphics in XML. It is defined by the Scalable Vector Graphics (SVG) 1.0 Specification, W3C Recommendation, 04 September 2001, available at http://www.w3.org/TR/2001/REC-SVG-20010904/.

PICT: Macintosh drawing format - This format is universally supported on Macintosh (tm) systems, and readable by a limited range of software for other systems. Documentation is available from Apple Computer, Cupertino, California USA.

13.1.2.2 Raster Graphic Formats

PNG: Portable Network Graphics format - PNG is a non-proprietary raster format currently widely available. It provides an extensible file format for the losslessly compressed storage of raster images. Indexed-color, grayscale, and true-color images are supported, plus an optional alpha channel. Sample depths range from 1 to 16 bits. It is defined by IETF RFC 2083, March 1997.

TIFF: Tagged Image File Format - Currently the most widely supported raster image format, especially for black and white images, TIFF is also one of the few formats commonly supported on more than one operating system. The drawback to TIFF is that it actually is a wrapper for several formats, and some TIFF-supporting software does not support all variants. TIFF files may use LZW, CCITT Group 4, or PackBits compression methods, or may use no compression at all. Also, TIFF files may be monochrome, greyscale, or polychromatic. All such options should be specified in prose at the end of the encodingDesc section of the MEI header for any document including TIFF images. TIFF is owned by Aldus Corporation. Documentation on TIFF is available from the owner at Craigcook Castle, Craigcook Road, Edinburgh EH4 3UH, Scotland, or 411 First Avenue South, Seattle, Washington 98104 USA.

GIF: Graphics Interchange Format - Raster images are widely available in this form, which was created by CompuServe Information Services, but has by now been implemented for many other systems as well. Documentation is copyright by, and is available from, CompuServe Incorporated, Graphics Technology Department, 5000 Arlington Center Boulevard, Columbus, Ohio 43220 USA.

PBM: Portable Bit Map - PBM files are easy to process, eschewing all compression in favor of transparency of file format. PBM files can, of course, be compressed by generic file-compression tools for storage and transfer. Public domain software exists which will convert many other formats to and from PBM. Documentation of PBM is copyright by Jeff Poskanzer, and is available widely on the Internet.

PCX: IBM PC raster format - This format is used by most IBM PC paint programs, and supports both monochrome and polychromatic images. Documentation is available from ZSoft Corporation, Technical Support Department, ATTN: Technical Reference Manual, 450 Franklin Rd. Suite 100, Marietta, GA 30067 USA.

BMP: Microsoft bitmap format - This format is the standard raster format for computer using Microsoft Windows (tm) or Presentation Manager (tm). Documentation is available from Microsoft Corporation.

13.1.2.3 Photographic and Motion Video Formats

JPEG: Joint Photographic Experts Group - This format is sponsored by CCITT and by ISO. It is ISO/IEC Draft International Standard 10918-1, and CCITT T.81. It handles monochrome and polychromatic images with a variety of compression techniques. JPEG per se, like CCITT Group IV, must be encapsulated before transmission; this can be done via TIFF, or via the JPEG File Interchange Format (JFIF), as commonly done for Internet delivery.

Photo-CD: Kodak Photo Compact Disk format - This format was introduced by Kodak for rasterizing photographs and storing them on CD-ROMs (about one hundred 35mm file images fit on one disk), for display on televisions or CD-I systems. Information on Photo-CD is available from Kodak Limited, Research and Development, Headstone Drive, Harrow, Middlesex HA1 4TY, UK.

13.2 Tables

The element table contains text displayed in tabular form, i.e., in rows and columns. A table is the least 'graphic' of the elements discussed in this chapter. Almost any text structure can be presented as a series of rows and columns: one might, for example, choose to show a glossary or other form of list in tabular form, without necessarily regarding it as a table. When tabular presentation is regarded as of less intrinsic importance, it is correspondingly simpler to encode descriptive or functional information about the contents of the table, for example to identify one cell as containing a name and another as containing a date, though the two methods may be combined.

The table element may appear both within other components (such as paragraphs), or between them, provided that the module defined in this chapter has been enabled. It is to a large extent arbitrary whether a table should be regarded as a series of rows or as a series of columns. For compatibility with currently available systems, however, these Guidelines require a row-by-row description of a table.

While rows and columns are always encoded in top-to-bottom, left-to-right order, formatting properties such as those provided by CSS may be used to specify that they should be displayed differently.

13.2.1 Rows

The tr (table row) element is a formatting element that contains one or more td or th elements (cells) in a table. A cell is the intersection of a row and a column. The precise rendition of the table and its cells should be specified in a style steet.

```
<table>
 <tr>
   <th colspan= "7"> Besetzungen der Triosonate und ihrer Nachfolger </th>
 </tr>
 <tr>
   <td/>
   <td>Triosonate
     <lb/>
   Standardbes. </td>
   <td>Triosonate für
     <lb/>
   Orgel (Bach) </td>
   <td>Sonate mit obl.
     <lb/>
   Cembalo (Bach) </td>
   <td>Klaviertrio </td>
   <td>Streichquartett </td>
   <td>Streichtrio </td>
 </tr>
 <tr>
   <td>1. Oberstimme </td>
```

```
    <td>1. Violine </td>
    <td>Orgel r.H. </td>
    <td>Violine
      <lb/>
    (Flöte, Gambe) </td>
    <td>Violine </td>
    <td>1. Violine </td>
    <td>1. Violine </td>
  </tr>
  <tr>
    <td>2. Oberstimme </td>
    <td>2. Violine </td>
    <td>Orgel l.H. </td>
    <td>Cembalo r.H. </td>
    <td>Klavier r.H. </td>
    <td>2. Violine </td>
    <td/>
  </tr>
  <tr>
    <td>harmonische Füllung </td>
    <td>Cembalo r.H. </td>
    <td/>
    <td/>
    <td/>
    <td>Bratsche </td>
    <td>Bratsche </td>
  </tr>
  <tr>
    <td>Bass-Stimme </td>
    <td>Cello </td>
    <td>Orgel Pedal </td>
    <td>Cello </td>
    <td>Cello </td>
    <td>Cello </td>
    <td>Cello </td>
  </tr>
</table>
```

13.2.2 Cells

The td (table data) element designates a table cell that contains data as opposed to a cell that contains column or row heading information. The @colspan and @rowspan attributes provide tabular rendering information. They indicate that a particular cell or row of a table spans more than one row or column.

```
<table>
  <tr>
    <td colspan= "2" rowspan= "2"> unmittelbares Schlagen </td>
    <td colspan= "2" rowspan= "2"> mittelbares Schlagen </td>
  </tr>
```

```
  <tr>
    <td>Gegenschlag </td>
    <td>Aufschlag </td>
    <td>Schütteln </td>
    <td>Schrapen </td>
  </tr>
  <tr>
    <td>1. Stäbe </td>
    <td>1. Stäbe </td>
    <td>1. Rahmen </td>
    <td>1. Raspeln </td>
  </tr>
  <tr>
    <td>2. Platten </td>
    <td>2. Röhren </td>
    <td>2. Gefäße </td>
    <td>2. Räder </td>
  </tr>
  <tr>
    <td/>
    <td>3. Platten </td>
    <td>3. Reihen </td>
    <td/>
  </tr>
  <tr>
    <td/>
    <td>4. Gefäße </td>
    <td/>
    <td/>
  </tr>
</table>
```

The th (table header) element designates a table cell containing column or row heading information as opposed to one containing data. The @colspan and @rowspan attributes tabular display rendering information. They indicate that a particular cell or row of a table spans more than one row or column.

```
<table>
  <tr>
    <th colspan= "4"> Systematische Einteilung der Idiophone </th>
  </tr>
  <tr>
    <td colspan= "2"> unmittelbares Schlagen </td>
    <td colspan= "2"> mittelbares Schlagen </td>
  </tr>
  <tr>
    <td>Gegenschlag </td>
    <td>Aufschlag </td>
    <td>Schütteln </td>
    <td>Schrapen </td>
  </tr>
```

```
  <tr>
    <td>1. Stäbe </td>
    <td>1. Stäbe </td>
    <td>1. Rahmen </td>
    <td>1. Raspeln </td>
  </tr>
  <tr>
    <td>2. Platten </td>
    <td>2. Röhren </td>
    <td>2. Gefäße </td>
    <td>2. Räder </td>
  </tr>
  <tr>
    <td/>
    <td>3. Platten </td>
    <td>3. Reihen </td>
    <td/>
  </tr>
  <tr>
    <td/>
    <td>4. Gefäße </td>
    <td/>
    <td/>
  </tr>
</table>
```

14 Harmony

This chapter describes the encoding of indications of harmony ocurring within a music text, e.g., chord names, tablature grids, figured bass, or signs for harmonic analysis, and the methods by which these indications can be connected with their interpretations. For encoder-supplied analysis of intervallic content, please see chapter 7 Analytical Information.

14.1 Indications of Harmony

On the most basic level, chords in the musical text can be encoded using the chord element:

<chord> A simultaneous sounding of two or more notes in the same layer *with the same duration*.

Additional information on the use of the chord element is available in 1.2.3 Basic Music Events and 4.1.4 Notes, Chords and Rests in CMN.

With only this kind of markup, harmonic information is implicit in the notes themselves. The elements and attributes of this module, however, provide for the encoding of explicit indications of harmony, such as chord symbols, tablature grids, figured bass signs, and the symbols of harmonic analysis like Roman numerals and their interpretation.

14.1.1 Interpreted Chord Data in scoreDef

An harmonic label, such as "7", may occur many times throughout an MEI instance. Where the goal is diplomatic transcription, simply recording the uninterpreted label is sufficient. Recording the precise meaning of such a label requires storing an interpretation. But, including the interpretation at every point of occurrence of the label would swell the size of the file and complicate the markup for those users who are not interested in the interpretation. Therefore, MEI separates the encoding of harmonic labels from the encoding of the interpretation of those labels.

The following elements enable the creation and re-use of interpreted chord data:

<chordTable> Chord/tablature look-up table.

<chordDef> (chord definition) – Chord tablature definition.

- **@pos** Records the fret position at which the chord tablature is to be played.

<chordMember> An individual pitch in a chord defined by a <chordDef> element.

- **@inth** Encodes the harmonic interval between pitches occurring at the same time.
- **@fing** Indicates which finger, if any, should be used to play an individual string. The index, middle, ring, and little fingers are represented by the values 1-4, while 't' is for the thumb. The values 'x' and 'o' indicate muffled and open strings, respectively.
- **@fret** Records the location at which a string should be stopped against a fret.

<barre> An indication of fingering in a chord tablature grid.

@fret Records the location at which a string should be stopped against a fret.

The chordTable element is a container for a set of chord definitions, while the chordDef element defines a single chord. Chord definitions may be created *a priori* or as the result of analysis of the pitch content of the music at hand, for instance, by examination of the notes occurring on the downbeat of each measure. In this way, the chord definitions serve as a record of the analysis.

Even though it is not required by the schema, an @xml:id attribute on chordDef is necessary to permit the creation of associations between harmonic indications in the musical text with the chord defined here. The @xml:id attribute provides a unique identifier for the chord definition that can be referenced by the harm element's @chordref attribute.

Individual pitches of a chord are encoded using chordMember. The @inth attribute provides the means for indicating the number of half steps of the chord note above the bass note.

These simple resources allow for the detailed specification and interpretation of harmonic indications found in the musical text. For example, the harmonic label A can be equated with a fully spelled-out indication of functional harmony that can be substituted for the harmonic label, say, in an aural rendition:

```
<!-- Chord defined in scoreDef -->
<chordDef xml:id= "harmonychordA">
 <chordMember oct= "2" pname= "a"/>
 <chordMember oct= "3" pname= "e"/>
 <chordMember accid.ges= "s" oct= "4" pname= "c"/>
 <chordMember oct= "4" pname= "e"/>
 <chordMember oct= "4" pname= "a"/>
</chordDef>
<!-- Later in musical text -->
<harm chordref= "#harmonychordA" tstamp= "1"> A </harm>
```

Alternatively, the non-bass chord tones may be indicated, not with pitch names, but with their intervallic distance above the bass note. Therefore, the example above may also be encoded:

```
<chordDef xml:id= "harmonychordA2">
 <chordMember oct= "2" pname= "a"/>
 <chordMember inth= "7"/>
 <chordMember inth= "16"/>
 <chordMember inth= "19"/>
 <chordMember inth= "24"/>
</chordDef>
```

The preceding encoding possibilities provide the detailed information necessary to create playable chord annotations. For more generic uses, however, the encoding can be taken one step further; that is, it can be reduced to its minimum intervallic content by eliminating octave duplications and expressing all chord

members, including the bass note, using intervals above the bass. Of course, the @inth attribute for the bass note itself should be set to 0. For example:

```
<chordDef xml:id= "harmonychordA3">
 <chordMember inth= "0"/>
 <chordMember inth= "4"/>
 <chordMember inth= "7"/>
</chordDef>
```

14.1.2 Chord Tablature Grids

The @pos attribute on chordDef, the @fing and @fret attributes on chordMember, and the barre element child of chordDef are provided in order to create displayable and performable chord tablature grids for guitar and other fretted string instruments. The fret at which a finger should be placed is recorded in the @fret attribute, while @fing indicates which finger, if any, should be used to play an individual string. The values x and o are used to indicate muffled and open strings, respectively.

The chordDef element may contain barre sub-elements when a single finger is used to stop multiple strings. Here the @fret attribute gives the fret position at which the barre should be created, while the @startid and @endid attributes are used to indicate the chordMember elements on which the barre starts and finishes.

14.1.3 Indications of Harmony in the Music Text

With regard to indications of harmony, MEI attempts to strike a balance between very precise (interpreted) and very loose (uninterpreted) markup needs. Therefore, various kinds of harmonic labels are accommodated by the harm element. While some are more structured than others, in the final analyis they all function as *labels*. Therefore, MEI provides only a single element for the capture of harmonic indications of all kinds:

@extender Indicates the presence of an extension symbol, typically a line.
@rendgrid Describes how the harmonic indication should be rendered.

The harm element can be used to capture chord labels that consist entirely of text:

```
<measure>
 <harm tstamp= "1"> Cmaj </harm>
 <harm tstamp= "2"> ii6 </harm>
</measure>
```

or labels that are chord tablature grids:

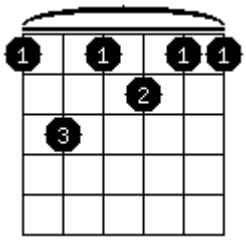


Figure 39. Chord grid without label

```
<harm chordref= "#harmonychordA" tstamp= "1"/>
```

or labels that mix these styles:

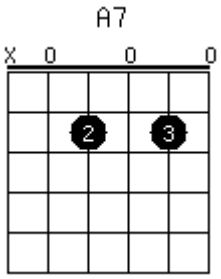


Figure 40. Chord grid with label

```
<harm chordref= "#harmonychordA" rendgrid= "gridtext" tstamp= "1"> A7 </harm>
```

The harm element must define a point of attachment using one of the following attributes: @startid, @tstamp, @tstamp.ges or @tstamp.real. The most commonly-used of these are @startid and @tstamp.

The @dur attribute encodes the logical and visual duration of the harmony. Please note that the @dur attribute here is not a true duration, but rather a time stamp for the end point of the harmony.

Precise placement of the harmonic label can be controlled through the use of attributes in the att.harm.vis attribute class.

14.1.3.1 Figured Bass

Figured bass is a specialized form of harmonic indication. In order to support the capture of the semantics of figured bass, and not just its visual representation, MEI provides the following elements:

<fb> (figured bass) – Symbols added to a bass line that indicate harmony. Used to improvise a chordal accompaniment. Sometimes called Generalbass, thoroughbass, or basso continuo.

@extender Indicates the presence of an extension symbol, typically a line.

Figured bass, consisting as it does of text, can always be represented purely visually. This is probably how an OMR program or other naive encoder might deal with the markup of figured bass:

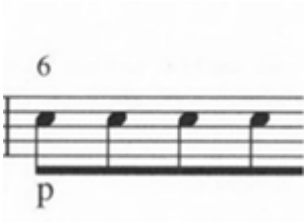


Figure 41. Figured bass

```
<harm place= "above" staff= "1" tstamp= "1"> 6 </harm>
```

However, this kind of approach fails to recognize that a figured bass is being used and not some other system of harmonic indications. To capture this knowledge, the preceding example can also be marked more explicitly with:

```
<harm place= "above" staff= "1" tstamp= "1">
 <fb>
   <f>6 </f>
 </fb>
</harm>
```

In order to provide greater control over the individual components of the figured bass, each component can be treated as a figure. The natural symbol is encoded using the Unicode MUSIC NATURAL SIGN character.

Figure 42. Figured bass with accidental

```
<harm place= "above" staff= "1" tstamp= "1">
 <fb>
   <f>7 </f>
   <f>♮ </f>
 </fb>
</harm>
```

Encoding order of the component f elements is significant as is the encoding order of the characters within each component. In the preceding example, the entire figured bass sign is encoded from top to bottom, in other words, just as the figure appears on the page. In the following examples, the encoding order of the characters in f explicitly locates the accidentals:

Figure 43. Figured bass with chromatically altered figure

```
<harm place= "below">
 <fb>
   <f>7♭ </f>
 </fb>
</harm>
```

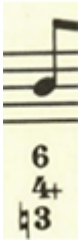


Figure 44. Figured bass with chromatically altered figures

```
<harm>
 <fb>
   <f>6 </f>
   <f>4+ </f>
   <f>♮3 </f>
 </fb>
</harm>
```

Characters with combining slashes can be handled using the Unicode characters COMBINING REVERSE SOLIDUS OVERLAY (6\) and COMBINING LONG SOLIDUS OVERLAY (6). The combining nature of these Unicode characters indicates very clearly that they "overstrike" the preceding character. The usual convention for slashes; that is, 6\ and 6/ for backslash and slash, respectively, may also be followed:

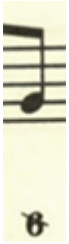


Figure 45. Figured bass with chromatically altered figure

```
<harm>
 <fb>
   <f>6\ </f>
   <!-- or -->
   <f>6\ </f>
 </fb>
</harm>
```

Each component of the figured bass sign may use the @extender attribute to indicate that horizontal lines are used to mark the extent of the figure's harmonic influence. The @altsym attribute can be used to point to a user-defined symbol that better represents the figure component, for example, the combined "2" and "+" below. Similar to the slash in the preceding example before, the small curve over the "5" in example 6 can be represented by the Unicode COMBINING INVERTED BREVE.

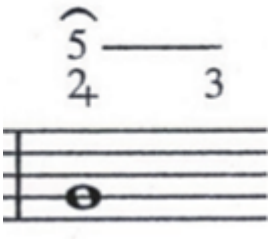


Figure 46. Figured bass with alternative sign

```
<measure>
 <harm tstamp= "1">
   <fb>
     <f>^ </f>
     <f extender= "true"> 5 </f>
     <f altsym= "combo2plus"> 2+ </f>
   </fb>
 </harm>
 <harm tstamp= "3">
   <fb>
     <f>3 </f>
   </fb>
 </harm>
</measure>
```

Because the repertoire of signs is so large, figures which consist entirely of a mark indicating repetition of the preceding figure, should be represented by the character appearing in the document. For example, in some notational styles, the repetition sign is a dash (-), while in others it is a solidus (/). Using characters like this is also consistent with other existing figured bass encoding schemes.

Figure 47. Figured bass repetition

```
<harm tstamp= "1.5">
 <fb>
   <f>– </f>
 </fb>
</harm>
```

Often, the distinction between extending lines and repetition signs is unclear. Treating what at first appear to be extenders as repetition signs, however, can sometimes help to simplify the required markup and to make the intent of the signs explicit. For example, in the following example the dashes on beat 4 and 4.5 are treated as repetition signs:

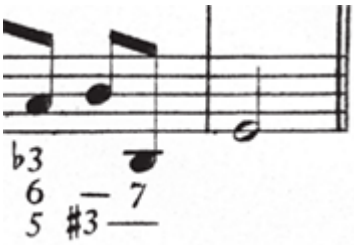


Figure 48. Extenders and repetition

```
<measure>
 <harm tstamp= "3.5">
   <fb>
     <f>♭3 </f>
     <f>6 </f>
     <f>5 </f>
   </fb>
 </harm>
 <harm tstamp= "4">
   <fb>
     <f>– </f>
     <f>♯3 </f>
```

```
    </fb>
  </harm>
  <harm tstamp= "4.5">
    <fb>
      <f>7 </f>
      <f>– </f>
    </fb>
  </harm>
</measure>
```

Using @extender attributes for this example may make it easier to render the figured bass symbol, but it is less explicit with regard to the intended harmony. For example, it is difficult to ascertain what harmony should be sounding on beat 4 and its after-beat.

```
<measure>
  <harm tstamp= "3.5">
    <fb>
      <f>♭3 </f>
      <f extender= "true"> 6 </f>
      <f>5 </f>
    </fb>
  </harm>
  <harm tstamp= "4">
    <fb>
      <f extender= "true"> ♯3 </f>
    </fb>
  </harm>
  <harm tstamp= "4.5">
    <fb>
      <f>7 </f>
    </fb>
  </harm>
</measure>
```

The primary goal of fb is not the capture all the visual idiosyncracies that can be found in printed and manuscript scores throughout the centuries, but to provide a more-or-less standardized label. The markup below, or any markup in fact, cannot capture the exact look of the figured bass signs. The @altsym attribute may be used to provide access to a user-defined symbol for precise rendition. Similarly, the @facs attribute may be employed to point to the symbol as it occurs in the encoding source material.

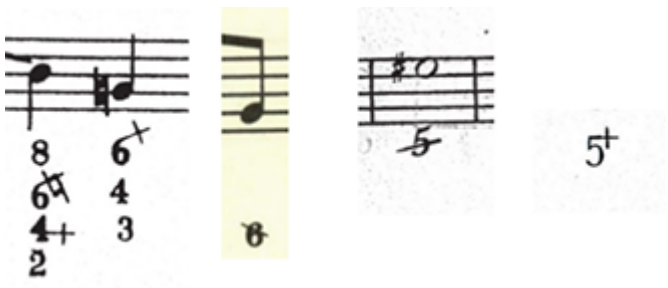


Figure 49. Figured bass with alternative sign

```
<!-- Ex. a -->
<measure>
 <harm tstamp= "3">
  <fb>
   <f>8 </f>
   <f altsym= "#my6_1" facs= "#source6_1"> 6♮ </f>
   <f>4+ </f>
   <f>2 </f>
  </fb>
 </harm>
 <harm tstamp= "4">
  <fb>
   <f altsym= "#my6_2" facs= "#source6_2"> 6\ </f>
   <f>4 </f>
   <f>3 </f>
  </fb>
 </harm>
</measure>
```

```
<!-- Ex. b -->
<harm tstamp= "4.5">
 <fb>
  <f>6\ </f>
 </fb>
</harm>
```

```
<!-- Ex. c -->
<harm tstamp= "1">
 <fb>
  <f>5/ </f>
 </fb>
</harm>
```

```
<!-- Ex. d -->
<harm>
 <fb>
  <f altsym= "#my5" facs= "#source5"> 5+ </f>
 </fb>
</harm>
```

15 Vocal Text

This chapter describes how to encode words and syllables in vocal notation. This text is typically written under a staff to indicate the text to be vocally performed. As such, this text should not be confused with other text on the score, for which see 1.3 Shared Textual Elements and 21 Text in MEI

These guidelines suggest two methods for encoding text in vocal notation: encoding syllables under each note and encoding performed text after the notes (and other staff events) either within layer elements or within measure elements when available (for example in a Common Music Notation context). Each method may be more convenient depending on the source text and on the textual phenomena that the encoding intends to record.

Both methods eventually rely on the syl element, which is part of the 'shared' module and is therefore available in all MEI files. The following sections will begin by introducing the general use of syl and then show in detail the two different encoding methods.

15.1 Lyric Syllables

By 'lyric syllable', these guidelines mean a word or portion of a word that is to be performed vocally. Each syllable is encoded with the syl element, with which it is also possible to specify the position of the syllable in a word, the type of connectors between syllables, alignment adjustments, and the formatting for each syllable. These are the key components:

<syl> (syllable) – Individual lyric syllable.

@worpos
@con Describes the symbols typically used to indicate breaks between syllables and their functions.
@halign Records horizontal alignment.

The attribute @wordpos is used to specify the position of the marked-up lyric syllable in a word. It allows the following values:

i - Indicates that the current syllable's position is *i*nitial; that is, at the beginning of a word;

m - Indicates that the current syllable is in the *m*iddle of a word;

t - Indicates that the syllable's position is *t*erminal; that is, at the end of a word.

When a syllable is at the beginning or in the middle of a word (in which case it will have the @wordpos attribute set to 'i' or 'm'), it is recommended to specify the type of connector written between the current and the following syllable. This is expressed with the @con attribute, which takes the following values:

s - A *s*pace is used as a connector between syllables;

d - A *d*ash is used as a connector between syllables;

u - An *u*nderscore sign (indicating prologation of the syllable) is used as a connector between syllables;

t - A *t*ilde is used to indicate elision with the following syllable. This is typically rendered as a small curved line between the syllables.

Occasionally, a word or a final syllable needs to be extended across multiple notes. In this case an 'extender' is provided. An extender is a continuous line drawn at the text's baseline from the end of the syllable associated with the first note until the last note to be sung with the syllable.

The use of syl described in this section is common to CMN and other notation systems, such as mensural notation. Other uses specific to certain types of notation and repertoires are addressed in other chapters. See for example 6 Neume Notation.

15.2 Vocally Performed Text Encoded Within Notes

Each lyric syllable can be encoded directly within an associated note, either by using the @syl attribute on note or the verse element.

Using the @syl attribute on notes is the simplest way of encoding vocally performed text and is recommended only for simple situations or for those encodings which do not focus on vocally performed text.

The following example from Handel's *Messiah* (HWV 56) shows the use of @syl:

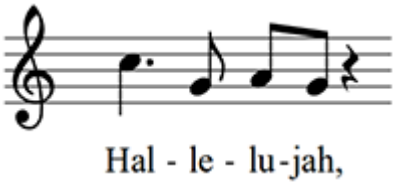


Figure 50. Handel, Messiah HWV 56, Halleluja

```
<measure>
 <staff>
  <layer>
    <note dots= "1" dur= "4" oct= "5" pname= "c" syl= "Hal-"/>
    <note dur= "8" oct= "4" pname= "g" syl= "le-"/>
    <beam>
      <note dur= "8" oct= "4" pname= "a" syl= "lu-"/>
      <note dur= "8" oct= "4" pname= "g" syl= "jah,"/>
    </beam>
    <rest dur= "4"/>
  </layer>
 </staff>
</measure>
```

When there are multiple lines of vocally performed text, or the encoder wishes to be more specific about connectors, etc., the use of verse and syl is recommended.

<verse> Lyric verse.

@rhythm Used to specify a rhythm for the lyric syllables that differs from that of the notes on the staff, e.g. '4,4,4,4' when the rhythm of the notes is '4.,8,4.,8'.

The following example from Handel's *Messiah* (HWV 56) shows the use of verse:

```
<measure>
 <staff>
```

```
  <layer>
    <note dots= "1" dur= "4" oct= "5" pname= "c">
       <verse n= "1">
          <syl con= "d" wordpos= "i"> Hal </syl>
       </verse>
    </note>
    <note dur= "8" oct= "4" pname= "g">
       <verse n= "1">
          <syl con= "d" wordpos= "m"> le </syl>
       </verse>
    </note>
    <beam>
       <note dur= "8" oct= "4" pname= "a">
          <verse n= "1">
             <syl con= "d" wordpos= "m"> lu </syl>
          </verse>
       </note>
       <note dur= "8" oct= "4" pname= "g">
          <verse n= "1">
             <syl wordpos= "t"> jah, </syl>
          </verse>
       </note>
    </beam>
    <rest dur= "4"/>
  </layer>
 </staff>
</measure>
```

As it is common practice in written text, it is assumed that a space separates words. Many vocal texts, however, introduce elisions and connect two syllables into one unit. For example, the vocal text from Mozart's *Don Giovanni* sung by Don Giovanni in Finale II, Ho fermo il core in petto introduces an elision between the word fermo and il and between core and in. An elision can be indicated by placing both syllables within the same note and setting the syl element's @con attribute value to 't':

```
<note>
 <verse>
   <syl con= "t" wordpos= "t"> re </syl>
   <syl wordpos= "i"> in </syl>
 </verse>
</note>
```

When there is more than one line of text, more than one verse element can be used. The following example from a piano reduction of Wagner's *Rheingold* has two lines of text, with an English translation on the second line. Note the use of the @xml:lang attribute to differentiate the two languages:

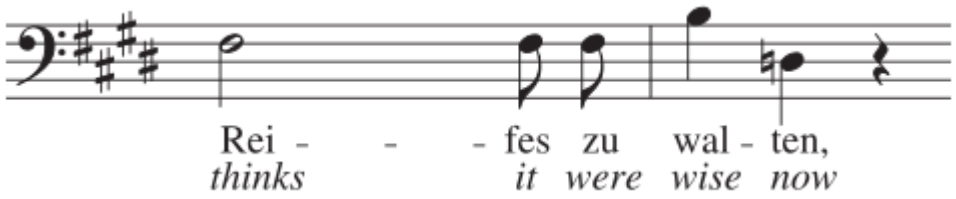


Figure 51. Example from Wagner's Rheingold with translated text.

```
<scoreDef>
 <staffGrp>
   <staffDef clef.line= "4" clef.shape= "F" key.sig= "4s" lines= "5" n= "1"/>
 </staffGrp>
</scoreDef>
<section>
 <measure>
   <staff n= "1">
     <layer n= "1">
        <note dur= "2" oct= "3" pname= "f" stem.dir= "down">
           <verse n= "1" xml:lang= "ger">
               <syl con= "d" wordpos= "i"> Rei </syl>
           </verse>
           <verse n= "2" xml:lang= "eng">
               <syl>thinks </syl>
           </verse>
        </note>
        <note dur= "8" oct= "3" pname= "f" stem.dir= "down">
           <verse n= "1">
               <syl wordpos= "t"> fes </syl>
           </verse>
           <verse n= "2">
               <syl>it </syl>
           </verse>
        </note>
        <note dur= "8" oct= "3" pname= "f" stem.dir= "down">
           <verse n= "1">
               <syl>zu </syl>
           </verse>
           <verse n= "2">
               <syl>were </syl>
           </verse>
        </note>
     </layer>
   </staff>
 </measure>
 <measure>
   <staff n= "1">
     <layer>
        <note dur= "4" oct= "3" pname= "b" stem.dir= "down">
           <verse n= "1">
```

```
            <syl con= "d" wordpos= "i"> wal </syl>
         </verse>
         <verse n= "2">
            <syl>wise </syl>
         </verse>
      </note>
      <note dur= "4" oct= "3" pname= "d" stem.dir= "down">
         <accid accid= "n"/>
         <verse n= "1">
            <syl wordpos= "t"> ten, </syl>
         </verse>
         <verse n= "2">
            <syl>now </syl>
         </verse>
      </note>
      <rest dur= "4" dur.ges= "8p"/>
    </layer>
  </staff>
 </measure>
</section>
```

Optionally, it is possible to include an lb element within verse to explicitly encode line and line group endings. This is specifically meant to facilitate karaoke applications.

Finally, the @rhythm attribute can be used to specify a rhythm for the syllable that differs from that of the notes on the staff.

15.3 Vocally Performed Text Encoded Separately

Vocally performed text may also be encoded separately from the notes with the lyrics element. These are the main components:

<lyrics> Vocally performed 'text' of a musical composition, such as a song or opera.

@staff Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable.

@layer Identifies the layer to which a feature applies.

Since this element is separated from the encoding of the notes, it must be associated with a staff that will provide rhythm information when required for automated processing. The @staff attribute gives the associated staff and if there is more than one layer on that staff, the @layer attribute may be used to indicate the layer from which the rhythm should be taken. If there is any divergence between the rhythm of the vocally performed text and the notes, the @rhythm attribute on verse may be used to specify the text's rhythm.

The following example from Carl Maria von Weber's *Der Freischütz* illustrates this encoding method:

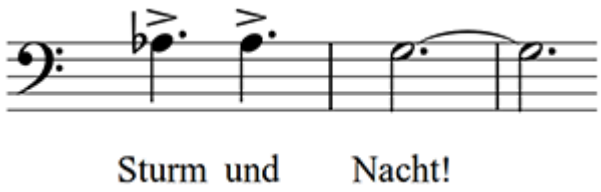


Figure 52. Weber, Der Freischütz

```
<section>
 <measure>
   <staff n= "1">
     <layer n= "1">
        <note dots= "1" dur= "4" oct= "3" pname= "a">
           <artic artic= "acc"/>
        </note>
        <note dots= "1" dur= "4" oct= "3" pname= "a">
           <artic artic= "acc"/>
        </note>
     </layer>
   </staff>
   <lyrics staff= "1">
     <verse>
        <syl>Sturm </syl>
        <syl>und </syl>
     </verse>
   </lyrics>
 </measure>
```

```
 <measure>
   <staff n= "1">
     <layer n= "1">
        <note dots= "1" dur= "2" oct= "3" pname= "g" tie= "i"/>
     </layer>
   </staff>
   <lyrics staff= "1">
     <verse>
        <syl>Nacht! </syl>
     </verse>
   </lyrics>
 </measure>
 <measure>
   <staff n= "1">
     <layer n= "1">
        <note dots= "1" dur= "2" oct= "3" pname= "g" tie= "t"/>
     </layer>
   </staff>
 </measure>
</section>
```

In this encoding style, a syl element with its @con attribute set to 't' and the following syllable are presumed to be associated with a single note. In the following example, the first two syllables occur on the first note and the third syllable occurs on the second note.

```
<staff>
 <layer>
   <note dur= "2" oct= "3" pname= "g"/>
   <note dur= "2" oct= "3" pname= "f"/>
 </layer>
</staff>
<!-- later -->
<lyrics staff= "1">
 <verse>
   <syl con= "t" wordpos= "t"> re </syl>
   <syl wordpos= "i"> il </syl>
   <syl wordpos= "i"> pet </syl>
 </verse>
</lyrics>
```

16 Musical Instrument Digital Interface (MIDI)

This chapter describes the MIDI encoding functionality present in MEI. The purpose of this module is to allow for integrating MIDI data into MEI-encoded notation, to both aid software in translating MEI to MIDI, and to permit the capture of information in files that have been translated from MIDI to MEI. The MIDI model in MEI is similar to that of Mup, and the user is directed to the Mup User Guide for further reading.

The MIDI module defines certain generally-accepted MIDI units that may be used outside of a MIDI context. For example, the @dur.ges attribute accepts MIDI ppq (Pulses Per Quarter) as a valid measurement of duration. Similarly, the @pnum attribute allows MIDI note numbers for specifying a pitch value.

16.1 PPQ in scoreDef and staffDef

To define the MIDI resolution of a score, the @ppq attribute may be used on the scoreDef element. This value can be used to interpret the values found in the @dur.ges attribute on elements in the att.duration.performed class.

```
<scoreDef key.sig= "1f" meter.count= "4" meter.sym= "common" meter.unit= "4" ppq= "48">
 <staffGrp>
  <staffDef clef.line= "2" clef.shape= "G" key.sig= "1f" lines= "5" n= "1" xml:id=
  "midi.P1"/>
  <staffDef clef.line= "4" clef.shape= "F" key.sig= "1f" lines= "5" n= "2" xml:id=
  "midi.P2"/>
  <staffDef clef.line= "4" clef.shape= "F" key.sig= "1f" lines= "5" n= "3" xml:id=
  "midi.P3"/>
 </staffGrp>
</scoreDef>
<!-- snip -->
<note dur= "8" dur.ges= "24p" oct= "5" pname= "a" stem.dir= "up" xml:id= "midi.d1e40"/>
<!-- 8th note -->
<rest dur= "32" dur.ges= "6p" vo= "4" xml:id= "midi.d1e58"/>
<!-- 32nd note -->
<!-- snip -->
```

The @ppq attribute is also available on the staffDef element in order to aid in the conversion to MEI from other representations that allow a different time base for each staff. However, these independent values for @ppq are only interpretable in terms of a common time base. Therefore, the @ppq attribute is required on scoreDef when the values of @ppq on the staff definitions differ. In the following example, the values of the @ppq attributes on the staffDef elements are all factors of the value of @ppq attached to scoreDef.

```
<scoreDef key.sig= "1f" meter.count= "4" meter.sym= "common" meter.unit= "4" ppq= "48">
 <staffGrp>
  <staffDef clef.line= "2" clef.shape= "G" key.sig= "1f" lines= "5" n= "1" ppq= "2"
  xml:id= "midi.P1"/>
  <staffDef clef.line= "4" clef.shape= "F" key.sig= "1f" lines= "5" n= "2" ppq= "16"
  xml:id= "midi.P2"/>
  <staffDef clef.line= "4" clef.shape= "F" key.sig= "1f" lines= "5" n= "3" ppq= "24"
  xml:id= "midi.P3"/>
 </staffGrp>
</scoreDef>
```

16.2 Recording General MIDI Instrumentation

The instrDef element can be used to record MIDI instrument names or numbers using the @midi.instrname and @midi.instrnum attributes. The @midi.instrname attribute must contain an instrument name from the list provided by the data.MIDINAMES data type. By default, data.MIDINAMES contains General MIDI Instrument designations.

```
<scoreDef key.sig= "1f" meter.count= "4" meter.sym= "common" meter.unit= "4" ppq= "48">
 <staffGrp>
  <staffDef clef.line= "2" clef.shape= "G" lines= "5" n= "1" xml:id= "midi.P5">
    <instrDef midi.instrname= "Violin"/>
  </staffDef>
  <staffDef clef.line= "2" clef.shape= "G" lines= "5" n= "2" xml:id= "midi.P6">
    <instrDef midi.instrname= "Violin"/>
  </staffDef>
  <staffDef clef.line= "3" clef.shape= "C" lines= "5" n= "3" xml:id= "midi.P7">
    <instrDef midi.instrname= "Viola"/>
  </staffDef>
  <staffDef clef.line= "4" clef.shape= "F" lines= "5" n= "3" xml:id= "midi.P8">
    <instrDef midi.instrname= "Cello"/>
  </staffDef>
 </staffGrp>
</scoreDef>
```

The @midi.instrnum is provided for those cases when an instrument number is needed. It must contain valid MIDI values; that is, 0-127. In these cases, a General MIDI Instrument name is redundant.

```
<scoreDef key.sig= "1f" meter.count= "4" meter.sym= "common" meter.unit= "4" ppq= "48">
 <staffGrp>
  <staffDef clef.line= "2" clef.shape= "G" lines= "5" n= "1" xml:id= "midi.P5">
    <instrDef midi.instrnum= "41"/>
  </staffDef>
  <staffDef clef.line= "2" clef.shape= "G" lines= "5" n= "2" xml:id= "midi.P6">
    <instrDef midi.instrnum= "41"/>
  </staffDef>
  <staffDef clef.line= "3" clef.shape= "C" lines= "5" n= "3" xml:id= "midi.P7">
    <instrDef midi.instrnum= "42"/>
  </staffDef>
  <staffDef clef.line= "4" clef.shape= "F" lines= "5" n= "3" xml:id= "midi.P8">
    <instrDef midi.instrnum= "43"/>
  </staffDef>
 </staffGrp>
</scoreDef>
```

16.3 Recording MIDI Event Data

MIDI messages are encapsulated in the midi element, which is typically used in contexts like layer and measure. In earlier versions of MEI, the noteOn and noteOff elements were used to record MIDI note on/off events. The use of these elements is now discouraged in favor of using the note element directly. MIDI duration should be recorded using the @dur.ges attribute, and MIDI pitch information should be recorded using the @pnum attribute.

MIDI control changes (cc) are encoded using the @num and @val attributes. Control change numbers are specified in the General MIDI documentation. In the example below, the cc elements encode increasing controller event 7 (volume) values, or in musical terms, a crescendo. Other MIDI event messages follow this same pattern, using the @num and @val attributes to record the raw MIDI data.

```
<measure>
 <staff>
  <layer>
    <note dur.ges= "8" pnum= "45"/>
    <note dur.ges= "8" pnum= "42"/>
    <note dur.ges= "8" pnum= "43"/>
    <note dur.ges= "8" pnum= "44"/>
  </layer>
 </staff>
 <midi layer= "1" staff= "1">
  <cc num= "7" tstamp= ".5" val= "50"/>
  <cc num= "7" tstamp= "1.5" val= "55"/>
  <cc num= "7" tstamp= "2" val= "60"/>
  <cc num= "7" tstamp= "2.5" val= "65"/>
 </midi>
</measure>
```

In the preceding example, each control change is associated with a time stamp. The @tstamp attribute is required in order to indicate when the MIDI event should take place. It is often necessary to indicate a time stamp slightly earlier than the affected notes to compensate for MIDI delay.

For better legibility and error checking, the midi element may be used, as in the following example, to group MIDI parameter changes. Even so, the @tstamp attribute is required on all parameters in order to associate them with their point of actuation:

```
<midi layer= "1" staff= "1">
 <cc num= "7" tstamp= ".5" val= "50"/>
 <cc num= "64" tstamp= ".5" val= "64"/>
</midi>
```

16.4 MIDI in Mensural and Neume Notation

In mensural, neume, and other historical or non-Western repertoires, there is often no measure-based time stamp with which to associate MIDI controller data. Therefore, in these notations MIDI controller data is assumed to be associated with the event that immediately follows in the same layer. Thus, a crescendo in mensural notation may be encoded like so:

```
<staff>
 <layer>
   <midi>
     <cc num= "7" val= "50"/>
   </midi>
   <note dur= "fusa" dur.ges= "8p" pnum= "42"/>
   <midi>
     <cc num= "7" val= "55"/>
   </midi>
   <note dur= "fusa" dur.ges= "8p" pnum= "43"/>
   <midi>
     <cc num= "7" val= "60"/>
   </midi>
   <note dur= "fusa" dur.ges= "8p" pnum= "44"/>
   <midi>
     <cc num= "7" val= "65"/>
   </midi>
   <note dur= "fusa" dur.ges= "8p" pnum= "45"/>
 </layer>
</staff>
```

17 Names and Dates

This chapter describes the MEI module used for the encoding of names (names of persons or corporations/organizations) or descriptive phrases for styles, periods or geographical indications. In section 1.3.4 Names, Dates, Numbers, Abbreviations, and Addresses it was noted that the elements provided in the core module allow an encoder to specify that a given text segment is a proper noun. The elements provided by the present module allow the encoder to supply a detailed sub-structure for such proper nouns, and to distinguish explicitly between persons and organizations, and between stylistic, periodical or geographical indications.

The chapter begins by discussing the elements provided for the encoding of names (name) and dates (date) in general and finishes by addressing more specific elements for corporate names (corpName), geographic names (geogName), period names (periodName), personal names (persName) and style names (styleName). In general it is recommended to use standardized forms of proper nouns and to record the names and web-accessible locations of the controlled vocabularies used. There are several commonly-referenced authority files, especially for geographical, organizational and personal names, such as the Gemeinsame Normdatei (GND), the Library of Congress Authorities, the Getty Thesaurus of Geographic Names (TGN), and the MARC code list for relators. Recommendations on which standards could be used can be found in the descriptions of the individual elements.

17.1 Basic Elements for Names and Dates

The basic elements for capturing names and dates are defined in the shared module:

<name> Proper noun or noun phrase.

<date> A string identifying a point in time or the time period between two such points.

The name element contains the name of an entity that is difficult to tag more specifically as a corpName, geogName, persName, or title. In section 1.3.4 Names, Dates, Numbers, Abbreviations, and Addresses it was noted that the name element may be used in place of the more specific elements when it is not known what kind of name is being described or when a high degree of precision is not necessary. For example, the name element might be used when it is not clear whether the name "Bach" refers to a person or a geographic feature. When name parts are needed, use name sub-elements. The recommended values for the @type attribute are:

'pers' - a personal name

'corp' - the name of a corporate entity

'place' - a geographic name

'process' - the name of a process or mechanical agent

The date sub-element is available within name in order to record any dates associated with the name, for example, creation and dissolution in the case of a corporate entity or place or birth and death dates in the case of an individual. The name of the list from which a controlled value is taken, such as the Library of Congress Name Authority File (LCNAF), may be recorded using the authority attribute.

Examples of the use of the name element:

```
<p>
 <name type= "pers"> Henry VIII, King of England </name>
 <name type= "corp"> The Beatles </name>
 <name type= "place"> Orbach </name>
 <name type= "process"> OMR software </name>
</p>
```

The element date contains a date in any format, including a date range. A date range may be expressed as textual content or, when intervening punctuation is present, as a combination of date sub-elements and text.

```
<p>
 <date>5/3/05 </date>
 <date>May 30, 2012 </date>
 <date>March 1–21, 1812 </date>
 <date>
```

```
  <date>March 1, 1812 </date>
–
  <date>March 21, 1812 </date>
 </date>
</p>
```

To be more specific about the date, the attributes in the att.datable class can be used:

@startdate - contains the starting point of a date range in standard ISO form

@enddate - contains the end point of a date range in standard ISO form

@notbefore - contains a lower boundary for an uncertain date

@notafter - contains an upper boundary for an uncertain date

@isodate - gives the value of a textual date in standard ISO form

@calendar - indicates the system or calendar to which a date belongs, for example, Gregorian, Julian, Roman, Mosaic, Revolutionary, Islamic, etc.

@cert - signifies the degree of certainty or precision associated with a feature (high, medium, low, unknown)

In the following example, the ambiguous date text "5/3/05" is resolved using the @isodate attribute:

```
<p>
 <date isodate= "1905-05-03"> 5/3/05 </date>
 <date isodate= "2005-03-05"> 5/3/05 </date>
</p>
```

17.2 Specialized Name and Date Elements

In addition to the generic name and date elements provided by the shared module, the namesDates module provides for the markup of the specialized cases described below.

17.2.1 Corporate Names

> **<corpName>** (corporate name) – Identifies an organization or group of people that acts as a single entity.

Corporate names are non-personal names which refer to structured bodies of one or more persons that act as a single entity. Typical examples include associations, businesses, projects or institutions (e.g.,. 'the Royal College of Music' or 'the BBC'), but also racial or ethnic groupings or political factions where these are regarded as forming a single agency. Organization names typically include some type of indicator or pattern or words that help identify them as non-personal names.

The corpName element is frequently used within the header of an MEI document. It is typically found in the respStmt element:

```
<respStmt>
 <corpName>Library of Congress </corpName>
</respStmt>
```

It may also be used wherever it is necessary to mark a corporate name, for example when a corporation is responsible for a certain event in the history of a musical work:

```
<history>
 <eventList>
   <event>
     <p>First performance by
        <corpName>The Boston Symphony Orchestra </corpName>
     ,
        <date>October 22, 1881 </date>
     . </p>
   </event>
 </eventList>
</history>
```

When it is necessary to provide structure for a name, the separate parts of the name may be encoded in corpName sub-elements, for example:

```
<corpName>Federal Research Division,
 <corpName>Library of Congress </corpName>
```

```
</corpName>
```

Standard designations for corporate bodies can be taken from a controlled vocabulary, such as the Gemeinsame Normdatei (GND). If a controlled value is used, the list from which it is taken should be recorded. In this case, the following attributes are particularly relevant:

@authority - to record the list from which a controlled value is taken,

@authURI (authority URI) - to record the web-accessible location of the controlled vocabulary from which the value is taken,

@codedval (coded value) - to record a value which serves as a primary key in an external database.

17.2.2 Geographic Names

<geogName> (geographic name) – The proper noun designation for a place, natural feature, or political jurisdiction.

Geographic names are proper noun designations for places (e.g.,. Baltimore, Maryland), natural features (e.g.,. Black Forest) or political jurisdictions (e.g.,. Quartier Latin, Paris).

The element can be used, e.g., to label geographical names in titles:

```
<title>
 <geogName>Bohemia </geogName>
: Folk Songs </title>
```

```
<title>Music in the
 <geogName>German Democratic Republic </geogName>
</title>
```

Geographic name sub-parts may be encoded in geogName sub-elements. For example:

```
<p>
 <geogName>
   <geogName>Baltimore </geogName>
 ,
   <geogName>Maryland </geogName>
 </geogName>
 <geogName>
   <geogName>French Quarter </geogName>
 ,
   <geogName>New Orleans </geogName>
```

```
,
  <geogName>Louisiana </geogName>
 </geogName>
</p>
```

Alternatively, geographic name sub-parts may be encoded using the following more specific elements:

<bloc> Contains the name of a geo-political unit consisting of two or more nation states or countries.

<country> Contains the name of a geo-political unit, such as a nation, country, colony, or commonwealth, larger than or administratively superior to a region and smaller than a bloc.

<district> Contains the name of any kind of subdivision of a settlement, such as a parish, ward, or other administrative or geographic unit.

<geogFeat> (geographical feature name) – Contains a common noun identifying a geographical feature.

<postBox> (postal box or post office box) contains a number or other identifier for some postal delivery point other than a street address.

<postCode> (postal code) contains a numerical or alphanumeric code used as part of a postal address to simplify sorting or delivery of mail.

<region> Contains the name of an administrative unit such as a state, province, or county, larger than a settlement, but smaller than a country.

<settlement> Contains the name of a settlement such as a city, town, or village identified as a single geo-political or administrative unit.

<street> full street address including any name or number identifying a building as well as the name of the street or route on which it is located.

In contrast to the way addrLine is used to mark the physical arrangement of the parts of an address, these elements can be used to mark the semantic components of an address. For example:

```
<address>
 <street>21 Jump Street </street>
 <settlement>My Town </settlement>
 <region>My Prefecture </region>
 <region>My Province </region>
 <country>My Country </country>
 <postCode>A123B456C </postCode>
</address>
```

They may also be used to identify place name components within textual content:

```
<annot> Holmes and Watson live at
 <street>
  <num>221 </num>
```

```
 Baker St. </street>
in
 <settlement>London </settlement>
,
 <country>England </country>
. </annot>
```

```
<list>
 <head>Oh, the places I want to go </head>
 <li>
   <settlement>London </settlement>
 </li>
 <li>
   <country>France </country>
 </li>
 <li>
   <region>Napa Valley </region>
 </li>
</list>
```

To enable localization of an organization, or to specify names of places with identical names, the use of controlled vocabulary is recommend for names of administrative divisions, such as cities, states, and countries. In this case, the following attributes are particularly relevant:

@authority - records the list from which a controlled value is taken, e.g., the Thesaurus of Geographic Names (TGN),

@authURI (authority URI) - records the web-accessible location of the controlled vocabulary from which the value is taken,

@codedval (coded value) - records a value which serves as a primary key in an external database.

The encoder may use these attributes in combination. In case of the German city of Frankfurt, for example, a clarification whether Frankfurt am Main or Frankfurt an der Oder is meant can be achieved by referring to the ID of the TGN entry:

```
<!-- Frankfurt am Main -->
<geogName authURI= "www.getty.edu/research/tools/vocabularies/tgn" authority= "TGN"
codedval= "7005293"> Frankfurt </geogName>
```

```
<!-- Frankfurt an der Oder -->
<geogName authURI= "www.getty.edu/research/tools/vocabularies/tgn" authority= "TGN"
codedval= "7005972"> Frankfurt </geogName>
```

The names of places given within addresses can be marked with geogName elements, for example:

```
<p>
 <corpName authURI= "http://d-nb.info/gnd" authority= "GND" codedval= "2007744-0">
 German Research Foundation </corpName>
 <address>
   <addrLine>Kennedyallee 40 </addrLine>
   <addrLine>53175
     <geogName authURI= "www.getty.edu/research/tools/vocabularies/tgn" authority= "TGN"
     codedval= "7005090"> Bonn </geogName>
   </addrLine>
   <addrLine>
     <geogName authURI= "www.getty.edu/research/tools/vocabularies/tgn" authority= "TGN"
     codedval= "7000084"> Germany </geogName>
   </addrLine>
 </address>
</p>
```

17.2.3 Time Period Names

<periodName> (period name) – A label that describes a period of time, such as 'Baroque' or '3rd Style period'.

The periodName element is for names which describe a particular period of time, for example, those which characterize obvious similarities in style, such as 'Baroque' or '3rd Style Period':

```
<periodName>Baroque </periodName>
```

The date sub-element is available within periodName in order to record any dates associated with the name that should be captured in the text, for example, start and end dates of the named period:

```
<periodName>Baroque (
 <date>1600 </date>
–
 <date>1750 </date>
) </periodName>
```

Recording start and end points of a certain period using the @startdate and @enddate attributes may prove to be better for machine processing:

```
<periodName enddate= "1750" startdate= "1600"> Baroque </periodName>
```

If a controlled value is used, the list from which it is taken should be recorded. In this case the following attributes are relevant:

@authority - to record the list from which a controlled value is taken,

@authURI (authority URI) - to record the web-accessible location of the controlled vocabulary from which the value is taken,

@codedval (coded value) - to record a value which serves as a primary key in an external database.

17.2.4 Personal Names

<persName> (personal name) – Designation for an individual, including any or all of that individual's forenames, surnames, honorific titles, and added names.

Personal names within an MEI document may simply be marked with the persName element containing a proper noun or proper noun phrase referring to an individual. For example:

```
<sourceDesc>
 <source>
  <titleStmt>
    <title>Im wunderschönen Monat Mai </title>
    <respStmt>
       <persName role= "composer"> Robert Schumann </persName>
    </respStmt>
  </titleStmt>
 </source>
</sourceDesc>
```

Apart from the composer or originator of a musical work, there could be many other persons involved in the genesis of a musical work, such as librettists, lyricists, arrangers, editors, transcribers, printers, publishers, etc. In addition, sometimes a single individual may have multiple functions with regard to a musical work, e.g. composer and librettist. The @role attribute on persName may be used to capture a person's responsibility. For example:

```
<persName role= "arranger"> Wolfgang Amadeus Mozart </persName>
```

```
<persName role= "lyricist"> Heinrich Heine </persName>
```

The Marc code list for relators offers a variety of controlled terms that may serve as values for this use of @role.

Personal names often consist of several components, such as given names, surnames, inherited or life-time titles of nobility, honorific or academic prefixes, military ranks, and other traditional descriptive phrases. These components can be marked using persName sub-elements, the function of which may be indicated using the @type attribute with the following values:

'forename' - contains a forename, given or baptismal name.

'surname' - a family (inherited) name, as opposed to a given, baptismal, or nick name.

'rolename' - contains a name component which indicates that the referent has a particular role or position in society, such as an official title or rank.

'addname' (additional name) - contains an additional name component, such as a nickname, epithet, or alias, or any other descriptive phrase used within a personal name.

'namelink' (name link) - contains a connecting phrase or link used within a name but not regarded as part of it, such as *van der* or *of*.

'genname' (generational name) - contains a name component used to distinguish otherwise similar names on the basis of the relative ages or generations of the persons named.

However, the recommended practice is to employ the following sub-elements provided the namesDates module:

<addName> (additional name) – Contains an additional name component, such as a nickname, epithet, or alias, or any other descriptive phrase used within a personal name.

<famName> (family name) – Contains a family (inherited) name, as opposed to a given, baptismal, or nick name.

<foreName> Contains a forename, given or baptismal name.

<genName> (generational name component) – Contains a name component used to distinguish otherwise similar names on the basis of the relative ages or generations of the persons named.

nameLike

<roleName> (role name) – Contains a name component which indicates that the referent has a particular role or position in society, such as an official title or rank.

For example,

```
<persName>
 <foreName>Rob </foreName>
 <addName>The Bold </addName>
 <famName>Stark </famName>
 <genName>I </genName>
 <nameLink>of </nameLink>
 <geogName>Winterfell </geogName>
 <roleName>King in the North </roleName>
</persName>
```

In the case of individuals with more than one forename, it is often sufficient to place all given names within a single foreName element:

```
<persName>
 <famName>Mozart </famName>
,
```

```
 <foreName>Johannes Chrysostomus Wolfgangus Theophilus </foreName>
</persName>
```

However, the advantage of marking names with specific name part elements instead of nested persName elements, is that it becomes possible to use the @type attribute to distinguish between multiple instances of the same generic name component. The following example indicates the function of each of the given names of Wolfgang Mozart:

```
<persName>
 <famName>Mozart </famName>
,
 <foreName type= "baptismal"> Johannes </foreName>
 <foreName type= "baptismal"> Chrysostomus </foreName>
 <foreName type= "familiar"> Wolfgangus </foreName>
 <foreName type= "baptismal"> Theophilus </foreName>
</persName>
```

The use of a controlled list, such as the Gemeinsame Normdatei (GND) or the Library of Congress Name Authorities, is recommended for names, especially those occurring within the metadata header. When a controlled value is used, information about the the value should be recorded. The following attributes are provided for this purpose:

- @authority: records the list from which a controlled value is taken,
- @authURI (authority URI): indicates the web-accessible location of the controlled vocabulary from which the value is taken,
- @codedval (coded value): holds a value which serves as a primary key in an external database.

For maximal machine-processability, these three attributes may be used in combination. For example:

```
<persName authURI= "http://d-nb.info/gnd" authority= "GND" codedval= "118584596" role=
"composer"> Wolfgang Amadeus Mozart </persName>
```

17.2.5 Style Names

> **<styleName>** (style name) – A label for a characteristic style of writing or performance, such as 'bebop' or 'rock-n-roll'.

Music can be divided into different styles, genres, and forms. The term style denotes a mode of expression, or more particularly, the manner in which a work of art is executed:

"In the discussion of music, which is orientated towards relationships rather than meanings, the term raises special difficulties; it may be used to denote music characterized of an individual composer, of a period, of a geographical area or center, or of a society or social function. For the aesthetician style concerns surface or

appearance, though in music appearance and essence are ultimately inseparable. For the historian a style is a distinguishing and ordering concept, both consistent of and denoting generalities; he or she groups examples of music according to similarities between them." (Source: "Style", Grove Music Online, accessed: April 27, 2012)

The name of a musical style can be marked by the styleName element, for example:

```
<styleName>bebop </styleName>
```

It may be, e.g., used for recording a style name within a title:

```
<title>La voix du
 <styleName>bebop </styleName>
</title>
```

or to record a style of a certain epoch by using the styleName sub-element:

```
<periodName>Modern
 <styleName>Jazz </styleName>
</periodName>
```

Musical forms and genres must be distinguished from musical style. Form and genre are typically indicated using the classification element, described in chapter 2.3.12 Classification.

18 Performances

This chapter describes the 'performance' module, which can be used for organizing audio and video files of performances of a musical work. The elements provided allow the encoder to group different recordings of the same performance, identify temporal segments within the recordings, and encode simple alignments with a music text.

18.1 Overview

The following elements are available to encode information about a recorded performance:

<performance> A presentation of one or more musical works.

<recording> A recorded performance.

<avFile> (audio/video file) – References an external digital audio or video file.

<clip> Defines a time segment of interest within a recording or within a digital audio or video file.

<when> Indicates a point in time either absolutely (using the absolute attribute), or relative to another when element (using the since, interval and inttype attributes).

The performance element begins a subtree of the music element and appears alongside with, or instead of, body (described in 1.1.2 Music Element and facsimile (described in 12 Facsimiles). A performance element represents one recorded performance event. As a performance may be recorded in multiple formats or by different personnel or or using different equipment, the performance element may group one or more recordings of the event.

The @decls attribute can be used to point to performance medium metadata for the performed work. See 2.3.7 Performance Medium for more details.

The recording element identifies a single recording event taking place within an absolute temporal space. The class att.mediabounds contains attributes that can be used to define this space:

@begin Specifies a point where the relevant content begins. A numerical value must be less and a time value must be earlier than that given by the end attribute.

@end Specifies a point where the relevant content ends. If not specified, the end of the content is assumed to be the end point. A numerical value must be greater and a time value must be later than that given by the begin attribute.

@betype Type of values used in the begin/end attributes. The begin and end attributes can only be interpreted meaningfully in conjunction with this attribute.

The avFile element identifies an external file associated with a recording act. In the simplest case, the recording element will contain one avFile element identifying a file that represents it. The @target attribute contains the URI of the digital media file. Use of the @mimetype attribute is recommended for the avFile element. Its value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. It is also

recommended that all avFile elements have a recording or clip parent which bears the @begin, @end, and @betype attributes.

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" end= "00:03:10.00">
   <avFile mimetype= "audio/wav" target= "http://example.com/path/to/audio/recording"/>
 </recording>
</performance>
```

Sometimes, multiple digital files are created in order to provide greater flexibility in redistribution and playback capabilities. In this case, multiple avFile elements may occur, each with a different mimetype. Keep in mind, however, that each file still represents the complete temporal extent of the recording act in spite of the change of file format:

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" end= "00:03:10.00">
   <avFile mimetype= "audio/wav" target= "http://example.com/path/to/audio/recording"/>
   <avFile mimetype= "audio/mpeg" target= "http://example.com/path/to/audio/recording"/>
 </recording>
</performance>
```

The clip element identifies a temporal segment of a recording act. In the following example, the clip begins two minutes into the timeframe of the recording and ends 20 seconds later:

```
<recording begin= "00:00:00.00" betype= "time" end= "00:03:10.00">
 <clip begin= "00:02:00.00" betype= "time" end= "00:20:20.00"/>
</recording>
```

Beyond these relatively simple uses, complex situations may occur that require equally complex markup. For example, a single performance may be represented by multiple digital media files. Because they have differing durations, the media files must be the result of separate recording acts, even if these recording acts took place at the same time:

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" end= "00:03:10.00">
   <avFile mimetype= "audio/wav" target= "http://example.com/path/to/audio/recording"/>
 </recording>
 <recording begin= "00:00:00.00" betype= "time" end= "00:03:15.00">
   <avFile mimetype= "audio/mpeg" target= "http://example.com/path/to/audio/recording"/>
 </recording>
</performance>
```

A single performance may also be represented by multiple, *sequential* digital files, as when a complete work is recorded in several so-called 'takes'. In this case, the files may be considered to be parts of a single recording act, the extent of which is the combined extent of the individual clips. For example, a series of clip elements

may be used to identify each movement of a piece and give start and end times for the movements in relation to the overall temporal space of the complete work:

```
<performance>
 <recording>
   <clip begin= "00:00:00.00" betype= "time" end= "00:07:00.00" n= "mov1">
     <avFile mimetype= "audio/aiff" target= "movement01.aiff"/>
   </clip>
   <clip begin= "00:07:01.00" betype= "time" end= "00:12:03.00" n= "mov2">
     <avFile mimetype= "audio/aiff" target= "movement02.aiff"/>
   </clip>
 </recording>
</performance>
```

Similar markup is also applicable when a single file representing the entirety of a recording act is broken into segments later, as is often done for practical storage and distribution reasons. The file from which the clips are derived is indicated using an avFile element:

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" end= "00:12:03.00" n= "completeWork">
   <avFile mimetype= "audio/aiff" target= "completeWork.aiff"/>
   <clip begin= "00:00:00.00" betype= "time" end= "00:07:00.00" n= "mov1">
     <avFile mimetype= "audio/aiff" target= "movement01.aiff"/>
   </clip>
   <clip begin= "00:07:02.00" betype= "time" end= "00:12:03.00" n= "mov2">
     <avFile mimetype= "audio/aiff" target= "movement02.aiff"/>
   </clip>
 </recording>
</performance>
```

A clip may be used to define any region of interest, such as a cadenza or a modulation, a song verse, etc. The following example shows the use of clip and its attributes to identify significant sections of a recording:

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" end= "00:05:21.00">
   <!-- Exposition -->
   <clip begin= "00:00:00.00" betype= "time" end= "00:01:41.00"/>
   <!-- Development -->
   <clip begin= "00:01:41.00" betype= "time" end= "00:03:14.00"/>
   <!-- Recapitulation -->
   <clip begin= "00:03:14.00" betype= "time" end= "00:04:28.00"/>
   <!-- Coda -->
   <clip begin= "00:04:28.00" betype= "time" end= "00:05:21.00"/>
 </recording>
</performance>
```

The preceding example also demonstrates that media files are not required in order to define the temporal space of a recording act or clip. This makes it possible to set the boundaries of these features, then use the content of the performance element as a rudimentary "edit decision list" to create the matching digital files.

If an encoding of the notated text with which the media files are associated is included in the MEI file, the @startid attribute can be used to indicate the first element in the sequence of events to which the recording corresponds:

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" end= "00:07:00.00" n= "mov1" startid=
 "#performance.m1_1">
   <avFile mimetype= "audio/aiff" target= "fullpiece.aiff"/>
 </recording>
</performance>
<!-- ... -->
<body>
 <mdiv>
   <score>
     <section>
       <measure n= "1" xml:id= "performance.m1_1">
          <!-- ... -->
       </measure>
     </section>
   </score>
 </mdiv>
</body>
```

Clips can also be aligned with components of the musical text encoded in the body. The @startid attribute can be used to specify the starting element in the sequence of events to which the clip corresponds. The following example shows the use of of clip elements to identify the exposition of the first movement from Beethoven's piano sonata Op. 14, no. 2 and its concluding ‘codetta’.

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" end= "00:05:21.00">
   <avFile mimetype= "audio/aiff" target= "BeethovenOp14N2-Mov1.aiff"/>
   <!-- Exposition -->
   <clip begin= "00:00:0.00" betype= "time" end= "00:01:41.00" startid=
   "#performance.m1"/>
   <!-- Exposition's "codetta" -->
   <clip begin= "00:01:31.00" betype= "time" end= "00:01:41.00" startid=
   "#performance.m48"/>
 </recording>
</performance>
<!-- ... -->
<body>
 <mdiv>
   <score>
     <section>
       <measure n= "1" xml:id= "performance.m1">
```

```
            <!-- ... -->
        </measure>
        <!-- ... -->
        <measure n= "48" xml:id= "performance.m48">
            <!-- ... -->
        </measure>
    </section>
  </score>
 </mdiv>
</body>
```

Please note that the begin and end times of clips may overlap. In the preceding example, the extent of the codetta is contained within that of the exposition. Overlapping beginning and ending points may also be used to provide additional performance context for a segment or because there is uncertainty with regard to precise values for these points.

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" end= "00:03:06.54">
  <!-- a section of interest -->
  <clip begin= "00:00:00.00" betype= "time" end= "00:00:41.00"/>
  <!-- the following section starts a little before the end of the previous one to give
  some "adjustment" time -->
  <clip begin= "00:00:31.00" betype= "time" end= "00:01:07.00"/>
  <!-- the boundaries of the following section are "fuzzy" -->
  <clip begin= "00:02:18.00" betype= "time" end= "00:02:49.85"/>
 </recording>
</performance>
```

A bibliographic description of a recording or metadata explaining how clip boundaries were determined may be associated with the recording and clip elements via the @decls attribute:

```
<performance>
 <recording begin= "00:00:00.00" betype= "time" decls= "#performance.recBibDesc" end=
 "00:03:06.54">
  <!-- a section of interest -->
  <clip begin= "00:00:00.00" betype= "time" end= "00:00:41.00"/>
  <!-- the following section starts a little before the end of the previous one to give
  some "adjustment" time -->
  <clip begin= "00:00:31.00" betype= "time" decls= "#performance.clipDesc" end=
  "00:01:07.00"/>
  <!-- the boundaries of the following section are "fuzzy" -->
  <clip begin= "00:02:18.00" betype= "time" end= "00:02:49.85"/>
 </recording>
</performance>
```

Associations between a feature of the encoding, such as a note, dynamic mark, or annotation, and a time point, may be created using when elements and @when attributes.

The when element identifies a particular point in time during the playback of a media file, such as an audio recording.

```
<when absolute= "00:00:01.915291666" xml:id= "t1"/>
```

Time points may be identified in absolute terms as above; that is, in hours, minutes, and seconds since the beginning of the recording, or in relative terms using the @interval, @inttype, and @since attributes. In the following example, the time point of interest happens 48 frames after the occurrence of the point labelled as "t1".

```
<when interval= "48" inttype= "smpte-ndf29.97" since= "#t1" xml:id= "t1.1"/>
```

Having identified a point of interest, another feature of the encoding may be associated with this point using its @when attribute:

```
<annot plist= "#LvB" when= "#t1">
 <p>I like this part! </p>
</annot>
```

One use of the association created between the annotation and the time point is to display the text of the annotation as the recording or clip is played.

The @when attributes allows only a single value, so only one-to-one relationships can be created using this mechanism. However, one-to-many relationships are accommodated in the opposite direction; that is, from a time point to other features of the markup. For example,

```
<when absolute= "00:00:01.915291666" data= "#feature1 #feature2 #feature3" xml:id=
"t1.2"/>
```

indicates that the entities identified in @data all occur at the same instant.

19 Pointers and References

This chapter describes the use of elements for linking and referencing.

19.1 Links

An element is a 'link' when it has an attribute whose value is a reference to the ID of one or more other elements. The links discussed in this chapter are the ptr and the ref elements. These elements indicate an association between themselves (or one of their ancestors) and one or more other entities, either inside the same document or elsewhere. An association between two elements in the same document is said to be an 'internal' link, while an association that involves an entity outside the current document is called an 'external' link. However, either element can be used for either purpose.

The two elements share a set of common attributes that are inherited from the att.pointing class:

@target - allows the use of one or more previously-undeclared URIs to identify an external electronic object.

@targettype - in contrast with the role attribute, allows the target resource to be characterized using any convenient classification scheme or typology.

@xlink:actuate - defines whether a link occurs automatically or must be requested by the user.

@xlink:show - defines how a remote resource is rendered.

@xlink:title - contains a human-readable description of the entire link.

@xlink:role - indicates a property of the entire link. The value of the role attribute must be a URI.

The @target attribute specifies the destination of a pointer or reference using a method standardized by the W3C consortium, known as the XPointer mechanism. The XPointer framework is described at http://www.w3.org/TR/xptr-framework/. This mechanism permits a range of complexity, from the very simple (a reference to the value of the target element's @xml:id attribute) to the more complex usage of a full URI with embedded XPointers:

```
<!-- element ID -->
<ptr target= "#SA"/>
```

```
<!-- relative URL -->
<ptr target= "myFile.xml"/>
```

```
<!-- absolute URL -->
<ptr target= "http://www.w3.org/TR/xptr-framework/"/>
```

```
<!-- URL with fragment identifier -->
<ptr target= "http://www.w3.org/TR/xptr-xpointer/#xpointer(id('chum')/quote)"/>
```

```
<!-- URN -->
<ref target= "urn:isan:0000-0000-9E59-0000-O-0000-0000-2"> Spider-Man </ref>
```

The @targettype attribute allows the target resource to be characterized using any convenient classification scheme or typology. This is often useful when the target requires special processing, e.g., for display purposes. The pointers in the examples below may be formatted differently, e.g., the bibliographic citation may result in special typography while the pointer to the audio file may be used to embed an audio player:

```
<ptr target= "#cit1" targettype= "biblioCitation"/>
```

```
<ptr target= "http://path.to.resource/myAudio.aiff" targettype= "audioClip"/>
```

The @xlink:actuate and @xlink:show attributes are used in conjunction to determine the link's behavior. The attribute @xlink:actuate defines whether the resolution of a link occurs automatically or must be requested by the user.

The following values are allowed for the @xlink:actuate attribute:

'onLoad' - load the target resource immediately

'onRequest' - load the target resource upon user request, e.g., after a mouse click

'other' - traversal behavior is unconstrained; application should look for other markup to determine appropriate behavior

'none' - traversal behavior is unconstrained; no other markup is provided to determine appropriate behavior

The value "none" may be used to indicate that the link is un-traversable; it may or may not render the link invisible to the user. When the value of @xlink:actuate is "other", an application must base a determination of appropriate behavior on factors other than the value of @xlink:actuate.

The @show attribute defines how a remote resource is to be rendered. The following values are permitted:

'new' - target of the link appears in a new window

'replace' - target of the link replaces the current resource

'embed' - the content of the target appears at the point of the link

'other' - traversal behavior is unconstrained; application should look for other markup to determine appropriate behavior

'none' - traversal behavior is unconstrained; no other markup is provided to determine appropriate behavior

When the value of @xlink:show is "other", an application must base a determination of appropriate behavior on factors other than the value of @xlink:show. The value "none" may be used to indicate a link that is not displayed or is not displayable.

The following example illustrates a pointer that results in the automatic creation of a new window with the content of the target loaded in it:

```
<ptr mimetype= "text" target= "http://www.ietf.org/rfc/rfc2046.txt" xlink:actuate=
"onLoad" xlink:show= "new"/>
```

The @xlink:title and @xlink:role attributes describe the meaning of resources within the context of a link. The @xlink:title attribute is used to label or describe a link or resource in a human-readable fashion. The value here is highly dependent on the kind of processing being done. It may be used, for example, to make link titles available to applications used by visually impaired users, or to create a table of links, or to present help text that appears when a user's mouse hovers over the link.

```
<ptr target= "http://www.music-encoding.org" xlink:title= "hompage of the MEI Project"/>
```

The attribute @ xlink:role serves a similar function to that of @xlink:title. Whereas the value of @xlink:title may be any string, the value of @xlink:role must be an absolute URI reference as defined in IETF RFC 3986, available at http://tools.ietf.org/html/rfc3986. The URI reference identifies a resource that describes the intended property. When no value is supplied, no particular role value is to be inferred.

```
<ptr target= "joe.xml" xlink:role= "http://www.example.com/linkprops/student"
xlink:title= "Click here"/>
```

```
<ptr target= "joe.xml" xlink:role= "http://www.example.com/linkprops/instructor"
xlink:title= "Click here"/>
```

In the preceding example, the value of the @xlink:role attribute may be used to re-write the value of @xlink:title, depending on the target resource role.

In addition to the attributes in the att.pointing class, the @mimetype attribute is also available on ptr and ref. The function of the @mimetype attribute is similar to that of @targettype in that they both allow classification of the destination. Unlike @targettype, however, @mimetype explicitly defines the destination type using a standard taxonomy. Its value should be a valid MIME (Multimedia Internet Mail Extension) type defined by the Internet Engineering Task Force in RFC 2046, available at http://www.ietf.org/rfc/rfc2046.txt. The following are all valid mimetype values:

```
<ptr mimetype= "application/pdf" target= "my.pdf"/>
<ptr mimetype= "text/xml" target= "my.xml"/>
<ptr mimetype= "image/png" target= "my.png"/>
```

The @mimetype attribute is particularly useful for documenting the nature of the destination when the value of @target does not provide a filename extension or when the destination is a non-standard file type:

```
<ptr mimetype= "application/pdf" target= "myFile1"/>
<ptr mimetype= "application/x-myApplicationSpecificFile" target= "myFile2"/>
```

19.1.1 Difference between Pointers and References

The ptr element is an empty linking element that uses only attributes to provide for movement from one place to another. Unlike the ref element, it cannot contain text or sub-elements to describe the referenced object. Its primary function is simply to point to another location. The next example shows targets that are page numbers; or more precisely, the targets are page break elements bearing these identifiers:

```
<list>
 <li>
   <!-- item description -->
   <ptr target= "#p123"/>
 </li>
 <li>
   <!-- item description -->
   <ptr target= "#p124"/>
 </li>
</list>
```

As shown above, the ptr element can be used to 'point to' a digital image. However, when the intention is to *display* a digital image as part of the rendering of an MEI file, the graphic element provides a convenient and recommended alternative:

```
<graphic mimetype= "image/png" target= "myPic.png"/>
```

While ptr cannot contain other markup, the ref element can include text and sub-elements that name or describe the destination:

```
<repository>
 <ref target= "http://path.to.target/repo1.xml">
   <title>... </title>
   <address>
     <addrLine/>
   </address>
   <identifier>... </identifier>
```

```
 </ref>
</repository>
```

The @target attribute is not required in order to mark the textual content as a cross-reference, as demonstrated in the example below; however, without this attribute the reference will not be resolvable.

```
<p>See
 <ref>Hankinson, Roland, Fujinaga (2011) </ref>
. </p>
```

20 Tablature Notation

This chapter describes the attribute classes that are part of the MEI.tablature module.

20.1 Overview of the Tablature Module

The tablature module is used to record basic tablature notation. It is designed primarily for guitar and similar plucked-string instruments.

The @lines attribute on the staffDef element is used to define the number of lines, courses, or strings, present in the tablature. The @tab.strings attribute is then used to enumerate the pitches of the open strings. It is important to note that this is given using the written pitch, not the sounding pitch. For example, the Western 6-string guitar, in standard tuning, sounds an octave below written pitch.

The @tab.strings attribute gives the string tuning, ordered from highest to lowest pitch.

For standard guitar tuning, the staffDef element might look like this:

```
<staffDef lines= "6" n= "1" tab.strings= "e5 b4 g4 d4 a3 e3"/>
```

Chromatic alteration of the open string's pitch may be indicated with the '-' or 'f' (flat), or the '#' or 's' (sharp). Multiple sharps and flats are not permitted.

A guitar in E-flat tuning might look like this:

```
<staffDef lines= "6" n= "1" tab.strings= "ef5 bf4 gf4 df4 af3 ef3"/>
```

Some instruments, like the 12-string guitar, have the four lowest strings tuned an octave above but are still written on a 6-line tablature staff. In this case, you may enumerate the open string pitches while maintaining 6 lines.

```
<staffDef lines= "6" n= "1" tab.strings= "e4 e3 a4 a3 d4 d3 g5 g4 b4 b4 e5 e5"/>
```

The note element is used to capture the specific events in the tablature. The @tab.string attribute is used to capture which string the note is to be played on. String order is the same as that given in the @tab.strings attribute. This attribute takes a positive integer in the range of 1-9.

```
<note dur= "4" oct= "3" pname= "a" tab.string= "3"/>
```

In the case of fretted instruments, the fret number may be captured using the @tab.fret attribute. An open string may be indicated using the value "0" (zero).

```
<layer>
 <note dur= "4" oct= "2" pname= "a" tab.fret= "5" tab.string= "6"/>
 <note dur= "4" oct= "2" pname= "a" tab.fret= "0" tab.string= "5"/>
</layer>
```

21 Text in MEI

This chapter describes methods for encoding textual content with MEI. Textual information on scores has several different uses, although some text is closer to music notation than other kinds. For example, tempo marks, directives and lyrics are directly related to the functionality of the notated music and are, therefore, described in other chapters (see for example 15 Vocal Text and 1.2.5.1 Text Directives). This chapter, on the other hand, focuses on the text that accompanies the score, i.e., paratext (prefatory material, title pages, back matter, appendices, etc.), titles, prose, poetry, etc.

Most of the elements described here take inspiration from encoding formats that deal primarily with text, such as HTML and the Text Encoding Initiative (TEI). These elements are provided to encode relatively basic textual information. For deeper encoding of text, these Guidelines recommend consideration of other text-specific encoding formats with embedded MEI markup.

21.1 Organizing Text into Divisions

Text can be organized in different parts, for example in chapters or sections. The div element is used to encode such structural divisions.

** ** (division) – Major structural division of text, such as a preface, chapter or section.

@type Characterizes the element in some sense, using any convenient classification scheme or typology.

@subtype Provide any sub-classification for the element, additional to that given by its type attribute.

For example, printed scores, before the actual notation, can have text that can be organized in multiple sections (e.g. a preface, a critical report, performance instructions, etc. for which see the following sections); each of these sections should be identified by a different div element. Text might also occur in between music sections (see 1.1.2.3 Content of Musical Divisions), for example in a collection of romantic piano works, a few pieces might be preceded or followed by poetry. Such text should be encoded with the div element, as demonstrated in the following example:

```
<mdiv>
 <score>
   <section>
     <!-- Score of Franz Liszt's "Sonetto 104 del Petrarca -->
   </section>
   <div>
     <!-- Text of Francesco Petrarca's Sonett n. 104. -->
     <lg>
        <l>L'aspectata vertù, che 'n voi fioriva </l>
        <l>quando Amor cominciò darvi bataglia, </l>
        <!-- ... -->
     </lg>
   </div>
 </score>
</mdiv>
```

Textual divisions may have titles or other forms of introductory material, which are encoded with the head element.

<head> (heading) – Contains any heading, for example, the title of a section of text, or the heading of a list.

The following example shows the encoding of a preface translated into three different languages, each with a different heading:

```
<front>
```

```
 <div xml:lang= "en">
   <head>Preface </head>
   <!-- text -->
 </div>
 <div xml:lang= "de">
   <head>Vorwort </head>
   <!-- text -->
 </div>
 <div xml:lang= "it">
   <head>Prefazione </head>
   <!-- text -->
 </div>
</front>
```

Having said that div identifies any structural organization of text, it is often helpful to distinguish the typology of division. The attributes @type and @subtype can be used for this purpose. It is required that @type be present when @subtype is used, though their values can be freely set by the encoder.

The following example shows the use of @type to indicate three prefaces in English, German and Italian are columns on the same page.

```
<front>
 <div n= "1" type= "column" xml:lang= "en">
   <head>Preface </head>
   <!-- text -->
 </div>
 <div n= "2" type= "column" xml:lang= "de">
   <head>Vorwort </head>
   <!-- text -->
 </div>
 <div n= "3" type= "column" xml:lang= "it">
   <head>Prefazione </head>
   <!-- text -->
 </div>
 <pb/>
</front>
```

21.2 Paragraphs

Paragraphs are fundamental to prose text and typically group one or more sentences that form a logical passage. A paragraph is usually typographically distinct: The text begins on a new line and the first letter of the content is often indented, enlarged, or both.

A paragraph is encoded with the p element:

> **<p>** (paragraph) – One or more text phrases that form a logical prose passage.

Prose text is used for several different purposes within a MEI document, therefore p can occur in many situations. For example, it may be used within metadata elements (see 2 The MEI Header):

```
<samplingDecl>
 <p>The encoding contains only the first 5 measures. </p>
</samplingDecl>
```

Alternatively, paragraphs may be part of the document contents (and therefore encoded within music), either as paratextual material or within the music notation. In these cases, a paragraph will likely be contained by a div or other elements containing prose (e.g. annot, figDesc, etc.).

The following example shows a paragraph in a preface section:

```
<front>
 <div>
  <head>The Preludes
   <lb/>
  Symphonic Poem No.3 by F. Liszt. </head>
  <p>What else is our life but a series of preludes to that unknown Hymn, the first and
  solemn note of which is intoned by Death? </p>
 </div>
</front>
```

21.3 Lists

When a text contains lists, they can be encoded with the following elements:

<list> A formatting element that contains a series of items separated from one another and arranged in a linear, often vertical, sequence.

@type Captures the nature of the content of a list.
@subtype

<head> (heading) – Contains any heading, for example, the title of a section of text, or the heading of a list.

<item> Single instance or exemplar of a source/manifestation.

The list element can identify any kind of list; the @form attribute can be used to specify whether the list is ordered, unordered etc. Each item in the list is encoded with the li element. The @n can be used to record a label for a list item, as in the following example:

```
<p>The modulation follows the following steps:
 <list form= "ordered">
   <li n= "1"> C major </li>
   <li n= "2"> A minor </li>
   <li n= "3"> D major seventh </li>
   <li n= "4"> G major </li>
 </list>
</p>
```

Occasionally, lists have headers or titles, which can be encoded with head:

```
<list>
 <head>Ornaments in different languages </head>
 <li n= "English" xml:lang= "en"> Turn </li>
 <li n= "Italian" xml:lang= "it"> Gruppetto </li>
 <li n= "French" xml:lang= "fr"> Gruppetto </li>
 <li n= "German" xml:lang= "de"> Doppelschlag </li>
</list>
```

21.4 Quotation

It is common, in many types of texts, to find quotations. A quotation is typically attributed to another text other than the one being encoded. Often, the quoted material is typographically distinct from the surrounding text; i.e., surrounded by so-called 'quote marks' or rendered as a separate block of text. The quote element is used to mark this function:

> **<quote>** (block quote) – A formatting element that designates an extended quotation; that is, a passage attributed to a source external to the text and normally set off from the text by spacing or other typographic distinction.

The following examples show the use of quote.

```
<p>Hugh MacDonald has argued that Liszt's Symphonic Poems were meant to
 <quote>display the traditional logic of symphonic thought </quote>
. </p>
```

```
<p>The majority of the works represented in this catalogue were purchased in Paris and
London between 1928 and 1934. After graduating from Harvard in 1924, Mackay-Smith spent
several years in Europe:
 <quote>
   <p>I bought my first early music from Harold Reeves in London in the summer of 1928
   when I was able to acquire virtually all the 18th century editions, particularly of
   trio music, which he then had in stock, going back not only through his current but
   also through earlier catalogues, picking out numbers which remained unsold. It is
   almost a shame today to think of the prices at which such things were then available,
   one or two pounds apiece. </p>
 </quote>
</p>
```

21.5 Poetry

This lg (line group) element is used generically to encode any section of text that is organized as a group of lines. Following the recommendations of the Text Encoding Initiative, it is recommended to use it, along with the following elements, for marking up poetry:

<lg> (line group) – May be used for any section of text that is organized as a group of lines; however, it is most often used for a group of verse lines functioning as a formal unit, e.g. a stanza, refrain, verse paragraph, etc.

<head> (heading) – Contains any heading, for example, the title of a section of text, or the heading of a list.

<l> (line of text) – Contains a single line of text within a line group.

Because lg groups verses, it can be used to encode additional stanzas not integrated into the music notation. In addition, it is common for a poem to include a title or a header, as is demonstrated by the following example:

```
<mdiv>
 <score>
   <section>
     <!-- Score of Franz Liszt's "Sonetto 104 del Petrarca" -->
   </section>
   <div>
     <!-- Text of Francesco Petrarca's Sonett n. 104. -->
     <lg>
        <head>Sonetto 104 </head>
        <l>L'aspectata vertù, che 'n voi fioriva </l>
        <l>quando Amor cominciò darvi bataglia, </l>
        <l>produce or frutto, che quel fiore aguaglia, </l>
        <l>et che mia speme fa venire a riva. </l>
        <!-- ... -->
     </lg>
   </div>
 </score>
</mdiv>
```

21.6 Paratext

This section introduces paratextual material, such as title pages, prefaces, indexes and other text that precedes or follows the actual score.

21.6.1 Front Matter

By 'front matter' these Guidelines mean distinct sections of a text (usually, but not necessarily, a printed one), prefixed to it by way of introduction or identification as a part of its production. Features such as title pages or prefaces are clear examples; a less definite case might be the prologue attached to a dramatic work. The front matter of an encoded text should not be confused with the MEI header described in chapter 2 The MEI Header, which provides metadata for the entire file.

An encoder may choose simply to ignore the front matter in a text, if the original presentation of the work is of no interest. No specific tags are provided for the various kinds of subdivision which may appear within front matter: instead, generic div ("division") elements may be used, which should not be confused with mdiv ("musical division") elements. The following suggested values for the @type attribute may be used to distinguish various kinds of division characteristic of front matter:

'preface' – A foreword or preface addressed to the reader in which the author or publisher explains the content, purpose, or origin of the text.

'ack' – A formal declaration of acknowledgement by the author in which persons and institutions are thanked for their part in the creation of a text.

'dedication' – A formal offering or dedication of a text to one or more persons or institutions by the author.

'abstract' – A summary of the content of a text as continuous prose.

'contents' – A table of contents, specifying the structure of a work and listing its constituents. The list element should be used to mark its structure.

'frontispiece' – A pictorial frontispiece, possibly including some text.

The following extended example demonstrates how various parts of the front matter of a text may be encoded. The front part begins with a title page, which is presented in section 21.6.2 Title Pages, below. This is followed by a dedication and a preface, each of which is encoded as a distinct div:

```
<front>
 <titlePage>
  <!-- transcription of title page -->
 </titlePage>
 <div type= "dedication">
  <p>
```

```
    <!-- Dedicatory text -->
  </p>
 </div>
 <div type= "preface">
  <head>Preface </head>
  <p>
    <!-- paragraph 1 -->
  </p>
  <p>
    <!-- paragraph 2 -->
  </p>
  <!-- additional material -->
 </div>
</front>
```

The front matter concludes with another div element, shown in the next example, this time containing a table of contents, which contains a list element (as described in chapter 21.3 Lists). Note the use of the ptr element to provide page-references: the implication here is that the target identifiers (song1, song2, etc.) will correspond with identifiers used for the mdiv elements containing the individual songs. (For a description of the ptr element, see chapter 19 Pointers and References.)

```
<div type= "contents">
 <head>Contents </head>
 <list form= "ordered">
  <li>On Wenlock Edge
    <ptr target= "#song1"/>
  </li>
  <li>From Far, From Eve and Morning
    <ptr target= "#song2"/>
  </li>
  <li>Is My Team Ploughing?
    <ptr target= "#song3"/>
  </li>
  <li>Oh, When I Was In Love With You
    <ptr target= "#song4"/>
  </li>
  <li>Bredon Hill
    <ptr target= "#song5"/>
  </li>
  <li>Clun
    <ptr target= "#song6"/>
  </li>
 </list>
</div>
```

Alternatively, the pointers in the table of contents might link to the page breaks at which a song begins, assuming that these have been included in the markup:

```
<list form= "ordered">
 <li>On Wenlock Edge
   <ref target= "#song1-p1"> 1 </ref>
 </li>
 <li>From Far, From Eve and Morning
   <ref target= "#song2-p15"> 15 </ref>
 </li>
 <!-- .... -->
</list>
<!-- Later in the document -->
<mdiv type= "song">
 <pb xml:id= "song1-p1"/>
 <!-- .... -->
</mdiv>
<mdiv type= "song">
 <pb xml:id= "song2-p15"/>
 <!-- .... -->
</mdiv>
<!-- .... -->
```

21.6.2 Title Pages

Detailed analysis of the title page and other preliminaries of older printed books and manuscripts is of major importance in descriptive bibliography and the cataloging of printed books; such analysis, however, requires a more detailed approach than the general one described here. The following elements are suggested as a means of encoding the major features of most title pages for faithful rendition:

<titlePage> Contains a transcription of the title page of a text.

<p> (paragraph) – One or more text phrases that form a logical prose passage.

<table> Contains text displayed in tabular form.

<list> A formatting element that contains a series of items separated from one another and arranged in a linear, often vertical, sequence.

<quote> (block quote) – A formatting element that designates an extended quotation; that is, a passage attributed to a source external to the text and normally set off from the text by spacing or other typographic distinction.

<lg> (line group) – May be used for any section of text that is organized as a group of lines; however, it is most often used for a group of verse lines functioning as a formal unit, e.g. a stanza, refrain, verse paragraph, etc.

The following example shows the encoding of the title page of Vaughan Williams' *On Wenlock Edge* . Note the use of the lb element to mark the line breaks present in the original.

```
<titlePage>
 <p>ON WENLOCK EDGE </p>
```

```
<p>A CYCLE OF SIX SONGS
  <lb/>
FOR TENOR VOICE ___ WITH ACCOMPANIMENT OF
  <lb/>
Pianoforte and String Quartet (ad lib)
  <lb/>
THE WORDS BY A. E. HOUSMAN
  <lb/>
(FROM "A SHROPSHIRE LAD") </p>
<p>
  <fig/>
</p>
<p>MUSIC BY
  <lb/>
R. VAUGHAN
  <lb/>
WILLIAMS </p>
<list>
  <li>PRICE $3.75 </li>
  <li>(COMPLETE WITH SET OF STRING PARTS $5.00 </li>
  <li>STRING PARTS SEPARATELY $1.00 </li>
</list>
<p>Boosey & Hawkes, Inc. </p>
<p>New York, U.S.A. </p>
<p>London · Toronto · Sydney · Capetown </p>
</titlePage>
```

The physical rendition of title page information is often of considerable importance. One approach to this requirement would be to use the rend element, described in chapter 1.3.2 Text Rendition to specify the rendition of each of the components of the title page. Another would be to employ a CSS stylesheet. Finally, a module customized for the description of typographic entities such as pages, lines, rules, etc., bearing special-purpose attributes to describe line-height, leading, degree of kerning, font, etc. could be employed.

21.7 Back Matter

Conventions vary as to which elements are grouped as back matter and which as front. For example, some books place the table of contents at the front, and others at the back. For this reason, the content models of the front and back elements are identical.

The following suggested values may be used for the @type attribute on all division elements, in order to distinguish various kinds of divisions characteristic of back matter:

'appendix' – An ancillary self-contained section of a work, often providing additional but in some sense extra-canonical text.

'glossary' – A list of terms associated with definition texts ('glosses').

'notes' – A section in which textual notes are gathered together.

'bibliography' – A list of bibliographic citations.

'index' – Any form of index to the work.

'colophon' – A statement appearing at the end of a book describing the conditions of its physical production.

No additional elements are proposed for the encoding of back matter at present. Some characteristic examples follow; first, an index (for the case in which a printed index is of sufficient interest to merit transcription):

```
<back>
 <div type= "index">
   <head>Index </head>
   <list type= "index">
     <li>a2, a3, etc., 175–176 </li>
     <li>Abbreviations, 3
        <list type= "index">
           <li>Percussion, 205–213 </li>
           <li>Strings, 307 </li>
        </list>
     </li>
     <li>Afterbeats, 77 </li>
   </list>
 </div>
</back>
```

Note that if the page breaks in the original source have also been explicitly encoded, and given identifiers, the references to them in the above index can more usefully be recorded as links. For example, assuming that the encoding of page 77 of the original source starts like this:

```
<pb xml:id= "text.P77"/>
```

then the last item above might be encoded more usefully in the following form:

```
<li>Afterbeats,
 <ref target= "#text.P77"> 77 </ref>
</li>
```

22 User-defined Symbols

This chapter describes the elements, model classes, and attribute classes that are part of the MEI.usersymbols module.

22.1 Overview of the User Symbols Module

The module described in this chapter makes available the following components:

22.1.1 Elements

<anchoredText> Container for text that is fixed to a particular page location, regardless of changes made to the layout of the measures around it.

<curve> A curved line that cannot be represented by a more specific element, such as a slur.

<line> A visual line that cannot be represented by a more specific; i.e., semantic, element.

<symbol> A reference to a previously defined symbol.

<symbolDef> (symbol definition) – Declaration of an individual symbol in a symbolTable.

<symbolTable> Contains a set of user-defined symbols.

22.1.2 Attribute Classes

No attribute classes are defined in this module.

22.1.3 Model Classes

The usersymbols module defines the following model classes:

model.graphicprimitiveLike Groups elements that function as drawing primitives.

model.symbolTableLike Groups elements that group symbol definitions.

22.2 Uses of the Usersymbols Module

The elements provided by the usersymbols module may be used in two ways:

1. For defining lines, curves and text elements that cannot be represented by a more specific element.
2. For defining reusable symbols and special graphical renditions.

For this purpose, it provides three elements as graphic primitives, line, curve and anchoredText. Anywhere these elements are allowed, the symbol element can be used as well. The symbol element facilitates the re-use of symbols that were defined by symbolDef elements.

22.2.1 Defining Reusable Symbols

The symbolDef element uses SVG markup or the aforementioned graphic primitives to describe a symbol. A symbol definition may also use symbols defined by other symbolDef elements by employing the symbol element.

```
<symbolDef xml:id= "userSymbols.triangleSymbol3">
 <line x= "0" x2= "2.55" y= "0" y2= "4.25"/>
 <line x= "2.55" x2= "5.1" y= "4.25" y2= "0"/>
 <line x= "5.1" x2= "0.85" y= "0" y2= "0"/>
</symbolDef>
```

Listing 1. Definition of a triangle percussion symbol using graphic primitives

Figure 53. Rendition of the triangle defined above

```
<symbolDef xml:id= "userSymbols.triangleSymbolWithStick">
 <symbol ref= "#userSymbols.triangleSymbol3"/>
 <line x= "2.55" x2= "5.95" y= "1.25" y2= "3.4"/>
</symbolDef>
```

Listing 2. Symbol composed of the symbol defined above and additional graphics primitives

Figure 54. Rendition of the composite triangle symbol

22.2.2 Elements Without Semantic Implications

The graphics primitives and symbols can be used directly in the music to describe text and lines on a purely graphical level, without implying a specific logical meaning. If possible, however, more meaningful elements should be used. This means for example, "a tempo" or "da capo" should in general not be put inside anchoredText. Instead, tempo and dir should be used. Likewise, slurs and ties should be encoded using their respective elements, not using curve, and for glissandi, gliss should be used instead of line.

An example usage for line is the visualization of voice leading, which is not covered by a specific MEI element.

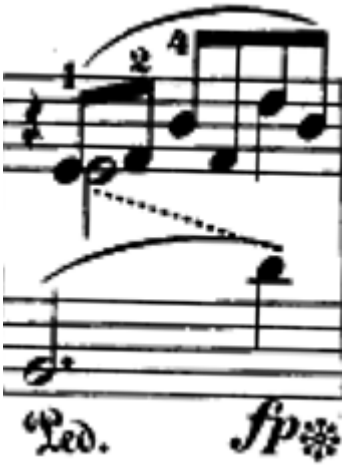


Figure 55. Voice leading visualization as found in an Edition Peters print of Album für die Jugend by Schumann, No. 35 (Mignon), measure 6. (Unknown date, plate number is 10478.)

```
<measure n= "6">
 <staff n= "1">
  <layer n= "1">
    <rest dur= "4" xml:id= "userSymbols.r1"/>
    <beam>
       <note dur= "8" oct= "4" pname= "c" xml:id= "userSymbols.n1"/>
       <note dur= "8" oct= "4" pname= "e" xml:id= "userSymbols.n2"/>
    </beam>
    <beam>
       <note dur= "8" oct= "4" pname= "g" xml:id= "userSymbols.n3"/>
       <note dur= "8" oct= "4" pname= "e" xml:id= "userSymbols.n4"/>
       <note dur= "8" oct= "4" pname= "b" xml:id= "userSymbols.n5"/>
       <note dur= "8" oct= "4" pname= "g" xml:id= "userSymbols.n6"/>
    </beam>
    <slur curvedir= "above" endid= "#userSymbols.n6" startid= "#userSymbols.n1"/>
  </layer>
  <layer n= "2">
    <rest dur= "4"/>
    <note dur= "2" next= "#userSymbols.n9" oct= "4" pname= "c" stem.dir= "down" xml:id=
    "userSymbols.n7"/>
```

```
    </layer>
  </staff>
  <staff n= "2">
    <layer n= "1">
      <note dots= "1" dur= "2" oct= "2" pname= "g" xml:id= "userSymbols.n8"/>
      <note dur= "4" oct= "3" pname= "b" prev= "#userSymbols.n7 #userSymbols.n8" xml:id=
      "userSymbols.n9"/>
      <slur curvedir= "above" endid= "#userSymbols.n9" startid= "#userSymbols.n8"/>
    </layer>
  </staff>
  <line endid= "#userSymbols.n9" rend= "dotted" startid= "#userSymbols.n7"/>
</measure>
```

Listing 3. Encoding of the Schumann example

22.2.3 Defining a Specific Graphical Rendition for a Semantic Element

Usersymbols can define the rendition of different elements in two ways. Some elements, for example dir and tempo, can have user symbol elements as content. In the following example, the content of dir is used to provide pictograms of percussion instruments.

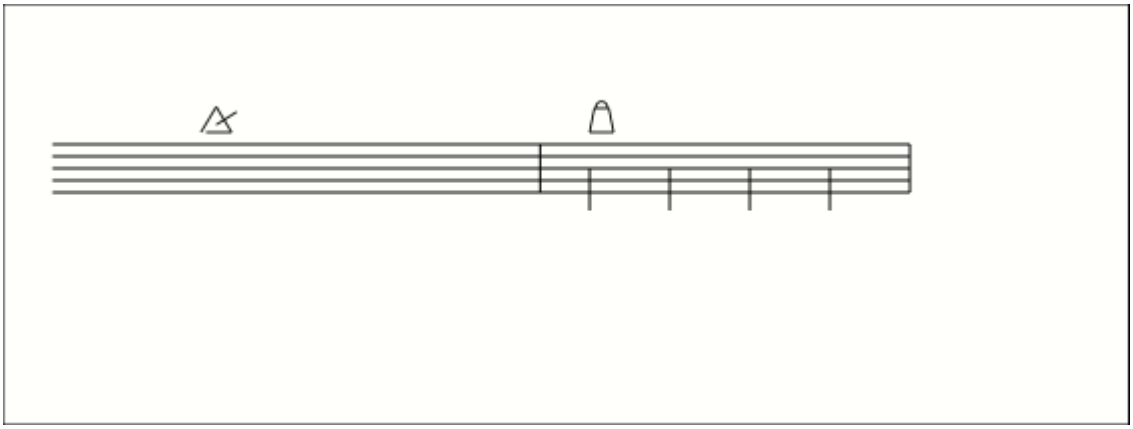


Figure 56. Indicating percussion instruments using pictograms

```
<section>
  <scoreDef meter.count= "4" meter.unit= "4">
    <symbolTable>
      <symbolDef xml:id= "userSymbols.triangleSymbol1">
        <line x= "0" x2= "2.55" y= "0" y2= "4.25"/>
        <line x= "2.55" x2= "5.1" y= "4.25" y2= "0"/>
        <line x= "5.1" x2= "0.85" y= "0" y2= "0"/>
        <line x= "2.55" x2= "5.95" y= "1.25" y2= "3.4"/>
      </symbolDef>
      <symbolDef xml:id= "userSymbols.cowbellSymbol">
        <line x= "1" x2= "1.8" y= "0" y2= "4"/>
```

```
        <line x= "1.8" x2= "4.2" y= "4" y2= "4"/>
        <line x= "4.2" x2= "5" y= "4" y2= "0"/>
        <line x= "5" x2= "1" y= "0" y2= "0"/>
        <curve bezier= "0 1.5 0 1.5" endho= "3" endvo= "4" startho= "1" startvo= "4"/>
      </symbolDef>
    </symbolTable>
    <staffGrp>
      <staffDef clef.line= "2" clef.shape= "G" n= "1"/>
    </staffGrp>
  </scoreDef>
  <measure n= "1">
    <staffDef n= "1">
      <instrDef midi.instrname= "Open_Triangle"/>
    </staffDef>
    <staff n= "1">
      <layer>
        <dir tstamp= "1">
           <symbol ref= "#userSymbols.triangleSymbol2"/>
        </dir>
        <note dur= "1"/>
      </layer>
    </staff>
  </measure>
  <measure n= "2">
    <staffDef n= "1">
      <instrDef midi.instrname= "Cowbell"/>
    </staffDef>
    <staff n= "1">
      <layer>
        <dir tstamp= "1">
           <symbol ref= "#userSymbols.cowbellSymbol"/>
        </dir>
        <note dur= "4"/>
        <note dur= "4"/>
        <note dur= "4"/>
        <note dur= "4"/>
      </layer>
    </staff>
  </measure>
</section>
```

Listing 4. Encoding of above example

A number of elements can point to an internally-defined symbol for rendering using the @altsym attribute.

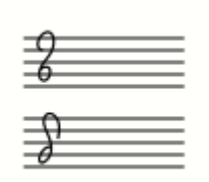


Figure 57. Different treble clef renditions as written by Charpentier (source: Journal of Seventeenth-Century Music, Volume 12, No. 1 (2006) , figure 3)

```
<scoreDef>
 <symbolTable>
   <symbolDef xml:id= "userSymbols.clefA">
     <curve bezier= "-1.2 0.1 -0.9 -0.8" endho= "1.1" endvo= "6.6" startho= "1.2"
     startvo= " 4 "/>
     <curve bezier= "1 0.9 0.1 1.6" endho= "3" endvo= "5.3" startho= "1.1" startvo= "
     6.6 "/>
     <curve bezier= "-0.1 -2.6 0 2.3" endho= "0.6" endvo= "-0.1" startho= "3 " startvo=
     " 5.3 "/>
     <curve bezier= "0.07 -1.3 -0.2 -1.63" endho= "2.4" endvo= "0.23" startho= "0.6"
     startvo= "-0.1 "/>
     <curve bezier= "0.2 1.3 0.5 0.62" endho= "0.8" endvo= "0.81" startho= "2.4"
     startvo= " 0.23"/>
   </symbolDef>
   <symbolDef xml:id= "userSymbols.clefB">
     <curve bezier= "-0.7 0.1 0.3 0.92" endho= "0.7" endvo= "-0.2" startho= "2.5"
     startvo= " 1.3 "/>
     <curve bezier= "-0.27 -0.76 -1.25 -1.26" endho= "2" endvo= "-0.74" startho= "0.7"
     startvo= "-0.2 "/>
     <curve bezier= "1.4 1.8 0.4 -1" endho= "1.6" endvo= "4.36" startho= "2 " startvo=
     "-0.74"/>
     <curve bezier= "-0.89 2.2 -1.1 1.6" endho= "3.5" endvo= "6.06" startho= "1.6"
     startvo= " 4.36"/>
     <curve bezier= "0.8 -1.2 0 0" endho= "3.7" endvo= "2.66" startho= "3.5" startvo= "
     6.06"/>
   </symbolDef>
 </symbolTable>
 <staffGrp>
   <staffDef n= "1">
     <clef altsym= "#userSymbols.clefA" line= "2" shape= "G"/>
   </staffDef>
   <staffDef n= "2">
     <clef altsym= "#userSymbols.clefB" line= "2" shape= "G"/>
   </staffDef>
 </staffGrp>
</scoreDef>
```

Listing 5. Defining two staffs, each using its own treble clef shape

Externally-defined symbols may be referenced using a @glyphname or @glyphnum attribute. Both attributes refer to Standard Music Font Layout (SMuFL) characters. Other character sets must be treated as internally-defined character sets.

```
<meterSig count= "2" form= "norm" glyphname= "timeSigCutCommon" glyphnum= "U+E08B" sym=
"cut" unit= "4"/>
```

Listing 6. Use of glyphname and glyphnum attributes

22.3 Positioning and Coordinates

22.3.1 Axis Orientation

MEI uses the classic axis directions where the x-axis points from left to right and the y-axis points from bottom up. (This is compatible with PostScript's axis orientation, while SVG's y-axis points in the opposite direction.)

22.3.2 Units

There are two types of units used by MEI: Staff units (data.MEASUREMENT) and units of the output coordinate system. Units of the output coordinate system can be translated to physical real world distances by means of the @vu.height and @page.scale of a scoreDef element. Real world units are multiplied by the value of @page.scale to get the corresponding value in output coordinate units.

If an element is scaled using the @scale attribute, the actual size of the units changes accordingly.

22.3.3 Positioning

An element may be positioned using either absolute or relative coordinates. If absolute start point coordinates are specified using @x/ @y coordinates (or their relatives @x2/ @y2 for endpoints) they take precedence over relative positions specified by @ho/ @vo/ @to (or @startho/ @startvo/ @startto). Analogously, @x2/ @y2 override @endho @endvo/ @endto.

If @to/ @startto/ @endto attributes are used, the start or end point is x-aligned with the indicated timestamp.

If relative start coordinates (@ho/ @vo or @startho/ @startvo) are used, the origin of the coordinate system to be used for the start point is the first one found by the following search schema:

1. If @startid is present, the origin of the referenced element;
2. If the element is inside running text (e.g. inside tempo), the end of the preceding text or element;
3. Otherwise, the origin of the containing element.

The start point is offset from this origin by the value of the start coordinates (@ho/ @vo or @startho/ @startvo), using staff units.

Analogously, the endpoint is determined using end coordinates (@endho/ @endvo). If @endid is specified, it takes precedence over @startid.

Examples of origins are:

- staff and layer: The horizontal origin is the starting point of the measure, the vertical one is the bottom staff line;

- note: The horizontal origin is the left end of the notehead, the vertical one the center of the notehead;
- clef: The horizontal origin is the left end of the clef, the vertical one the line specified by clef/ @line (or @clef.line);
- For elements containing text: The left end of the baseline;
- symbolDef: As symbol definitions aren't rendered directly, their coordinate system and origin are considered virtual. When they are referenced by symbol or @altsym, the origin of the context, i.e. the referencing symbol, is used.

If neither absolute nor relative coordinates are specified, determining visually suitable start and end points for @line and @curve attributes is left to the rendering application. A value of 0 is not always assumed for absent relative coordinates. A typical example where a rendering application may not choose the origins of absent relative start and end coordinates to be the start point as well is the line connecting two notes in the above Schumann example.

22.3.4 Curve Shape

If neither a @bezier nor @bulge attribute is present, the renderer determines a suitable shape. However, if @curvedir is present, the curve must respect the curvature direction specified there.

The attributes @bezier and @bulge define the shape of a curve in two different ways. If both are present, a rendering application may choose either one. They override @curvedir.

@bezier defines the inner control points of a cubic Bézier curve, i.e., a Bézier curve with two inner control points. The coordinates are given by a space separated list, first x and y offsets for the first control point, then x and y offsets for the second one. The x and y offsets are given in staff units (or inside the context of symbolDef in abstract units). The offsets for the first inner control point are relative to the start point, the ones for the second inner control point are relative to the end point.

The @bulge attribute allows specification of the curve shape by a number of interpolation points. The interpolation points are given by their distance from the line connecting the start and end point. The distance values are stored as a space separated list.

The interpolation points are calculated as follows: If @bulge provides n distance values, the connection line is divided into n+1 subsegments of equal length. The interpolation points are found by drawing a perpendicular line of the respective length at each subsegment joint. Positive distance values are drawn to the left of the connection line (left when traveling from start to end), negative ones to the right.

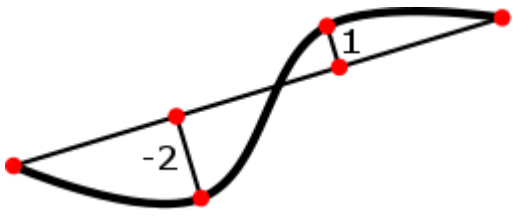


Figure 58. Rendering a bulge attribute with value "-2 1"

The interpolation algorithm used by the rendering application is implementation dependent.

22.4 Line Rendition

The @form attribute of lines may take the following values:

- dashed
- dotted
- solid
- wavy

These attribute values are only qualitative. Actual dash length and dot and dash spacing are implementation dependent.

The @width attribute may take the following values:

- narrow
- medium
- wide

These values are also qualitative, however, they are also relative. That is, 'narrow' is the default value, 'medium' is twice as wide as 'narrow', and 'wide' is twice as wide as 'medium'.

In addition to these textual values, the width attribute may contain a numeric value and an optional unit value, "2mm" for example. If the unit value is not provided, staff interline units are presumed.

The @lstartsym and @lendsym attributes name the symbol that may start and/or end a line, while @lstartsymsize and @lendsymsize indicate the relative size of the symbol using a numeric value in the range from 1 to 9.

22.5 Limitations

The usersymbols module does not currently support continuous composite lines or filled areas. As mentioned above, the rendition of lines is highly implementation dependent. Coordinate system transforms are restricted to scaling using @scale.

MEI Data Dictionary

Data Dictionary Conventions

Elements

The "Elements" section of the data dictionary contains descriptions of each of the MEI elements, arranged alphabetically by their tag names. Each element entry is arranged as shown in Figures 1 and 2.

<avFile> (audio/video file) – References an external digital audio or video file.	
Module	MEI.performance
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. [att.bibl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. [att.commonPart] @mimetype *(optional)* Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. [att.internetmedia] @n *(optional)* Provides a number-like designation for an element. [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. [att.typed] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. [att.pointing]

Element name: Short, mnemonic form of the element name that is used in the machine-readable XML document. The tag name is the first word at the top of the entry. Tag names are always in so-called "camel" case beginning with a lower case letter.

Element definition: The element definition sometimes begins with an expanded version of the tag name that more fully describes the element's meaning. The full name of the element is usually a word or phrase that identifies the element's purpose. The definition of the element is typically drawn from standard reference works, glossaries, basic dictionaries, and data dictionaries, such as Gardner Read's *Music Notation: A Manual of Modern Practice*, Elaine Gould's *Behind Bars*, *Grove Music Online*, Carl Parrish's *Notation of Medieval Music*, the *Text Encoding Initiative Guidelines* , the *Encoded Archival Description Tag Library*, etc.

Module: Identifies the schema module in which the element is defined. In order to use the element, this module must be activated.

Attributes: Identifies all attributes associated with the element. Each entry in the list of attributes contains the attribute name, an indication of whether it is required or optional, a brief description of its purpose and use, and the name of the attribute class in which it can be found. In order to use the attribute, this class must be activated.

Member of	
Contained by	**MEI.performance** clip recording
May contain	**MEI.performance** clip

Declaration	`<classes>`
	`<memberOf key="att.bibl"/>`
	`<memberOf key="att.common"/>`
	`<memberOf key="att.declaring"/>`
	`<memberOf key="att.internetmedia"/>`
	`<memberOf key="att.facsimile"/>`
	`<memberOf key="att.pointing"/>`
	`<memberOf key="att.typed"/>`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:ref name="clip"/>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is analogous to the graphic element in the figtable module.

Constraints	An avFile child of clip cannot have children.
	`<sch:rule context="mei:clip/mei:avFile">`
	`<sch:assert test="count(mei:*) = 0">An avFile child of clip cannot have children.</sch:assert>`
	`</sch:rule>`

Member of: Lists the model classes in which the element participates. A model class provides a mechanism for grouping elements that have a similar function and that may appear at the same point in an encoding. In order to use the element, at least one class must be activated.

Contained by: Identifies other elements in which this element may appear as content. This information conveys the sense of where and how often an element is available throughout the schema. Definitions of parent elements may provide additional information about an element's usage.

May contain: Elements may be empty (e.g., permit no content); or they may contain only text, only other elements, or a mixture of text and elements. The word "text" indicates that character content is allowed directly inside the element, but the text cannot include special characters, such as left angle brackets, that might be interpreted by an XML parser as action codes. The list of permitted elements, organized according to the name of the module to which they belong, usually includes more elements than are generally needed because similar elements share the same content model. This practice eases the task of authoring a schema and aids machine processing of encoded documents, but it may provide a somewhat misleading indication of the appropriateness of the usage of some content elements.

Declaration: Contains the formal declaration for the element, including its participation in attribute and model classes and its content model.

Remarks: Remarks regarding the history and use of the element appear in this section. The text here describes how the element is used, differentiates it from similar elements, points out useful attributes, provides an illustrative example, or directs the reader to related elements. For more complete best practices guidance, the user is encouraged to consult the appropriate Guidelines chapters.

Constraints: Provides a description of additional rules that apply to the element, its attributes, and its content that cannot be expressed by a schema. These rules provide a method for ensuring proper use of the element, as well as its attributes and content, when it appears in different contexts. It may be, for example, correct to use certain attributes or attribute values in one situation, but improper in another.

Model Classes

Each model class entry names and describes a group of elements that shares a similar function and that may therefore occur at similar points within the document. Like an element, a model class also belongs to a module, which must be activated for the model class to be allowed. The data dictionary identifies members of the class and provides information regarding their status; that is, whether they are inherited from another class. In addition, the locations ("Available in") in which elements from the class may occur are named.

model.geogNamePart Groups elements which form part of a geographic name.	
Module	MEI.namesdates
Available in	model.addressPart
Members	bloc, country, district, geogFeat, region, settlement (direct members of model.geogNamePart)
Declaration	<classes mode="replace"> <memberOf key="model.addressPart" mode="add"/> </classes>

Attribute Classes

Grouping attributes simplifies the construction of a schema because it eliminates multiple declarations for attributes that occur frequently. After the name and description of the class, an attribute class entry identifies the module to which the class belongs, attributes in the class, the elements to which attributes from the class can be applied, and any constraints on the attributes' values

att.handident Attributes which identify a document hand.	
Module	MEI.shared
Members	damage, gap, unclear (direct members of att.handident) lem, rdg (through att.crit) abbr, add, corr, del, expan, restore, subst (through att.trans)
Attributes	@hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. [specified at att.handident]
Constraints	@hand attribute should have content. Each value in @hand should correspond to the @xml:id attribute of a hand element. <sch:rule context="@hand"> <sch:assert role="warning" test="not(normalize-space(.) eq '')">@hand attribute should have content.</sch:assert> <sch:assert role="warning" test="every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:hand/@xml:id">Each value in @hand should correspond to the @xml:id attribute of a hand element.</sch:assert> </sch:rule>

Datatypes and Macros

Datatypes and macros provide reusable declarations. They are used to create MEI-specific datatypes for attribute values and content declarations for elements, respectively.

Some datatypes are defined in terms of so-called "built-in" datatypes defined by the World Wide Web Consortium (W3C), such as "anyURI", "decimal", positiveInteger", "time", etc. For more information on these and other datatypes defined by the W3C, visit http://books.xmlschemata.org/relaxng/relax-CHP-19.html.

Figure 4 demonstrates an MEI-specific datatype that defines a range of possible values. The entry also provides the name of the module in which the datatype is declared, information on where the datatype is applicable; that is, within the attribute called "intm", and a link to more information about the class in which the attribute participates.

data.INTERVAL.MELODIC A token indicating direction of the interval but not its precise value, an indication of diatonic interval quality and size, or a decimal value in half steps. Decimal values are permitted to accommodate micro-tuning.	
Module	MEI
Used by	att.intervalmelodic (@intm)
Declaration	<content> <rng:choice> <rng:data type="decimal"/> <rng:data type="token"> <rng:param name="pattern">u|d|s</rng:param> </rng:data> <rng:data type="token"> <rng:param name="pattern">(\+|\-)?[AdMmP][0-9]+</rng:param> </rng:data> </rng:choice> </content>

Some datatypes define an enumerated list of values rather than a range. In some cases only the values in the list are permitted, while in others the value list may be extended by simply using a value not already on the list. Lists with a fixed set of values are called "closed", while extensible ones are referred to as "open" lists.

Elements

<abbr>

<abbr> (abbreviation) – A generic element for 1) a shortened form of a word, including an acronym or 2) a shorthand notation.	
Module	MEI.edittrans
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @expan *(optional)* Records the expansion of a text abbreviation. Value of datatype string. [abbr] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype positiveInteger. [att.sequence] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.editorialLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add choice corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear

	MEI.figtable fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.trans" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.editorialLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.eventLike" />`
	`<rng:ref name=" model.eventLike.neumes" />`
	`<rng:ref name=" model.controleventLike" />`
	`<rng:ref name=" model.lyricsLike" />`
	`<rng:ref name=" model.midiLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`<rng:ref name=" model.eventLike.measureFilling" />`
	`<rng:ref name=" model.noteModifierLike" />`
	`<rng:ref name=" model.sectionLike" />`
	`<rng:ref name=" model.measureLike" />`
	`<rng:ref name=" model.staffLike" />`
	`<rng:ref name=" model.layerLike" />`
	`<rng:ref name=" model.graphicprimitiveLike" />`

	<rng:ref name=" model.fLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<accessRestrict>

<accessRestrict> (access restriction) – Describes the conditions that affect the accessibility of material.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** availability
May contain	**Text** **MEI.edittrans** abbr expan

	MEI.figtable fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	May indicate the nature of restrictions or the lack of restrictions. Do not confuse this element with useRestrict (usage restrictions), which captures information about limitations on the **use** of material, such as those afforded by copyright.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<accid>

<accid> (accidental) – Records a temporary alteration to the pitch of a note.	
Module	MEI.shared
Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @accid.ges *(optional)* Records the performed pitch inflection. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.accidental.performed] @altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color]

	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @func *(optional)* Records the function of an accidental. Allowed values are: " **caution**" *(Cautionary accidental.)*, " **edit**" *(Editorial accidental.)* [att.accid.log] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident]

	@loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.noteModifierLike
Contained by	**MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** accid artic dot layer note
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.accid.log" />`
	`<memberOf key=" att.accid.vis" />`
	`<memberOf key=" att.accid.ges" />`
	`<memberOf key=" att.accid.anl" />`
	`<memberOf key=" model.noteModifierLike" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	An accidental may raise a pitch by one or two semitones or it may cancel a previous accidental or part of a key signature. This element provides an alternative to the @accid and @accid.ges attributes on the note element. The element may be used when specific display info, such as size or color, needs to be recorded for the accidental or when multiple accidentals occur on a single note. The @func attribute can be used to differentiate between the accidental's functions, such as 'cautionary' or 'editorial'.

<actor>

<actor> Name of an actor appearing within a cast list.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.shared** castItem
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<add>

<add> (addition) – Marks an addition to the text.	
Module	MEI.edittrans
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @method *(optional)* Contains an indication of how the addition was accomplished. Allowed values are: " interline" *(New material added to the existing text.)*, " intraline" *(New material added above or below original text.)*, " overstrike" *(New text obscures original.)* [add] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in

	the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype **positiveInteger**. [att.sequence] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume

	MEI.shared addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.trans" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.transcriptionLike" />`
	`</classes>`
	`<content>`

```
  <rng:zeroOrMore>
    <rng:choice>
      <rng:text/>
      <rng:ref name=" model.textphraseLike" />
      <rng:ref name=" model.eventLike" />
      <rng:ref name=" model.eventLike.neumes" />
      <rng:ref name=" model.controleventLike" />
      <rng:ref name=" model.lyricsLike" />
      <rng:ref name=" model.midiLike" />
      <rng:ref name=" model.editLike" />
      <rng:ref name=" model.transcriptionLike" />
      <rng:ref name=" model.eventLike.measureFilling" />
      <rng:ref name=" model.noteModifierLike" />
      <rng:ref name=" model.sectionLike" />
      <rng:ref name=" model.measureLike" />
      <rng:ref name=" model.staffLike" />
      <rng:ref name=" model.layerLike" />
      <rng:ref name=" model.graphicprimitiveLike" />
      <rng:ref name=" model.fLike" />
    </rng:choice>
  </rng:zeroOrMore>
</content>
```

Remarks	The add element contains material inserted by an author, scribe, annotator, or corrector. The agent responsible for the addition may be encoded using the @hand attribute, while the @resp attribute records the editor or transcriber responsible for identifying the hand of the addition. The @cert attribute signifies the degree of certainty ascribed to the identification of the hand of the addition. The editor(s) responsible for asserting this particular reading may be recorded in the @resp attribute. The value of resp must point to one or more identifiers declared in the document header.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<addName>

<addName> (additional name) – Contains an additional name component, such as a nickname, epithet, or alias, or any other descriptive phrase used within a personal name.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized]

	@authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source]

	@startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.persNamePart
Contained by	**MEI.namesdates** addName famName foreName genName nameLink persName roleName
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`

	<memberOf key=" att.typed" /> <memberOf key=" model.persNamePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<addrLine>

<addrLine> (address line) – Single line of a postal address.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]

Member of	
Contained by	**MEI.shared** address
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	addrLine may be repeated as many times as necessary to enter all lines of an address.This element is modelled on an element in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<address>

<address> Contains a postal address, for example of a publisher, an organization, or an individual.	
Module	MEI.shared

Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.addressLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience availability byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance pubStmt soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor event eventList extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository respStmt role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote

	MEI.usersymbols anchoredText line symbol
May contain	**MEI.namesdates** bloc country district geogFeat postBox postCode region settlement street **MEI.shared** addrLine

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.addressLike" />`
	`</classes>`
	`<content>`
	`<rng:choice>`
	`<rng:oneOrMore>`
	`<rng:ref name=" addrLine" />`
	`</rng:oneOrMore>`
	`<rng:oneOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.addressPart" />`
	`</rng:choice>`
	`</rng:oneOrMore>`
	`</rng:choice>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<altId>

<altId> (alternative identifier) – May contain a bibliographic identifier that does not fit within the meiHead element's id attribute, for example because the identifier does not fit the definition of an XML id or because multiple identifiers are needed.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.header** meiHead
May contain	**Text** **MEI.shared** lb rend stack
Declaration	<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.typed" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.lbLike" /> <rng:ref name=" model.rendLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	One or the other of altId or the @id attribute on mei is required when applicable.

<anchoredText>

<anchoredText> Container for text that is fixed to a particular page location, regardless of changes made to the layout of the measures around it.	
Module	MEI.usersymbols

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

	@x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.graphicprimitiveLike
Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.harmony** harm **MEI.neumes** syllable **MEI.shared** dir ending layer ornam part pgDesc pgFoot pgFoot2 pgHead pgHead2 score section staff tempo **MEI.usersymbols** anchoredText curve line symbolDef
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.startid" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.xy" />`
	`<memberOf key=" model.graphicprimitiveLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element may be used where semantic markup of the text is neither possible nor desirable, such as in optical music recognition (OMR) applications. The content model here is similar to paragraph without model.textcomponent and pb sub-elements. The starting point of the text may be identified in absolute output coordinate terms using the @x and @y attributes or relative to the location of another element using the @startid attribute. The attributes in the att.visualoffset class may be used to record horizontal, vertical, or time offsets from the absolute coordinates or from the location of the referenced element.

<annot>

<annot> (annotation) – Provides a short statement explaining the text or indicating the basis for an assertion.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl]

	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]

Member of	model.annotLike
Contained by	**MEI.cmn** gliss measure octave **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language notesStmt otherChar perfDuration perfMedium physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.neumes** syllable **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor ending extent funder genre head height identifier imprint incip label layer librettist lyricist name num ornam p part pgDesc pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc score section sponsor stack staff syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol symbolDef
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList head identifier lb name num p pb rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** symbol

Declaration

```
<classes>
 <memberOf key=" att.bibl" />
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.source" />
 <memberOf key=" att.annot.log" />
 <memberOf key=" att.annot.vis" />
 <memberOf key=" att.annot.ges" />
 <memberOf key=" att.annot.anl" />
 <memberOf key=" att.plist" />
 <memberOf key=" att.responsibility" />
 <memberOf key=" att.targeteval" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.annotLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:text/>
     <rng:ref name=" model.headLike" />
     <rng:ref name=" model.textcomponentLike" />
     <rng:ref name=" model.textphraseLike" />
     <rng:ref name=" model.editLike" />
     <rng:ref name=" model.transcriptionLike" />
   </rng:choice>
 </rng:zeroOrMore>
</content>
```

Remarks

The annot element can be used for both general comments and for annotations of the musical text. It provides a way to group participating *events* and/or *control events*, for example, the notes that form a descending bass line, and provide a label for and comment regarding the group. Participating entities may be identified in the @plist attribute. An editorial or analytical comment or observation may be included directly within the annot element. The starting point of the annotation may be indicated by either a @tstamp, @tstamp.ges, @tstamp.real or @startid attribute, while the ending point may be recorded by either a @dur, @dur.ges or @endid attribute. The @resp attribute records the editor(s) responsible for identifying or creating the annotation.

Constraints

Head elements can only occur at the start of annot.
Mixed content is not allowed when head, lg, p, quote, or table is used.
Unstructured text not allowed when head, lg, p, quote, or table elements are used.

```
<sch:rule context= "mei:annot[mei:head or mei:lg or mei:p or mei:quote
or mei:table]">
```

```
  <sch:assert test= "not(mei:head[preceding-sibling::*[not(local-
  name()='head')]])"> Head elements can only occur at the start of annot.
  </sch:assert>
  <sch:assert test= "not(*[../text()[normalize-space()]])"> Mixed content
  is not allowed when head, lg, p, quote, or table is used. </sch:assert>
  <sch:assert test= "not(*[not(local-name() eq 'biblList' or local-name()
  eq 'castList' or local-name() eq 'head' or local-name() eq 'lg' or
  local-name() eq 'list' or local-name() eq 'p' or local-name() eq
  'quote' or local-name() eq 'table')])" > Unstructured text not allowed
  when head, lg, p, quote, or table elements are used. </sch:assert>
</sch:rule>
```

<app>

<app> (apparatus) – Contains one or more alternative encodings.	
Module	MEI.critapp
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.appLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** app lem rdg **MEI.lyrics** verse **MEI.neumes** ineume syllable uneume **MEI.shared** ending layer note part pgFoot pgFoot2 pgHead pgHead2 rest score section staff

May contain	**MEI.critapp** lem rdg

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.appLike" />`
	`</classes>`
	`<content>`
	`<rng:optional>`
	`<rng:ref name=" lem" />`
	`</rng:optional>`
	`<rng:ref name=" rdg" />`
	`<rng:zeroOrMore>`
	`<rng:ref name=" rdg" />`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The alternatives provided in lem and/or rdg sub-elements may be thought of as exclusive or as parallel. The @type attribute may contain any convenient descriptive word, describing the extent of the variation (e.g. note, phrase, measure, etc.), its text-critical significance (e.g. significant, accidental, unclear), or the nature of the variation or the principles required to understand it (e.g. lectio difficilior, usus auctoris, etc.).This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<appInfo>

<appInfo> (application information) – Groups information about applications which have acted upon the MEI file.	
Module	MEI.header
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.encodingPart

Contained by	**MEI.header** appInfo editorialDecl encodingDesc projectDesc samplingDecl
May contain	**MEI.header** application **MEI.shared** head
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" model.encodingPart" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" application" /> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<application>

<application> Provides information about an application which has acted upon the current document.	
Module	MEI.header
Attributes	@enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable]

	@subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @version *(optional)* Supplies a version number for an application, independent of its identifier or display name. Value of datatype NMTOKEN. [application] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.header** appInfo
May contain	**MEI.ptrref** ptr ref **MEI.shared** name p

Declaration	
	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.datable" />`
	`<memberOf key=" att.typed" />`
	`</classes>`
	`<content>`
	`<rng:oneOrMore>`
	`<rng:ref name=" name" />`
	`</rng:oneOrMore>`
	`<rng:choice>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" model.locrefLike" />`
	`</rng:zeroOrMore>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" model.pLike" />`
	`</rng:zeroOrMore>`
	`</rng:choice>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<arpeg>

<arpeg> (arpeggiation) – Indicates that the notes of a chord are to be performed successively rather than simultaneously, usually from lowest to highest. Sometimes called a "roll".	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @arrow *(optional)* Indicates if an arrowhead is to be drawn as part of the arpeggiation symbol. Value conforms to data.BOOLEAN . [att.arpeg.vis] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym]

	@ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @order *(optional)* Describes the direction in which an arpeggio is to be performed. Allowed values are: " **up**" *(Lowest to highest pitch.)*, " **down**" *(Highest to lowest pitch.)*, " **nonarp**" *(Non-arpeggiated style (usually rendered with a preceding bracket instead of a wavy line).)* [att.arpeg.log] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

	@type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.arpeg.log" /> <memberOf key=" att.arpeg.vis" /> <memberOf key=" att.arpeg.ges" /> <memberOf key=" att.arpeg.anl" /> <memberOf key=" att.typed" />`

	<memberOf key=" model.controleventLike.cmn" /> </classes> <content> <rng:empty/> </content>
Remarks	The modern arpeggiation symbol is a vertical wavy line preceding the chord. When the notes of the chord are to be performed from highest to lowest, an arrowhead may be added to the lower end of the line. Even though it is redundant, an arrowhead is sometimes added to the upper end of the line for the sake of consistency or when the direction of successive arpeggios alternates. In music for keyboard instruments, sometimes a distinction is made between a single arpeggio in which both hands play successively and simultaneous arpeggios in two hands. In the case of the former, multiple values may be required in the @staff and @layer attributes. Arpeggios that do not cross staves, but still involve more than one layer require multiple values for the @layer attribute.

<arranger>

<arranger> A person or organization who transcribes a musical composition, usually for a different medium from that of the original; in an arrangement the musical substance remains essentially unchanged.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

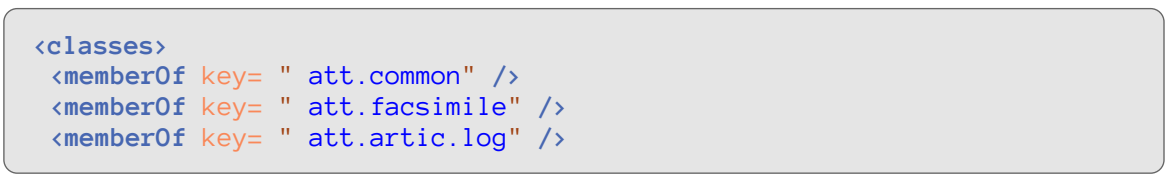
	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.respLikePart
Contained by	**MEI.header** byline perfDuration titleStmt **MEI.shared** arranger author bibl biblScope composer creation editor extent funder genre imprint librettist lyricist physLoc recipient relatedItem respStmt series sponsor textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.respLikePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

<artic>

<artic> (articulation) – An indication of how to play a note or chord.	
Module	MEI.shared
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @artic *(optional)* Encodes the written articulation(s). Articulations are normally encoded in order from the note head outward; that is, away from the stem. See additional notes at att.vis.note. Only articulations should be encoded in the artic attribute; for example, fingerings should be encoded using the <fingering> element. One or more values from data.ARTICULATION , separated by spaces. [att.articulation] @artic.ges *(optional)* Records performed articulation that differs from the written value. One or more values from data.ARTICULATION , separated by spaces. [att.articulation.performed] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography]

	@fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to]

	@tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.chordPart model.noteModifierLike
Contained by	**MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** accid artic chord dot layer note
May contain	**Empty**
Declaration	

	<memberOf key=" att.artic.vis" /> <memberOf key=" att.artic.ges" /> <memberOf key=" att.artic.anl" /> <memberOf key=" model.chordPart" /> <memberOf key=" model.noteModifierLike" /> </classes> <content> <rng:empty/> </content>
Remarks	Articulations typically affect duration, such as staccato marks, or the force of attack, such as accents. This element provides an alternative to the @artic attribute on the note and chord elements. It may be used when specific display info, such as size or color, needs to be recorded for the articulation or when multiple articulation marks occur on a single note or chord.

<audience>

<audience> Defines the class of user for which the work is intended, as defined by age group (e.g., children, young adults, adults, etc.), educational level (e.g., primary, secondary, etc.), or other categorization.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** work
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<author>

<author> The name of the creator of the intellectual content of a non-musical, literary work.	
Module	MEI.shared

Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.respLikePart
Contained by	**MEI.header** byline perfDuration titleStmt **MEI.shared** arranger author bibl biblScope composer creation editor extent funder genre imprint librettist lyricist physLoc recipient relatedItem respStmt series sponsor textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> <memberOf key=" model.respLikePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<avFile>

<avFile> (audio/video file) – References an external digital audio or video file.	
Module	MEI.performance
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @mimetype *(optional)* Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. Value of datatype **string**. [att.internetmedia] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.performance** clip recording
May contain	**MEI.performance** clip
Declaration	`<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" att.internetmedia" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.pointing" />`

	<memberOf key=" att.typed" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" clip" /> </rng:zeroOrMore> </content>
Remarks	This element is analogous to the graphic element in the figtable module.
Constraints	An avFile child of clip cannot have children. <sch:rule context="mei:clip/mei:avFile"> <sch:assert test="count(mei:*) = 0"> An avFile child of clip cannot have children. </sch:assert> </sch:rule>

<availability>

<availability> Groups elements that describe the availability of and access to a bibliographic item, including an MEI-encoded document.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.pubStmtPart

Contained by	**MEI.frbr** item **MEI.header** availability pubStmt **MEI.shared** distributor publisher pubPlace respStmt
May contain	**MEI.header** accessRestrict price sysReq useRestrict **MEI.shared** distributor
Declaration	<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.datapointing" /> <memberOf key=" model.pubStmtPart" /> </classes> <content> <rng:ref name=" macro.availabilityPart" /> </content>
Remarks	When used within the fileDesc element, availability indicates access to the MEI-encoded document itself.This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<bTrem>

<bTrem> (bowed tremolo) – A rapid alternation on a single pitch or chord.	
Module	MEI.cmn
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Indicates whether the tremolo is measured or unmeasured. Allowed values are: " meas" *(Measured tremolo.)*, " unmeas" *(Unmeasured tremolo.)* [att.bTrem.log]

	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @measperf *(optional)* The performed duration of an individual note in a measured tremolo. Value conforms to data.DURATION.cmn . [att.tremmeasured] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Records a number or count accompanying a notational feature. Value of datatype **positiveInteger**. [att.numbered] @num.place *(optional)* States where the tuplet number will be placed in relation to the note heads. Value conforms to data.PLACE . [att.numberplacement] @num.visible *(optional)* Determines if the tuplet number is visible. Value conforms to data.BOOLEAN . [att.numberplacement] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike.cmn
Contained by	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**MEI.shared** chord note
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.bTrem.log" /> <memberOf key=" att.bTrem.vis" /> <memberOf key=" att.bTrem.ges" /> <memberOf key=" att.bTrem.anl" /> <memberOf key=" model.eventLike.cmn" /> </classes> <content> <rng:choice> <rng:ref name=" chord" /> <rng:ref name=" note" /> </rng:choice> </content>

<back>

<back> (back matter) – Contains any appendixes, advertisements, indexes, etc. following the main body of a musical text.	
Module	MEI.text
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.backLike
Contained by	**MEI.text** back
May contain	**MEI.shared** div lb pb titlePage

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.declaring" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.backLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.divLike" />`
	`<rng:ref name=" model.frontPart" />`
	`<rng:ref name=" model.milestoneLike.text" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<barLine>

<barLine> Vertical line drawn through one or more staves that divides musical notation into metrical units.	
Module	MEI.shared
Attributes	@barplace *(optional)* Records the location of a bar line. Value conforms to data.BARPLACE . [att.barplacement] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @control *(optional)* Indicates whether or not a bar line is "controlling"; that is, if it indicates a point of alignment across all the parts. Bar lines within a score are usually controlling; that is, they "line up". Bar lines within parts may or may not be controlling. When applied to <measure>, this attribute indicates the nature of the right barline but not the left. Value conforms to data.BOOLEAN . [att.meterconformance.bar] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Records the appearance and usually the function of the bar line. Value conforms to data.BARRENDITION . [att.barLine.log] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @metcon *(optional)* Indicates the relationship between the content of a measure and the prevailing meter. Value conforms to data.BOOLEAN . [att.meterconformance.bar] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @taktplace *(optional)* If takt bar lines are to be used, then the taktplace attribute may be used to denote the staff location of the shortened bar line. The location may include staff lines, spaces, and the spaces directly above and below the staff. The value ranges between 0 (just below the staff) to 2 * number of staff lines (directly above the staff). For example, on a 5-line staff the lines would be numbered 1,3,5,7, and 9 while the spaces would be numbered 0,2,4,6,8,10. For example, a value of '9' puts the bar line through the top line of a 5-line staff. Value conforms to data.STAFFLOC . [att.barplacement] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " byte" *(Byte.)*, " char" *(Character.)*, " cm" *(Centimeter.)*, " in" *(Inch.)*, " issue" *(Serial issue.)*, " mm" *(Millimeter.)*, " page" *(Page.)*, " pc" *(Pica.)*, " pt" *(Point.)*, " px" *(Pixel.)*, " record" *(Record.)*, " vol" *(Serial volume.)*, " vu" *(MEI virtual unit.)* [att.measurement] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @width *(optional)* Measurement of the horizontal dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.width] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the*

	referenced resource.), " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.pointing" /> <memberOf key=" att.targeteval" /> <memberOf key=" att.barLine.log" /> <memberOf key=" att.barLine.vis" /> <memberOf key=" att.barLine.ges" /> <memberOf key=" att.barLine.anl" /> <memberOf key=" model.eventLike" /> </classes> <content> <rng:empty/> </content>
Remarks	This element is provided for repertoires, such as mensural notation, that lack measures. Because the barLine element's attributes, from which the logical and visual characteristics of the bar line can be discerned, largely duplicate those of measure, the use of barLine is not necessary within measure elements in CMN.
Constraints	The value of @taktplace must be less than or equal to two times the number of staff lines.

	<sch:rule context= "mei:barLine[@taktplace]"> <sch:let name= "staff" value= "ancestor::mei:staff/@n"/> <sch:let name= "staffpos" value= "count(ancestor::mei:staff/preceding-sibling::mei:staff) + 1"/> <sch:assert test= "number(@taktplace) <= number(2 * preceding::mei:staffDef[@n=$staff and @lines][1]/@lines)"> The value of @taktplace must be less than or equal to two times the number of staff lines. </sch:assert> </sch:rule>

<barre>

<barre> An indication of fingering in a chord tablature grid.	
Module	MEI.harmony
Attributes	@endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @fret *(optional)* Records the location at which a string should be stopped against a fret. Value conforms to data.FRET . [att.fretlocation] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.harmony** chordDef
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.fretlocation" />`
	`<memberOf key=" att.startendid" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The @startid and @endid attributes are used to indicate the chordMember elements on which the barre starts and finishes respectively. The fret at which the barre should be created is recorded by the @fret attribute.

<beam>

<beam> A container for a series of explicitly beamed events that begins and ends entirely within a measure.	
Module	MEI.cmn
Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Captures whether a beam is "feathered" and in which direction. Allowed values are: " acc" *((accelerando) indicates that the secondary beams get progressively closer together toward the end of the beam.)* , " mixed" *((mixed acc and rit) for beams that are "feathered" in both directions.)*, " rit" *((ritardando) means that the secondary beams become progressively more distant toward the end of the beam.)* , " norm" *((normal) indicates that the secondary beams are equidistant along the course of the beam.)* [att.beamrend] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart]

	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @slope *(optional)* Records the slope of the beam. Value of datatype **decimal**. [att.beamrend] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike.cmn
Contained by	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume

	MEI.shared barLine chord clef clefGrp custos layer note pad rest space
May contain	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt meterSig meterSigGrp tuplet **MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.mensural** ligature mensur proport **MEI.shared** barLine chord clef clefGrp custos keySig note pad rest space
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.beam.log" /> <memberOf key=" att.beam.vis" /> <memberOf key=" att.beam.ges" /> <memberOf key=" att.beam.anl" /> <memberOf key=" model.eventLike.cmn" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.eventLike" /> <rng:ref name=" model.appLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	For beams that cross the bar line, use the beamSpan element. Secondary beams may be broken explicitly using the @breaksec attribute on the notes or chords under the beam. Automated beaming, as opposed to explicitly marked beams, may be indicated for an entire score, part or section by using the @beam.group and @beam.rests attributes on these elements.
Constraints	A beam without a copyof attribute must have at least 2 note, rest, chord, or space descendants. `<sch:rule context= "mei:beam[not(@copyof)]"> <sch:assert test= "count(descendant::*[local-name()='note' or local-name()='rest' or local-name()='chord' or local-name()='space']) > 1" > A beam without a copyof attribute must have at least 2 note, rest, chord, or space descendants. </sch:assert> </sch:rule>`

<beamSpan>

<beamSpan> (beam span) – Alternative element for explicitly encoding beams, particularly those which extend across bar lines.	
Module	MEI.cmn
Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Captures whether a beam is "feathered" and in which direction. Allowed values are: " acc" *((accelerando) indicates that the secondary beams get progressively closer together toward the end of the beam.)* , " mixed" *((mixed acc and rit) for beams that are "feathered" in both directions.)*, " rit" *((ritardando) means that the secondary beams become progressively more distant*

	toward the end of the beam.) , " norm" *((normal) indicates that the secondary beams are equidistant along the course of the beam.)* [att.beamrend] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @slope *(optional)* Records the slope of the beam. Value of datatype **decimal**. [att.beamrend] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.beamSpan.log" />`
	`<memberOf key=" att.beamSpan.vis" />`
	`<memberOf key=" att.beamSpan.ges" />`
	`<memberOf key=" att.beamSpan.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.controleventLike.cmn" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The starting point of the beam may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify one starting and one ending type of attribute.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. Must have one of the attributes: dur, dur.ges, endid, or tstamp2.

	<sch:rule context= "mei:beamSpan"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> <sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert> </sch:rule>

<beatRpt>

<beatRpt> (beat repeat) – An indication that material on a preceding beat should be repeated.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @beatDef *(optional)* Indicates the performed duration represented by the beatRpt symbol. Value conforms to data.DURATION.gestural . [att.beatRpt.log] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography]

	@fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(required)* Indicates the number of slashes required to render the appropriate beat repeat symbol. When a single beat is repeated, consisting of a single note or chord, it is indicated by a single thick, slanting slash; therefore, the value '1' should be used. The following values should be used when the beat is divided into even notes: 4ths or 8ths=1, 16ths=2, 32nds=3, 64ths=4, 128ths=5. When the beat is comprised of mixed duration values, the symbol is always rendered as 2 slashes and 2 dots. Value conforms to data.BEATRPT.REND . [att.beatRpt.vis] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical]

	@tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike.cmn
Contained by	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**Empty**

Declaration	
	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.beatRpt.log" />`
	`<memberOf key=" att.beatRpt.vis" />`
	`<memberOf key=" att.beatRpt.ges" />`
	`<memberOf key=" att.beatRpt.anl" />`
	`<memberOf key=" att.plist" />`
	`<memberOf key=" att.targeteval" />`
	`<memberOf key=" model.eventLike.cmn" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	beatRpt may also be used in guitar or rhythm parts to indicate where chord changes occur. When these parts require durations longer or shorter than a beat; however, note elements with appropriately-shaped note heads should be employed.

<bend>

<bend> A variation in pitch (often micro-tonal) upwards or downwards during the course of a note.	
Module	MEI.cmn
Attributes	@amount *(optional)* Records the amount of detuning. The decimal values should be rendered as a fraction (or an integer plus a fraction) along with the bend symbol. Value conforms to data.BEND.AMOUNT . [att.bend.ges] @bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho]

	@endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

	@startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype decimal. [att.xy2] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]
Member of	model.controleventLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**
Declaration	
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. Must have one of the attributes: dur, dur.ges, endid, or tstamp2. 

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.bend.log" />
 <memberOf key=" att.bend.vis" />
 <memberOf key=" att.bend.ges" />
 <memberOf key=" att.bend.anl" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.controleventLike" />
</classes>
<content>
 <rng:empty/>
</content>
```

```
<sch:rule context= "mei:bend">
 <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real">
 Must have one of the attributes: startid, tstamp, tstamp.ges or
 tstamp.real. </sch:assert>
```

	<sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert> </sch:rule>

<bibl>

<bibl> (bibliographic reference) – Provides a loosely-structured bibliographic citation in which the sub-components may or may not be explicitly marked.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " **onLoad**" *(Load the target resource(s) immediately.)*, " **onRequest**" *(Load the target resource(s) upon user request.)*, " **none**" *(Do not permit loading of the target resource(s).)*, " **other**" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing]

	@xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " **new**" *(Open in a new window.)*, " **replace**" *(Load the referenced resource in the same window.)*, " **embed**" *(Embed the referenced resource at the point of the link.)*, " **none**" *(Do not permit traversal to the referenced resource.)*, " **other**" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.biblLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblList biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient relatedItem rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr expan

	MEI.figtable fig **MEI.header** perfDuration **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot arranger author bibl biblScope composer creation date distributor edition editor extent funder genre identifier imprint lb librettist lyricist name num pb physLoc publisher pubPlace recipient relatedItem rend repository respStmt series sponsor stack textLang title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.pointing" /> <memberOf key=" att.typed" /> <memberOf key=" model.biblLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.biblPart" /> <rng:ref name=" model.imprintPart" /> <rng:ref name=" model.textphraseLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	bibl may contain a mix of text and more specific elements such as title, edition, persName, and corpName. This element may also function as a hypertext reference to an external electronic resource. Do not confuse this element with ref, which does not provide special bibliographic sub-elements.This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<biblList>

<biblList> List of bibliographic references.	
Module	MEI.shared

Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.listLike
Contained by	**MEI.figtable** figDesc td th **MEI.frbr** expression **MEI.header** history source work **MEI.shared** annot biblList castList div event eventList p pgDesc pgFoot pgFoot2 pgHead pgHead2 titlePage **MEI.text** li list quote
May contain	**MEI.shared** bibl biblList head label
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" />

	<memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> <memberOf key=" model.listLike" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:choice> <rng:group> <rng:optional> <rng:ref name=" model.labelLike" /> </rng:optional> <rng:ref name=" model.biblLike" /> </rng:group> <rng:ref name=" biblList" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<biblScope>

<biblScope> (scope of citation) – Defines the scope of a bibliographic reference, for example as a list of page numbers, or a named subdivision of a larger work.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang]

	@unit *(optional)* Indicates the unit of measurement. Allowed values are: " **byte**" *(Byte.)*, " **char**" *(Character.)*, " **cm**" *(Centimeter.)*, " **in**" *(Inch.)*, " **issue**" *(Serial issue.)*, " **mm**" *(Millimeter.)*, " **page**" *(Page.)*, " **pc**" *(Pica.)*, " **pt**" *(Point.)*, " **px**" *(Pixel.)*, " **record**" *(Record.)*, " **vol**" *(Serial volume.)*, " **vu**" *(MEI virtual unit.)* [att.measurement] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.biblPart
Contained by	**MEI.header** perfDuration seriesStmt **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.measurement" />`
	`<memberOf key=" model.biblPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`

	<rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<bloc>

<bloc> Contains the name of a geo-political unit consisting of two or more nation states or countries.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.geogNamePart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear

	MEI.figtable figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" att.typed" /> <memberOf key=" model.geogNamePart" /> </classes> <content>`

	<rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<body>

<body> Contains the whole of a single musical text, excluding any front or back matter.	
Module	MEI.shared
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.musicPart
Contained by	**MEI.shared** music
May contain	**MEI.shared** mdiv
Declaration	<classes>

	<memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" model.musicPart" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.mdivLike" /> </rng:oneOrMore> </content>
Remarks	When the music can be broken into high-level, discrete, linear segments, such as movements of a symphony, there may be multiple mdiv elements within body. This is the highest level indication of the structure of the music.

<breath>

<breath> (breath mark) – A indication of a point at which the performer on an instrument requiring breath (including the voice) may breathe.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of*

	that pointer will be taken, and so on, until an element is found which is not a pointer.) , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.breath.log" /> <memberOf key=" att.breath.vis" /> <memberOf key=" att.breath.ges" /> <memberOf key=" att.breath.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.controleventLike.cmn" /> </classes> <content> <rng:empty/> </content>
Remarks	This element may also indicate a short pause or break for instruments *not* requiring breath. Therefore, it often functions as a guide to phrasing. The usual sign for the breath mark is a comma; however, other visual forms of the breath mark may be indicated using the @altsym attribute. The starting point of the breath mark may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute. It is a semantic error not to specify a starting point attribute.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. <sch:rule context= "mei:breath">

	<sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> </sch:rule>

<byline>

<byline> Contains the primary statement of responsibility given for a work on its title page.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.titlePagePart
Contained by	**MEI.header** byline **MEI.shared** imprint series titlePage
May contain	**Text** **MEI.edittrans** abbr expan

	MEI.figtable fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot arranger author bibl composer date editor funder identifier lb librettist lyricist name num rend repository sponsor stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.titlePagePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.respLikePart" /> </rng:choice> </rng:zeroOrMore> </content>

<caption>

<caption> A label which accompanies an illustration or a table.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.captionLike
Contained by	**MEI.figtable** fig table **MEI.shared** caption
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.captionLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>`

<captureMode>

<captureMode> (capture mode) – The means used to record notation, sound, or images in the production of a source/manifestation (e.g., analogue, acoustic, electric, digital, optical etc.).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName

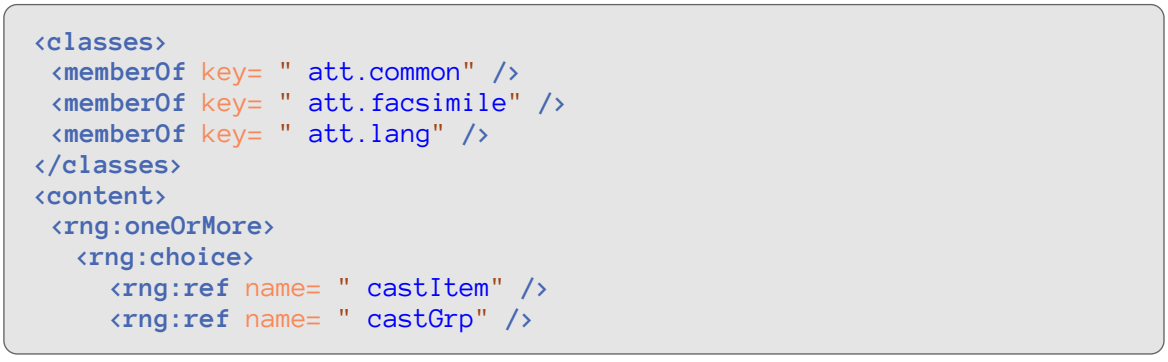
	MEI.ptrref ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<carrierForm>

<carrierForm> (carrier form) – The specific class of material to which the physical carrier of the source/ manifestation belongs (e.g., sound cassette, videodisc, microfilm cartridge, transparency, etc.). The carrier for a manifestation comprising multiple physical components may include more than one form (e.g., a filmstrip with an accompanying booklet, a separate sound disc carrying the sound track for a film, etc.).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype string. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>`

<castGrp>

<castGrp> (cast group) – Groups one or more individual castItem elements within a cast list.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.shared** castGrp castList
May contain	**MEI.shared** castGrp castItem roleDesc
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
</classes>
<content>
 <rng:oneOrMore>
  <rng:choice>
   <rng:ref name=" castItem" />
   <rng:ref name=" castGrp" />
```

	<rng:ref name=" roleDesc" /> </rng:choice> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

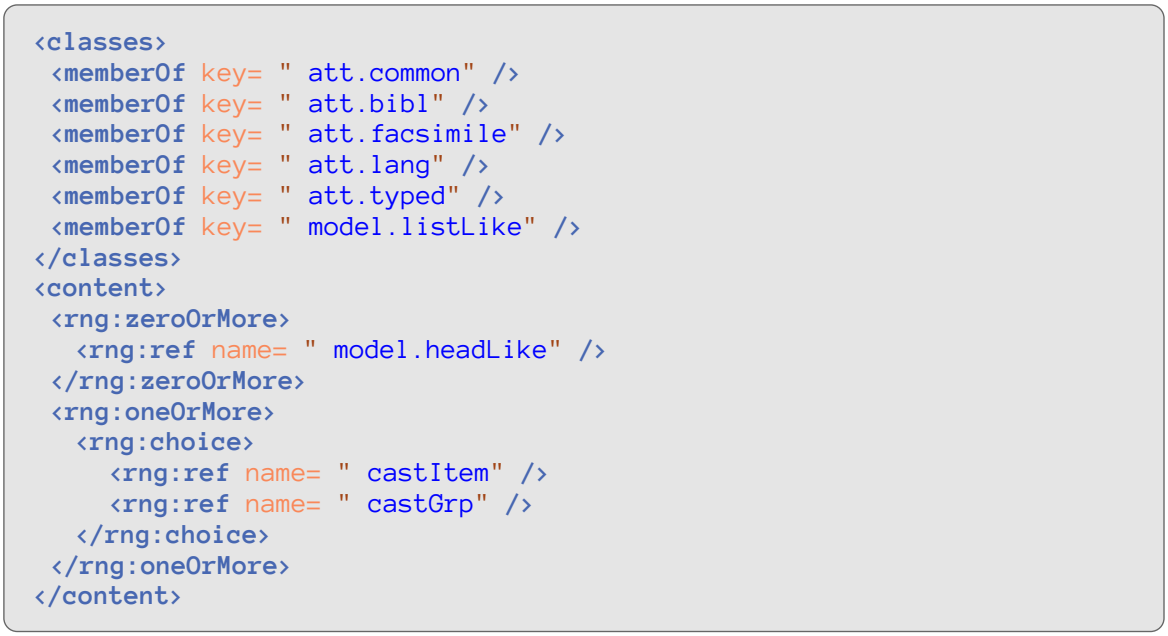
<castItem>

<castItem> Contains a single entry within a cast list, describing either a single role or a list of non-speaking roles.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.shared** castGrp castList
May contain	**Text**

	MEI.header perfRes **MEI.shared** actor role roleDesc
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> </classes> <content> <rng:oneOrMore> <rng:choice> <rng:text/> <rng:ref name=" role" /> <rng:ref name=" roleDesc" /> <rng:ref name=" actor" /> <rng:ref name=" perfRes" /> </rng:choice> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<castList>

<castList> Contains a single cast list or dramatis personae.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang]

	@type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.listLike
Contained by	**MEI.figtable** figDesc td th **MEI.header** history perfMedium **MEI.shared** annot biblList castList div event eventList p pgDesc pgFoot pgFoot2 pgHead pgHead2 titlePage **MEI.text** li list quote
May contain	**MEI.shared** castGrp castItem head
Declaration	
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.listLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" model.headLike" />
 </rng:zeroOrMore>
 <rng:oneOrMore>
   <rng:choice>
     <rng:ref name=" castItem" />
     <rng:ref name=" castGrp" />
   </rng:choice>
 </rng:oneOrMore>
</content>
```

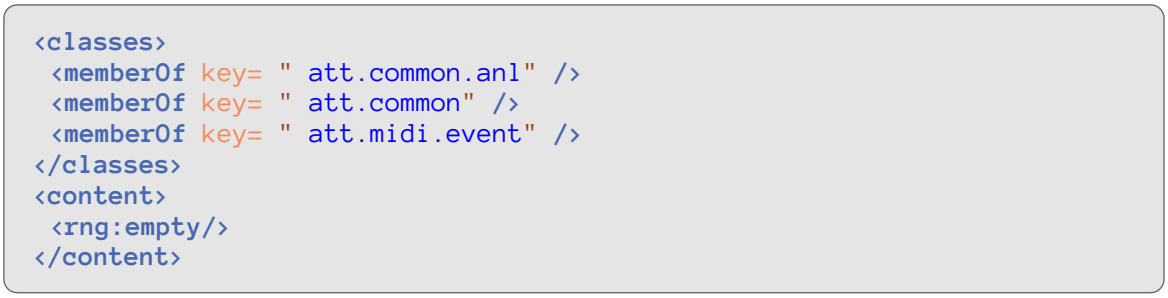
<cc>

<cc> (control change) – MIDI parameter/control change.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(required)* MIDI number in the range set by data.MIDIVALUE. Value conforms to data.MIDIVALUE . [att.midinumber] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @val *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

Member of	
Contained by	**MEI.midi** midi
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common.anl" /> <memberOf key=" att.common" /> <memberOf key=" att.midi.event" /> <memberOf key=" att.midinumber" /> <memberOf key=" att.midivalue" /> </classes> <content> <rng:empty/> </content>
Remarks	The @num attribute specifies a MIDI parameter number, while @val contains the parameter value. Each must fall in the range 0-127.

<chan>

<chan> (channel) – MIDI channel assignment.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(required)* MIDI number in the range set by data.MIDICHANNEL. Value conforms to data.MIDICHANNEL . [chan]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.midi** midi
May contain	**Empty**
Declaration	

<chanPr>

<chanPr> (channel pressure) – MIDI channel pressure/after touch.

Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(required)* MIDI number in the range set by data.MIDIVALUE. Value conforms to data.MIDIVALUE . [att.midinumber] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.midi** midi

May contain	**Empty**
Declaration	`<classes> <memberOf key=" att.common.anl" /> <memberOf key=" att.common" /> <memberOf key=" att.midi.event" /> <memberOf key=" att.midinumber" /> </classes> <content> <rng:empty/> </content>`
Remarks	The value of the @num attribute must be in the range 0-127.

<change>

<change> Individual change within the revision description.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable]

	@subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.header** revisionDesc
May contain	**MEI.header** changeDesc **MEI.shared** date respStmt
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.datable" /> <memberOf key=" att.responsibility" /> <memberOf key=" att.typed" /> </classes> <content> <rng:optional> <rng:ref name=" respStmt" /> </rng:optional> <rng:ref name=" changeDesc" /> <rng:optional> <rng:ref name=" model.dateLike" /> </rng:optional> </content>
Remarks	Additions, deletions, and significant recoding should be noted, but not correction of minor typographical errors. It is recommended that revisions should be entered in reverse chronological order, with the most recent change first. The @resp attribute contains a pointer to an element containing info about the person/entity responsible for change. The edition element can be used to designate an MEI encoding that has been so substantively changed that it constitutes a new version that supersedes earlier versions.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

Constraints	The date of the change must be recorded in an isodate attribute or date element.
	The person responsible for the change must be recorded in a resp attribute or respStmt element.
	
	`<sch:rule context= "mei:change">`
	`<sch:assert test= "@isodate or mei:date"> The date of the change must be recorded in an isodate attribute or date element. </sch:assert>`
	`<sch:assert test= "@resp or mei:respStmt"> The person responsible for the change must be recorded in a resp attribute or respStmt element. </sch:assert>`
	`</sch:rule>`

<changeDesc>

<changeDesc> (change description) – Description of a revision of the MEI file.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** change

May contain	**MEI.shared** p
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.pLike" /> </rng:oneOrMore> </content>`

<choice>

<choice> Groups a number of alternative encodings for the same point in a text.	
Module	MEI.edittrans
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.editLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add choice corr cpMark damage del expan orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription

	MEI.namesdates addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**MEI.edittrans** abbr choice corr expan orig reg sic subst unclear
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" model.editLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.choicePart" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Because the children of a choice element all represent alternative ways of encoding the same sequence, it is natural to think of them as mutually exclusive. However, there may be cases where a full representation of a text requires the alternative encodings to be considered as parallel. Note also that choice elements may be recursively nested.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<chord>

<chord> A simultaneous sounding of two or more notes in the same layer *with the same duration*.	
Module	MEI.shared
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @artic *(optional)* Encodes the written articulation(s). Articulations are normally encoded in order from the note head outward; that is, away from the stem. See additional notes at att.vis.note.

	Only articulations should be encoded in the artic attribute; for example, fingerings should be encoded using the <fingering> element. One or more values from data.ARTICULATION , separated by spaces. [att.articulation] **@artic.ges** *(optional)* Records performed articulation that differs from the written value. One or more values from data.ARTICULATION , separated by spaces. [att.articulation.performed] **@beam** *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] **@breaksec** *(optional)* Presence of this attribute indicates that the secondary beam should be broken following this note/chord. The value of the attribute records the number of beams which should remain unbroken. Value of datatype **positiveInteger**. [att.beamsecondary] **@cluster** *(optional)* Indicates a single, alternative note head should be displayed instead of individual note heads. The highest and lowest notes of the chord usually indicate the upper and lower boundaries of the cluster note head. Value conforms to data.CLUSTER . [att.chord.vis] **@color** *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] **@copyof** *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] **@corresp** *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] **@dots** *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] **@dur** *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] **@dur.ges** *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] **@enclose** *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] **@facs** *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] **@fermata** *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] **@fontfam** *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography]

	@fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @grace *(optional)* Marks a note or chord as a "grace" (without a definitive written duration) and records from which other note/chord it should "steal" time. Value conforms to data.GRACE . [att.graced] @grace.time *(optional)* Records the amount of time to be "stolen" from a non-grace note/chord. Value conforms to data.PERCENT . [att.graced] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lv *(optional)* Indicates the attachment of an l.v. (laissez vibrer) sign to this element. Value conforms to data.BOOLEAN . [att.lvpresent] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @ornam *(optional)* Indicates that this element has an attached ornament. If visual information about the ornament is needed, then one of the elements that represents an ornament (mordent, trill, or turn) should be employed. One or more values from data.ORNAM.cmn , separated by spaces. [att.ornam] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @slur *(optional)* Indicates that this element participates in a slur. If visual information about the slur needs to be recorded, then a <slur> element should be employed. One or more values from data.SLUR , separated by spaces. [att.slurpresent] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @stem.dir *(optional)* Describes the direction of a stem. Value conforms to data.STEMDIRECTION . [att.stems] @stem.len *(optional)* Encodes the stem length. Value conforms to data.MEASUREMENTABS . [att.stems] @stem.mod *(optional)* Encodes any stem "modifiers"; that is, symbols rendered on the stem, such as tremolo or Sprechstimme indicators. Value conforms to data.STEMMODIFIER . [att.stems] @stem.pos *(optional)* Records the position of the stem in relation to the note head(s). Value conforms to data.STEMPOSITION . [att.stems] @stem.with *(optional)* Contains an indication of which staff a note or chord that logically belongs to the current staff should be visually placed on; that is, the one above or the one below. Value conforms to data.OTHERSTAFF . [att.stems.cmn] @stem.x *(optional)* Records the output x coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems] @stem.y *(optional)* Records the output y coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems] @syl *(optional)* Holds an associated sung text syllable. Value of datatype **string**. [att.syltext] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tie *(optional)* Indicates that this element participates in a tie. If visual information about the tie needs to be recorded, then a <tie> element should be employed. One or more values from data.TIE , separated by spaces. [att.tiepresent] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed]

	@tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.eventLike
Contained by	**MEI.cmn** beam bTrem fTrem tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.shared** artic note

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`

```
  <memberOf key=" att.chord.log" />
  <memberOf key=" att.chord.vis" />
  <memberOf key=" att.chord.ges" />
  <memberOf key=" att.chord.anl" />
  <memberOf key=" model.eventLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:ref name=" model.chordPart" />
     <rng:ref name=" model.editLike" />
     <rng:ref name=" model.transcriptionLike" />
   </rng:choice>
 </rng:zeroOrMore>
</content>
```

<chordDef>

<chordDef> (chord definition) – Chord tablature definition.	
Module	MEI.harmony
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @pos *(optional)* Records the fret position at which the chord tablature is to be played. Value of datatype **positiveInteger**. [chordDef] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.harmony** chordTable
May contain	**MEI.harmony** barre chordMember

Declaration	<classes> <memberOf key=" att.common" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" chordMember" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" barre" /> </rng:zeroOrMore> </content>
Remarks	An @xml:id attribute, while not required by the schema, is needed so that harm elements can reference a particular chord definition. The @pos (position) attribute is provided in order to create displayable chord tablature grids. chordMember sub-elements record the individual pitches of the chord. barre sub-elements may be used when a single finger is used to stop multiple strings.

<chordMember>

<chordMember> An individual pitch in a chord defined by a <chordDef> element.	
Module	MEI.harmony
Attributes	@accid.ges *(optional)* Records the performed pitch inflection. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.accidental.performed] @fing *(optional)* Indicates which finger, if any, should be used to play an individual string. The index, middle, ring, and little fingers are represented by the values 1-4, while 't' is for the thumb. The values 'x' and 'o' indicate muffled and open strings, respectively. Value conforms to data.FINGER.FRET . [chordMember] @fret *(optional)* Records the location at which a string should be stopped against a fret. Value conforms to data.FRET . [att.fretlocation] @inth *(optional)* Encodes the harmonic interval between pitches occurring at the same time. One or more values from data.INTERVAL.HARMONIC , separated by spaces. [att.intervalharmonic] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave]

	@pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.harmony** chordDef
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.accidental.performed" /> <memberOf key=" att.fretlocation" /> <memberOf key=" att.intervalharmonic" /> <memberOf key=" att.pitched" /> </classes> <content> <rng:empty/> </content>
Remarks	The @fing and @fret attributes are provided in order to create displayable chord tablature grids. The @inth (harmonic interval) attribute may be used to facilitate automated performance of a chord. It gives the number of 1/2 steps above the bass. Of course, for the bass note itself, inth should be set to '0'. The fret at which a finger should be placed is recorded in the @fret attribute.

<chordTable>

<chordTable> Chord/tablature look-up table.	
Module	MEI.harmony
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.chordTableLike
Contained by	**MEI.harmony** chordTable **MEI.shared** scoreDef
May contain	**MEI.harmony** chordDef
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" model.chordTableLike" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" chordDef" /> </rng:oneOrMore> </content>
Remarks	A chordTable may be shared between MEI instances through the use of an external parsed entity containing the look-up table to be shared.

<classCode>

<classCode> (classification code) – Holds a citation to the source of controlled-vocabulary terms used in the <termList> element; for example, Library of Congress Subject Headings (LCSH), Library of Congress Classification (LCC), Library of Congress Name Authority File (LCNAF), or other thesaurus or ontology.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype string. [att.authorized]

	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** classification
May contain	**Text** **MEI.shared** lb rend stack
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.lbLike" /> <rng:ref name=" model.rendLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The citation may be provided in the @authority attribute or, when additional markup is needed, as textual content of the element.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<classification>

<classification> Groups information which describes the nature or topic of an entity.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.frbr** expression item **MEI.header** source work
May contain	**MEI.header** classCode termList **MEI.shared** head
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.datapointing" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" model.headLike" />
 </rng:zeroOrMore>
 <rng:oneOrMore>
   <rng:choice>
     <rng:ref name=" classCode" />
     <rng:ref name=" termList" />
   </rng:choice>
```

	<rng:oneOrMore> </rng:oneOrMore> </content>
Remarks	Although the use of names and terms from locally controlled vocabularies is possible, best practice suggests that terms should come from standard national or international vocabularies whenever they are available in order to enable searches in systems that include multiple MEI documents, or MEI documents and bibliographic records from many institutions.

<clef>

<clef> Indication of the exact location of a particular note on the staff and, therefore, the other notes as well.	
Module	MEI.shared
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @cautionary *(optional)* Records the function of the clef. A "cautionary" clef does not change the following pitches. Value conforms to data.BOOLEAN . [att.clef.log] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dis *(optional)* Records the amount of octave displacement. Value conforms to data.OCTAVE.DIS . [att.octavedisplacement] @dis.place *(optional)* Records the direction of octave displacement. Value conforms to data.PLACE . [att.octavedisplacement] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography]

	@fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @line *(optional)* Indicates the line upon which a feature stands. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. Value conforms to data.CLEFLINE . [att.lineloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @shape *(optional)* Describes a clef's shape. Value conforms to data.CLEFSHAPE . [att.clefshape] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike model.staffDefPart
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos incip layer note pad rest space staffDef
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.event" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.clef.anl" />`
	`<memberOf key=" att.clef.ges" />`
	`<memberOf key=" att.clef.log" />`
	`<memberOf key=" att.clef.vis" />`
	`<memberOf key=" model.eventLike" />`
	`<memberOf key=" model.staffDefPart" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	This element can be used as an alternative to the staff element's clef.* attributes. It should be used when specific display info, such as size or color, needs to be recorded for the clef or when multiple, simultaneous clefs occur on a single staff. This element may also be used within the staff context to indicate changes of clef.
Constraints	The clef position must be less than or equal to the number of lines of an ancestor staff.

	<sch:rule context= "mei:clef[ancestor::mei:staffDef[@lines]]"> <sch:let name= "thisstaff" value= "ancestor::mei:staffDef/@n"/> <sch:assert test= "number(@line) <= number(ancestor::mei:staffDef[@n=$thisstaff and @lines][1]/@lines)"> The clef position must be less than or equal to the number of lines of an ancestor staff. </sch:assert> </sch:rule>
Constraints	The clef position must be less than or equal to the number of lines of a preceding staff. <sch:rule context= "mei:clef[ancestor::mei:staffDef[not(@lines)]]"> <sch:let name= "thisstaff" value= "ancestor::mei:staffDef/@n"/> <sch:assert test= "number(@line) <= number(preceding::mei:staffDef[@n=$thisstaff and @lines][1]/@lines)"> The clef position must be less than or equal to the number of lines of a preceding staff. </sch:assert> </sch:rule>

<clefGrp>

<clefGrp> (clef group) – A set of simultaneously-occurring clefs.	
Module	MEI.shared
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike model.staffDefPart
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos incip layer note pad rest space staffDef
May contain	**MEI.shared** clef
Declaration	`<classes>`


```
  <memberOf key=" att.common" />
  <memberOf key=" att.event" />
  <memberOf key=" att.facsimile" />
  <memberOf key=" att.clefGrp.log" />
  <memberOf key=" att.clefGrp.vis" />
  <memberOf key=" att.clefGrp.ges" />
  <memberOf key=" att.clefGrp.anl" />
  <memberOf key=" model.eventLike" />
  <memberOf key=" model.staffDefPart" />
 </classes>
 <content>
  <rng:oneOrMore>
   <rng:ref name=" clef" />
  </rng:oneOrMore>
 </content>
```

<clip>

<clip> Defines a time segment of interest within a recording or within a digital audio or video file.	
Module	MEI.performance
Attributes	@begin *(optional)* Specifies a point where the relevant content begins. A numerical value must be less and a time value must be earlier than that given by the end attribute. Value is plain text. [att.mediabounds] @betype *(optional)* Type of values used in the begin/end attributes. The begin and end attributes can only be interpreted meaningfully in conjunction with this attribute. Value conforms to data.BETYPE . [att.mediabounds] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @end *(optional)* Specifies a point where the relevant content ends. If not specified, the end of the content is assumed to be the end point. A numerical value must be greater and a time value must be later than that given by the begin attribute. Value is plain text. [att.mediabounds] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.performance** avFile recording
May contain	**MEI.performance** avFile when
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.datapointing" /> <memberOf key=" att.declaring" /> <memberOf key=" att.mediabounds" /> <memberOf key=" att.startid" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" avFile" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" when" /> </rng:zeroOrMore> </content>
Remarks	This element is analogous to the zone element in the facsimile module.
Constraints	When @begin or @end is used, @betype should appear on clip or one of its ancestors. <sch:rule context= "mei:clip[@begin or @end]"> <sch:assert role= "warning" test= "@betype or ancestor::mei:*[@betype]"> When @begin or @end is used, @betype should appear on clip or one of its ancestors. </sch:assert> </sch:rule>

<componentGrp>

<componentGrp> (component group) – Container for components of a bibliographic entity.	
Module	MEI.frbr
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.frbr** expression item **MEI.header** source work
May contain	**MEI.frbr** expression item **MEI.header** source work **MEI.shared** head
Declaration	<classes> <memberOf key=" att.common" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:choice> <rng:zeroOrMore> <rng:ref name=" model.workLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" model.expressionLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" model.manifestationLike" /> </rng:zeroOrMore> <rng:zeroOrMore>

	<rng:ref name=" model.itemLike" /> </rng:zeroOrMore> </rng:choice> </content>
Remarks	The child elements of this element are treated as parts of the bibliographic entity containing the componentGrp. Although this is an implicit way of expressing FRBR's hasPart / isPartOf-relationships, it avoids this terminology in order to prevent confusion with musical terminology. All children of a component must be the same type as its parent: only work children are allowed within work, item in item, etc.
Constraints	Only child elements of the same name as the parent of the componentGrp are allowed. <sch:rule context= "mei:componentGrp"> <sch:assert test= "every $i in ./child::mei:*[not(local-name()='head')] satisfies $i/local-name() eq ./parent::mei:*/local-name()" > Only child elements of the same name as the parent of the componentGrp are allowed. </sch:assert> </sch:rule>

<composer>

<composer> The name of the creator of the intellectual content of a musical work.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang]

	@type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.respLikePart
Contained by	**MEI.header** byline perfDuration titleStmt **MEI.shared** arranger author bibl biblScope composer creation editor extent funder genre imprint librettist lyricist physLoc recipient relatedItem respStmt series sponsor textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.respLikePart" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:choice>
   <rng:text/>
   <rng:ref name=" model.textphraseLike.limited" />
  </rng:choice>
```

	<rng:zeroOrMore> </content>

<condition>

<condition> The physical condition of an item, particularly any variances between the physical make-up of the item and that of other copies of the same item (e.g., missing pages or plates, brittleness, faded images, etc.).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig

	MEI.namesdates bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<contentItem>

<contentItem> Contains a single entry within a content description element.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** contents
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.lang" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<!-- <rng:ref name="model.textcomponentLike"/> -->`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

<contents>

<contents> Description of the material contained within a resource.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " **onLoad**" *(Load the target resource(s) immediately.)*, " **onRequest**" *(Load the target resource(s) upon user request.)*, " **none**" *(Do not permit loading of the target resource(s).)*, " **other**" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " **new**" *(Open in a new window.)*, " **replace**" *(Load the referenced resource in the same window.)*, " **embed**" *(Embed the referenced resource at the point of the link.)*, " **none**" *(Do not permit traversal to the referenced resource.)*, " **other**" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.frbr** expression **MEI.header** seriesStmt source work
May contain	**MEI.header** contentItem

	MEI.shared head label p
Declaration	<classes> <memberOf key= " att.common" /> <memberOf key= " att.bibl" /> <memberOf key= " att.pointing" /> </classes> <content> <rng:zeroOrMore> <rng:ref name= " model.headLike" /> </rng:zeroOrMore> <rng:choice> <rng:optional> <rng:ref name= " model.pLike" /> </rng:optional> <rng:oneOrMore> <rng:optional> <rng:ref name= " model.labelLike" /> </rng:optional> <rng:ref name= " contentItem" /> </rng:oneOrMore> </rng:choice> </content>

Examples	<contents>
	  A suitable tone ; Left hand colouring ; Rhythm and accent ; Tempo ;
	  Flexibility ; Ornaments
	</contents>
	
	<contents>
	  <head>Contents </head>
	  <label>1. </label>
	  <contentItem>Sonata in D major, op. V, no. 1 / Corelli </contentItem>
	  <label>2. </label>
	  <contentItem>Sonata in G minor / Purcell (with Robert Donington, gamba)
	  </contentItem>
	  <label>3. </label>
	  <contentItem>Forlane from Concert royal no. 3 / Couperin </contentItem>
	</contents>
	
	<contents target= "http://www.contentProvider.org/toc/toc01.html"/>

<context>

<context> The historical, social, intellectual, artistic, or other context within which the work was originally conceived (e.g., the 17th century restoration of the monarchy in England, the aesthetic movement of the late 19th century, etc.) or the historical, social, intellectual, artistic, or other context within which the expression was realized.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.frbr** expression **MEI.header** work
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName

	MEI.ptrref ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<corpName>

<corpName> (corporate name) – Identifies an organization or group of people that acts as a single entity.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype string. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype NMTOKEN, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.nameLike.agent
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer creation date depth desc dir distributor dynam edition editor event eventList extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository respStmt role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" att.typed" /> <memberOf key=" model.nameLike.agent" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Examples of corporate entities include names of associations, institutions, business firms, non-profit enterprises, governments, government agencies, projects, programs, religious bodies, churches, conferences, athletic contests, exhibitions, expeditions, fairs, and ships. Usually, secondary name parts are encoded in corpName sub-elements. The name of the list from which a controlled value is taken may be recorded using the @authority attribute.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<corr>

<corr> (correction) – Contains the correct form of an apparent erroneous passage.	
Module	MEI.edittrans
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype positiveInteger. [att.sequence] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.choicePart model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription

	MEI.namesdates addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol
Declaration	

```
  <memberOf key=" att.typed" />
  <memberOf key=" model.choicePart" />
  <memberOf key=" model.transcriptionLike" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:choice>
   <rng:text/>
   <rng:ref name=" model.textphraseLike" />
   <rng:ref name=" model.eventLike" />
   <rng:ref name=" model.eventLike.neumes" />
   <rng:ref name=" model.controleventLike" />
   <rng:ref name=" model.lyricsLike" />
   <rng:ref name=" model.midiLike" />
   <rng:ref name=" model.editLike" />
   <rng:ref name=" model.transcriptionLike" />
   <rng:ref name=" model.eventLike.measureFilling" />
   <rng:ref name=" model.noteModifierLike" />
   <rng:ref name=" model.sectionLike" />
   <rng:ref name=" model.measureLike" />
   <rng:ref name=" model.staffLike" />
   <rng:ref name=" model.layerLike" />
   <rng:ref name=" model.graphicprimitiveLike" />
   <rng:ref name=" model.fLike" />
  </rng:choice>
 </rng:zeroOrMore>
</content>
```

Remarks	The @cert attribute signifies the degree of certainty ascribed to correction. The @resp attribute contains an ID reference to an element containing the name of the editor or transcriber responsible for suggesting the correction held as the content of the corr element. If the correction was made in the source, resp should be used to identify the hand of the corrector. The value of resp must point to one or more identifiers declared in the document header.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<correction>

<correction> States how and under what circumstances corrections have been made in the text.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]

	@corrlevel *(optional)* Indicates the degree of correction applied to the text. Allowed values are: " high" *(The text has been thoroughly checked and proofread.)*, " medium" *(The text has been checked at least once.)*, " low" *(The text has not been checked.)*, " unknown" *(The correction status of the text is unknown.)* [correction] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @method *(optional)* Indicates the method employed to mark corrections and normalizations. Allowed values are: " silent" *(Corrections and normalizations made silently.)*, " tags" *(Corrections and normalizations indicated using elements.)* [att.regularmethod] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.editorialDeclPart
Contained by	**MEI.header** correction editorialDecl interpretation normalization segmentation stdVals
May contain	**MEI.shared** p
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.datapointing" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.regularmethod" />
 <memberOf key=" model.editorialDeclPart" />
</classes>
<content>
 <rng:oneOrMore>
```

	<rng:ref name=" model.pLike" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<country>

<country> Contains the name of a geo-political unit, such as a nation, country, colony, or commonwealth, larger than or administratively superior to a region and smaller than a bloc.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.geogNamePart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear

	MEI.figtable figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.geogNamePart" />`
	`</classes>`
	`<content>`

	<rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<cpMark>

<cpMark> (copy/colla parte mark) – A verbal or graphical indication to copy musical material written elsewhere.	
Module	MEI.edittrans
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dis *(optional)* Records the amount of octave displacement. Value conforms to data.OCTAVE.DIS . [att.octavedisplacement] @dis.place *(optional)* Records the direction of octave displacement. Value conforms to data.PLACE . [att.octavedisplacement] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid]

	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @origin.endid *(optional)* indicates the final element in a sequence of events. Value conforms to data.URI . [att.origin.startendid] @origin.layer *(optional)* identifies the layer on which referenced notation occurs. One or more of **positiveInteger**. [att.origin.layerident]

	@origin.staff *(rec)* signifies the staff on which referenced notation occurs. Defaults to the same value as the local staff. Mandatory when applicable. One or more of **positiveInteger**. [att.origin.staffident] @origin.startid *(optional)* indicates the first element in a sequence of events. Value conforms to data.URI . [att.origin.startendid] @origin.tstamp *(optional)* encodes the starting point of musical material in terms of musical time, i.e., a (potentially negative) count of measures plus a beat location. Value conforms to data.MEASUREBEATOFFSET . [att.origin.timestamp.musical] @origin.tstamp2 *(rec)* encodes the ending point of musical material in terms of musical time, i.e., a count of measures plus a beat location. The values are relative to the measure identified by @origin.tstamp. Value conforms to data.MEASUREBEAT . [att.origin.timestamp.musical] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

	@tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref

	MEI.shared address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.cpMark.log" /> <memberOf key=" att.cpMark.vis" /> <memberOf key=" att.cpMark.ges" /> <memberOf key=" att.cpMark.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.controleventLike.cmn" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Examples	<cpMark origin.tstamp= "-6m+1" staff= "8" tstamp= "1" tstamp2= "5m+4"> a. b. c. d. e. f. g. </cpMark> <cpMark origin.staff= "8" staff= "9" tstamp= "1.5" tstamp2= "1m+3.5"> unis: </cpMark> <cpMark dis= "8" dis.place= "below" origin.staff= "8" staff= "9" tstamp= "2" tstamp2= "2m+3.5"> in 8va </cpMark>
Remarks	Typical examples are *colla parte* instructions (such as "col Basso") or other indications intended to result in filling gaps in the score with material written elsewhere. It is recommended to capture the position of the indication itself with the attributes @tstamp and @staff. The area to be filled should contain space or mSpace elements. The material to be used to fill the gap can be identified by the attributes @origin.tstamp, @origin.tstamp2, @origin.staff, and @origin.layer. If @origin.tstamp2 is not provided, a duration similar to that of the local omission (as encoded in the combination of @tstamp and @tstamp2) is assumed. Any missing @origin.* attributes are assumed to take the same values as information associated with the cpMark. For example, when

	only the @origin.staff attribute is provided, it is assumed that the referenced part comes from a different staff in the same measure. If a different measure is provided by @origin.tstamp, but no @origin.staff is given, then it is assumed that the material is to be taken from the same staff.Textual instructions are encoded as text content of the cpMark, while graphical instructions may use the @altsym, @facs, or @extsym attributes.

Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real
	Must have one of the attributes: dur, dur.ges, endid, or tstamp2
	
	`<sch:rule context= "mei:cpMark">`
	`<sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real">`
	`Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real </sch:assert>`
	`<sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2 </sch:assert>`
	`</sch:rule>`

<creation>

<creation> Non-bibliographic details of the creation of an intellectual entity, in narrative form, such as the date, place, and circumstances of its composition. More detailed information may be captured within the history element.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.biblPart
Contained by	**MEI.frbr** expression **MEI.header** perfDuration work **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**Text** **MEI.namesdates** corpName geogName persName **MEI.shared** date name repository

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.biblPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" date" />`
	`<rng:ref name=" model.nameLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI).

<cue>

<cue> MIDI cue point.	
Module	MEI.midi

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	

Contained by	**MEI.midi** midi
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common.anl" /> <memberOf key=" att.common" /> <memberOf key=" att.lang" /> <memberOf key=" att.midi.event" /> </classes> <content> <rng:text/> </content>

<curve>

<curve> A curved line that cannot be represented by a more specific element, such as a slur.	
Module	MEI.usersymbols
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho]

	@endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype decimal. [att.xy2] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype decimal. [att.xy2]
Member of	model.graphicprimitiveLike
Contained by	**MEI.cmn** measure slur tie **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.harmony** harm **MEI.neumes** syllable **MEI.shared** dir ending layer ornam part pgDesc phrase score section staff tempo **MEI.usersymbols** anchoredText curve line symbolDef
May contain	**Empty**
Declaration	`<classes>`

```
 <memberOf key= " att.common.anl" />
 <memberOf key= " att.color" />
 <memberOf key= " att.common" />
 <memberOf key= " att.curvature" />
 <memberOf key= " att.curverend" />
 <memberOf key= " att.facsimile" />
 <memberOf key= " att.startendid" />
 <memberOf key= " att.typed" />
 <memberOf key= " att.visualoffset" />
 <memberOf key= " att.visualoffset2" />
 <memberOf key= " att.xy" />
 <memberOf key= " att.xy2" />
 <memberOf key= " model.graphicprimitiveLike" />
</classes>
<content>
 <rng:empty/>
</content>
```

Remarks

The starting point of the curve may be identified in absolute output coordinate terms using the @x and @y attributes or relative to the location of another element using the @startid attribute. The attributes in the att.visualoffset class may be used to record horizontal, vertical, or time offsets from the absolute coordinates or from the location of the referenced element. Similarly, the terminal point of the curve may be recorded using either the @x2 and @y2 coordinates or in relation to the location of another element using the @endid attribute. Attributes in the att.visualoffset2 class maybe used to record the offsets of the ending point. The @bulge attribute or, alternatively, the @bezier attribute, describe the shape of the curve and the @lform and @lwidth attributes capture its appearance.

Constraints

In the symbolDef context, curve must have either a startid attribute or x and y attributes.
In the symbolDef context, curve must have either an endid attribute or both x2 and y2 attributes.
In the symbolDef context, curve must have either a bezier or bulge attribute.

```
<sch:rule context= "mei:curve[ancestor::mei:symbolDef]">
 <sch:assert test= "@startid or (@x and @y)"> In the symbolDef context,
 curve must have either a startid attribute or x and y attributes.
 </sch:assert>
 <sch:assert test= "@endid or (@x2 and @y2)"> In the symbolDef context,
 curve must have either an endid attribute or both x2 and y2 attributes.
 </sch:assert>
 <sch:assert test= "@bezier or @bulge"> In the symbolDef context, curve
 must have either a bezier or bulge attribute. </sch:assert>
</sch:rule>
```

<custos>

<custos> Symbol placed at the end of a line of music to indicate the first note of the next line. Sometimes called a "direct".	
Module	MEI.shared
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @target *(optional)* Encodes the target note when its pitch differs from the pitch at which the custos appears. Value conforms to data.URI . [att.custos.log] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest sb space
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`

	<memberOf key=" att.source" /> <memberOf key=" att.custos.log" /> <memberOf key=" att.custos.vis" /> <memberOf key=" att.custos.ges" /> <memberOf key=" att.custos.anl" /> <memberOf key=" model.eventLike" /> </classes> <content> <rng:empty/> </content>
Remarks	The most common visual form is a sign resembling a mordent. Other graphical forms may be indicated by the @altsym attribute. Together the @pname and @oct attributes identify the location where the custos appears.

<damage>

<damage> Contains an area of damage to the physical medium.	
Module	MEI.edittrans
Attributes	@agent *(optional)* Signifies the causative agent of damage, illegibility, or other loss of original text. Value of datatype **string**. [att.agentident] @degree *(optional)* Records the degree of damage. Value of datatype **string**. [damage] @extent *(optional)* Indicates the extent of damage or omission. Value of datatype **string**. [att.extent] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang]

	@type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear

	MEI.figtable fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes>`
	`<memberOf key=" att.agentident" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.extent" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.handident" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.transcriptionLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.eventLike" />`
	`<rng:ref name=" model.eventLike.neumes" />`
	`<rng:ref name=" model.controleventLike" />`
	`<rng:ref name=" model.lyricsLike" />`
	`<rng:ref name=" model.midiLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`<rng:ref name=" model.eventLike.measureFilling" />`
	`<rng:ref name=" model.noteModifierLike" />`
	`<rng:ref name=" model.sectionLike" />`
	`<rng:ref name=" model.measureLike" />`
	`<rng:ref name=" model.staffLike" />`
	`<rng:ref name=" model.layerLike" />`

	<rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.fLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<date>

<date> A string identifying a point in time or the time period between two such points.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @calendar *(optional)* Indicates the calendar system to which a date belongs, for example, Gregorian, Julian, Roman, Mosaic, Revolutionary, Islamic, etc. Value of datatype **NMTOKEN**. [att.calendared] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable]

	@resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.dateLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience availability byline captureMode carrierForm change condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance pubStmt soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref

	MEI.shared actor addrLine annot arranger author bibl biblScope caption composer creation date depth desc dir distributor dynam edition editor event eventList extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository respStmt role roleDesc series sponsor stack syl tempo textLang title titlePage width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.calendared" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.datable" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.dateLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<del>

<del> (deletion) – Contains information deleted, marked as deleted, or otherwise indicated as superfluous or spurious in the copy text by an author, scribe, annotator, or corrector.	
Module	MEI.edittrans
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @rend *(optional)* Captures the appearance of the source material using MEI-defined descriptors. One or more values from data.TEXTRENDITION , separated by spaces. [del] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype **positiveInteger**. [att.sequence] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg

	MEI.edittrans abbr add corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.trans" /> <memberOf key=" att.typed" /> <memberOf key=" model.transcriptionLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.eventLike" /> <rng:ref name=" model.eventLike.neumes" /> <rng:ref name=" model.controleventLike" /> <rng:ref name=" model.lyricsLike" /> <rng:ref name=" model.midiLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.eventLike.measureFilling" /> <rng:ref name=" model.noteModifierLike" /> <rng:ref name=" model.sectionLike" /> <rng:ref name=" model.measureLike" /> <rng:ref name=" model.staffLike" /> <rng:ref name=" model.layerLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.fLike" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	The @resp attribute contains an ID reference to an element containing the name of the editor or transcriber responsible for identifying the hand of the deletion. The @cert attribute signifies the degree of certainty ascribed to the identification of the hand of the deletion. The hand of the agent which made the deletion should be pointed to using the @hand attribute. The @rend attribute may be used to record the method used to make the deletion (overstrike, strike[through], etc.).This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<depth>

<depth> Description of a measurement taken through a three-dimensional object.	
Module	MEI.shared

Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @quantity *(optional)* Numeric value capturing a measurement or count. Can only be interpreted in combination with the unit or currency attribute. Value of datatype **a decimal number no smaller than 0** . [att.quantity] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " **byte**" *(Byte.)*, " **char**" *(Character.)*, " **cm**" *(Centimeter.)*, " **in**" *(Inch.)*, " **issue**" *(Serial issue.)*, " **mm**" *(Millimeter.)*, " **page**" *(Page.)*, " **pc**" *(Pica.)*, " **pt**" *(Point.)*, " **px**" *(Pixel.)*, " **record**" *(Record.)*, " **vol**" *(Serial volume.)*, " **vu**" *(MEI virtual unit.)* [att.measurement] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.dimLike
Contained by	**MEI.header** dimensions **MEI.shared** depth height width
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" att.quantity" /> <memberOf key=" att.measurement" /> <memberOf key=" model.dimLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<desc>

<desc> (description) – Container for text that briefly describes the feature to which it is attached, including its intended usage, purpose, or application as appropriate.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.descLike model.eventPart
Contained by	**MEI.shared** desc event name
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.source" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.descLike" />`
	`<memberOf key=" model.eventPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`

	<rng:zeroOrMore> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<dimensions>

<dimensions> Information about the physical size of a bibliographic source; usually includes numerical data.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " **byte**" *(Byte.)*, " **char**" *(Character.)*, " **cm**" *(Centimeter.)*, " **in**" *(Inch.)*, " **issue**" *(Serial issue.)*, " **mm**" *(Millimeter.)*, " **page**" *(Page.)*, " **pc**" *(Pica.)*, " **pt**" *(Point.)*, " **px**" *(Pixel.)*, " **record**" *(Record.)*, " **vol**" *(Serial volume.)*, " **vu**" *(MEI virtual unit.)* [att.measurement] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent

May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date depth height identifier lb name num rend repository stack title width **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" att.measurement" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.dimLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The elements height, width, and depth are available for circumstances that require the capture of the individual dimensions of an object. Do not confuse this element with the extent element, which is used to indicate the quantity of described materials.This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<dir>

<dir> (directive) – An instruction expressed as a combination of text and symbols — such as segno and coda symbols, fermatas over a bar line, etc., typically above, below, or between staves, but not on the staff — that is not encoded elsewhere in more specific elements, like <tempo> or <dynam>.	
Module	MEI.shared

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend]

	@lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to]

	@translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.controleventLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear

	MEI.lyrics verse **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.dir.log" />`
	`<memberOf key=" att.dir.vis" />`
	`<memberOf key=" att.dir.ges" />`
	`<memberOf key=" att.dir.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.controleventLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`<rng:ref name=" model.graphicprimitiveLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Examples include text strings, such as 'affettuoso', and music symbols, such as segno and coda symbols, fermatas over a bar line, etc. Directives can be control elements. That is, they can linked via their attributes to other events. The starting point of the directive may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be

	recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify a starting point attribute.

Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real.
	
	`<sch:rule context= "mei:dir[not(ancestor::mei:syllable)]">`
	`<sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real">`
	`Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert>`
	`</sch:rule>`

<distributor>

<distributor> Person or agency, other than a publisher, from which access (including electronic access) to a bibliographic entity may be obtained.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.imprintPart model.pubStmtPart

Contained by	**MEI.header** availability pubStmt **MEI.shared** bibl distributor imprint publisher pubPlace respStmt
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.imprintPart" /> <memberOf key=" model.pubStmtPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<district>

<district> Contains the name of any kind of subdivision of a settlement, such as a parish, ward, or other administrative or geographic unit.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]

	@authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name]

	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.geogNamePart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width

	MEI.text l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.geogNamePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

* *

** ** (division) – Major structural division of text, such as a preface, chapter or section.	
Module	MEI.shared

Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [div] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Allowed values are: " **abstract**" *(A summary of the content of a text as continuous prose.)*, " **ack**" *(A formal declaration of acknowledgement by the author in which persons and institutions are thanked for their part in the creation of a text.)* , " **appendix**" *(An ancillary self-contained section of a work, often providing additional but in some sense extra-canonical text.)* , " **bibliography**" *(A list of bibliographic citations.)*, " **colophon**" *(A statement appearing at the end of a book describing the conditions of its physical production.)* , " **contents**" *(A table of contents, specifying the structure of a work and listing its constituents. The list element should be used to mark its structure.)* , " **dedication**" *(A formal offering or dedication of a text to one or more persons or institutions by the author.)* , " **frontispiece**" *(A pictorial frontispiece, possibly including some text.)*, " **glossary**" *(A list of terms associated with definition texts ('glosses').)*, " **half-title**" *(A page containing only the title of a book — as opposed to the title page, which also lists subtitle, author, imprint and similar data.)* , " **index**" *(Any form of index to the work.)*, " **annotations**" *(A section in which annotations on the text are gathered together.)*, " **preface**" *(A foreword or preface addressed to the reader in which the author or publisher explains the content, purpose, or origin of the text.)* [div] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.divLike

Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg **MEI.header** history **MEI.neumes** syllable **MEI.shared** div ending layer part score section staff **MEI.text** back front
May contain	**MEI.figtable** table **MEI.shared** biblList castList div eventList head lb p pb **MEI.text** lg list quote
Declaration	
Remarks	Often, the head sub-element identifies the div's purpose. This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.declaring" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" model.divLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:ref name=" model.headLike" />
     <rng:ref name=" model.milestoneLike.text" />
   </rng:choice>
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:ref name=" model.divLike" />
     <rng:ref name=" model.textcomponentLike" />
   </rng:choice>
   <rng:zeroOrMore>
     <rng:ref name=" model.milestoneLike.text" />
   </rng:zeroOrMore>
 </rng:zeroOrMore>
</content>
```

<dot>

<dot> Dot of augmentation or division.

Module	MEI.shared
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Records the function of the dot. Allowed values are: " aug" *(Augmentation dot.)*, " div" *(Dot of division.)* [att.dot.log] @glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart]

	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.noteModifierLike
Contained by	**MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** accid artic dot layer note rest
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.dot.log" />`
	`<memberOf key=" att.dot.vis" />`
	`<memberOf key=" att.dot.ges" />`
	`<memberOf key=" att.dot.anl" />`
	`<memberOf key=" model.noteModifierLike" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	This element provides an alternative to the @dots attribute on note and rest elements. It should be used when specific display info, such as size or color, needs to be recorded for the dot. This element may also be used for dots of division in the mensural repertoire.

<dynam>

<dynam> (dynamic) – Indication of the volume of a note, phrase, or section of music.	
Module	MEI.shared

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed]

	@val *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue] @val2 *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue2] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.controleventLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.lyrics** verse **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName

	MEI.ptrref ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	` <memberOf key=" att.common" />`
	` <memberOf key=" att.dynam.log" />`
	` <memberOf key=" att.dynam.vis" />`
	` <memberOf key=" att.dynam.ges" />`
	` <memberOf key=" att.dynam.anl" />`
	` <memberOf key=" att.facsimile" />`
	` <memberOf key=" att.lang" />`
	` <memberOf key=" att.typed" />`
	` <memberOf key=" model.controleventLike" />`
	`</classes>`
	`<content>`
	` <rng:zeroOrMore>`
	`  <rng:choice>`
	`  <rng:text/>`
	`  <rng:ref name=" model.textphraseLike.limited" />`
	`  <rng:ref name=" model.editLike" />`
	`  <rng:ref name=" model.transcriptionLike" />`
	`  </rng:choice>`
	` </rng:zeroOrMore>`
	`</content>`

Remarks	This element may be used for instantaneous or continuous *textual* dynamics, e.g. 'p', 'mf', or 'cresc. poco a poco'. The hairpin element should be used for *graphical*, i.e., crescendo and diminuendo, dynamic markings. The starting point of the dynamic marking may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify a starting point attribute. MIDI values associated with the graphical dynamic sign may be recorded in the @val and @val2 attributes.

Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real.
	`<sch:rule context="mei:dynam">`
	` <sch:assert test="@startid or @tstamp or @tstamp.ges or @tstamp.real">`
	` Must have one of the attributes: startid, tstamp, tstamp.ges or`
	` tstamp.real. </sch:assert>`
	`</sch:rule>`

Constraints	When @val2 is present, either @dur, @dur.ges, @endid, or @tstamp2 must also be present.

	<sch:rule context= "mei:dynam[@val2]"> <sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> When @val2 is present, either @dur, @dur.ges, @endid, or @tstamp2 must also be present. </sch:assert> </sch:rule>

<edition>

<edition> (edition designation) – A word or text phrase that indicates a difference in either content or form between the item being described and a related item previously issued by the same publisher/distributor (e.g. 2nd edition, version 2.0, etc.), or simultaneously issued by either the same publisher/distributor or another publisher/distributor (e.g. large print edition, British edition, etc.).	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.editionLike
Contained by	**MEI.header** editionStmt perfDuration **MEI.shared** bibl biblScope creation edition extent genre imprint physLoc recipient relatedItem series textLang
May contain	**Text**

	MEI.edittrans abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" model.editionLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<editionStmt>

<editionStmt> (edition statement) – Container for meta-data pertaining to a particular edition of the material being described.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.header** fileDesc source
May contain	**MEI.shared** edition respStmt
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.editionLike" /> <rng:zeroOrMore> <rng:ref name=" respStmt" /> </rng:zeroOrMore> </rng:oneOrMore> </content>
Remarks	This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<editor>

<editor> The name of the individual(s), institution(s) or organization(s) acting in an editorial capacity.	
Module	MEI.shared

Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.respLikePart
Contained by	**MEI.header** byline perfDuration seriesStmt titleStmt **MEI.shared** arranger author bibl biblScope composer creation editor extent funder genre imprint librettist lyricist physLoc recipient relatedItem respStmt series sponsor textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> <memberOf key=" model.respLikePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<editorialDecl>

<editorialDecl> (editorial declaration) – Used to provide details of editorial principles and practices applied during the encoding of musical text.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.encodingPart
Contained by	**MEI.header** appInfo editorialDecl encodingDesc projectDesc samplingDecl
May contain	**MEI.header** correction interpretation normalization segmentation stdVals **MEI.shared** head p
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.datapointing" /> <memberOf key=" att.lang" /> <memberOf key=" model.encodingPart" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:choice> <rng:oneOrMore> <rng:ref name=" model.pLike" /> </rng:oneOrMore> <rng:group> <rng:oneOrMore> <rng:ref name=" model.editorialDeclPart" /> </rng:oneOrMore> <rng:zeroOrMore> <rng:ref name=" model.pLike" /> </rng:zeroOrMore> </rng:group> </rng:choice> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<encodingDesc>

<encodingDesc> (encoding description) – Documents the relationship between an electronic file and the source or sources from which it was derived as well as applications used in the encoding/editing process.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.headerPart
Contained by	**MEI.header** encodingDesc meiHead workDesc
May contain	**MEI.header** appInfo editorialDecl projectDesc samplingDecl
Declaration	<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" model.headerPart" /> </classes> <content> <rng:optional> <rng:ref name=" appInfo" /> </rng:optional> <rng:optional> <rng:ref name=" editorialDecl" /> </rng:optional> <rng:optional> <rng:ref name=" projectDesc" /> </rng:optional> <rng:optional> <rng:ref name=" samplingDecl" /> </rng:optional>

	`</content>`
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<ending>

<ending> Alternative ending for a repeated passage of music; i.e., prima volta, seconda volta, etc.	
Module	MEI.shared
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.endingLike
Contained by	**MEI.critapp** lem rdg **MEI.shared** ending part score section
May contain	**MEI.cmn** measure **MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.shared** annot div ending expansion pb sb scoreDef section staff staffDef **MEI.usersymbols** anchoredText curve line

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.ending.anl" />`
	`<memberOf key=" att.ending.ges" />`
	`<memberOf key=" att.ending.log" />`
	`<memberOf key=" att.ending.vis" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.pointing" />`
	`<memberOf key=" att.targeteval" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.endingLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" expansion" />`
	`</rng:zeroOrMore>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.appLike" />`
	`<rng:ref name=" model.divLike" />`
	`<rng:ref name=" model.milestoneLike.music" />`
	`<rng:ref name=" model.annotLike" />`
	`<rng:ref name=" model.graphicprimitiveLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`<rng:ref name=" model.sectionPart" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The scoreDef element is allowed as a sub-element so that an ending may have its own meta-data without the overhead of child section elements. div sub-elements are not allowed within ending in order to avoid collisions with the brackets that are usually displayed over endings. Endings may *not* contain other ending elements.

<event>

<event> Contains a free-text event description.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]

	@calendar *(optional)* Indicates the calendar system to which a date belongs, for example, Gregorian, Julian, Roman, Mosaic, Revolutionary, Islamic, etc. Value of datatype NMTOKEN. [att.calendared] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.shared** eventList
May contain	**MEI.figtable** table **MEI.namesdates** corpName geogName persName **MEI.shared** address biblList castList date desc eventList head name p **MEI.text** list
Declaration	

```
<classes>
 <memberOf key=" att.bibl" />
 <memberOf key=" att.calendared" />
 <memberOf key=" att.common" />
 <memberOf key=" att.datable" />
 <memberOf key=" att.edit" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.typed" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" model.headLike" />
 </rng:zeroOrMore>
 <rng:choice>
   <!-- data-like organization -->
   <rng:zeroOrMore>
     <rng:choice>
       <rng:ref name=" model.eventPart" />
       <rng:ref name=" castList" />
       <rng:ref name=" eventList" />
     </rng:choice>
   </rng:zeroOrMore>
   <!-- free-form organization -->
   <rng:zeroOrMore>
     <rng:choice>
```


```
        <!-- model.listLike is expanded here in order to disallow
        biblList, castList, and eventList -->
        <rng:ref name=" model.pLike" />
        <rng:ref name=" model.tableLike" />
        <rng:ref name=" list" />
      </rng:choice>
    </rng:zeroOrMore>
  </rng:choice>
  <!-- biblList may occur in either organizational approach, but must
  come at the end -->
  <rng:zeroOrMore>
    <rng:ref name=" biblList" />
  </rng:zeroOrMore>
</content>
```

<eventList>

<eventList> Contains historical information given as a sequence of significant past events.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.listLike

Contained by	**MEI.figtable** figDesc td th **MEI.header** history provenance **MEI.shared** annot biblList castList div event eventList p pgDesc pgFoot pgFoot2 pgHead pgHead2 titlePage **MEI.text** li list quote
May contain	**MEI.namesdates** corpName geogName persName **MEI.shared** address biblList date event eventList head name
Declaration	

```
<classes>
 <memberOf key=" att.bibl" />
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.listLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" model.headLike" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:group>
     <!-- an organizing data element; when not present, the list is a
     simple list of event descriptions -->
     <rng:optional>
        <rng:choice>
           <rng:ref name=" name" />
           <rng:ref name=" model.addressLike" />
           <rng:ref name=" model.dateLike" />
           <rng:ref name=" model.nameLike.agent" />
           <rng:ref name=" model.nameLike.geogName" />
        </rng:choice>
     </rng:optional>
     <!-- an event description or a nested group of events -->
     <rng:choice>
        <rng:ref name=" event" />
        <rng:ref name=" eventList" />
     </rng:choice>
   </rng:group>
 </rng:zeroOrMore>
 <!-- at the very end, a list of citations -->
 <rng:zeroOrMore>
   <rng:ref name=" biblList" />
 </rng:zeroOrMore>
</content>
```

Remarks	An eventList contains event elements that capture a brief description of the associated event, including dates and locations where the event took place. An eventList describes events associated with a work when it appears in the workDesc element or events associated with the custodial history of a given copy of a source for the encoding when it appears within the source or relatedItem elements. The @type attribute may be used to distinguish between event lists with different functions, such as a list of events in the compositional process and a list of performance dates.

<exhibHist>

<exhibHist> (exhibition history) – A record of public exhibitions, including dates, venues, etc.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan

	MEI.figtable fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<expan>

<expan> (expansion) – Contains the expansion of an abbreviation.	
Module	MEI.edittrans
Attributes	@abbr *(optional)* Captures the abbreviated form of the text. Value of datatype **string**. [expan] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile]

	@hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype **positiveInteger**. [att.sequence] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.editorialLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add choice corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm

	MEI.header accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.trans" /> <memberOf key=" att.typed" /> <memberOf key=" model.editorialLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.eventLike" /> <rng:ref name=" model.eventLike.neumes" /> <rng:ref name=" model.controleventLike" /> <rng:ref name=" model.lyricsLike" /> <rng:ref name=" model.midiLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.eventLike.measureFilling" /> <rng:ref name=" model.noteModifierLike" /> <rng:ref name=" model.sectionLike" /> <rng:ref name=" model.measureLike" /> <rng:ref name=" model.staffLike" /> <rng:ref name=" model.layerLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.fLike" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<expansion>

<expansion> Indicates how a section may be programmatically expanded into its 'through-composed' form.	
Module	MEI.shared
Attributes	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an*

	element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.) , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.critapp** lem rdg **MEI.shared** ending section
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.plist" /> <memberOf key=" att.source" /> <memberOf key=" att.targeteval" /> <memberOf key=" att.typed" /> </classes> <content> <rng:empty/> </content>

Remarks	The @plist attribute contains an ordered list of identifiers of descendant section, ending, lem, or rdg elements. For example, the sequence "#A #End1 #A #End2" indicates that the section labelled 'A' comes first, then the ending labelled 'End1', followed by the 'A' section again, and finally the ending labelled 'End2'.

<expression>

<expression> Intellectual or artistic realization of a work.	
Module	MEI.frbr
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.expressionLike
Contained by	**MEI.frbr** componentGrp expression expressionList
May contain	**MEI.frbr** componentGrp relationList **MEI.header** classification contents context extMeta history key langUsage mensuration meter notesStmt otherChar perfDuration perfMedium scoreFormat titleStmt **MEI.shared** biblList creation extent identifier incip tempo

Declaration	`<classes>`
	`<memberOf key=" att.datapointing" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" model.expressionLike" />`

```
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name= " model.identifierLike" />
 </rng:zeroOrMore>
 <rng:optional>
   <rng:ref name= " titleStmt" />
 </rng:optional>
 <rng:zeroOrMore>
   <rng:ref name= " model.workIdent" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:ref name= " otherChar" />
 </rng:zeroOrMore>
 <rng:optional>
   <rng:ref name= " creation" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " history" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " langUsage" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " perfMedium" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " perfDuration" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " extent" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " scoreFormat" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " contents" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " context" />
 </rng:optional>
 <rng:zeroOrMore>
   <rng:ref name= " biblList" />
 </rng:zeroOrMore>
 <rng:optional>
   <rng:ref name= " notesStmt" />
 </rng:optional>
 <rng:optional>
   <rng:ref name= " classification" />
```

	<rng:optional> <rng:optional> <rng:ref name=" componentGrp" /> </rng:optional> <rng:optional> <rng:ref name=" relationList" /> </rng:optional> <rng:zeroOrMore> <rng:ref name=" extMeta" /> </rng:zeroOrMore> </content>
Remarks	The perfDuration element captures the *intended duration* of the expression, while extent records scope of the expression in other terms, such as number of pages, measures, etc.

<expressionList>

<expressionList> Gathers bibliographic expression entities.	
Module	MEI.frbr
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.header** work
May contain	**MEI.frbr** expression **MEI.shared** head

Declaration	

```
<classes>
 <memberOf key=" att.common" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:ref name=" model.headLike" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
  <rng:ref name=" model.expressionLike" />
 </rng:zeroOrMore>
</content>
```

<extMeta>

<extMeta> (extended metadata) – Provides a container element for non-MEI metadata formats.	
Module	MEI.header
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:space *(optional)* Allows one to signal to an application whether an element's white space is "significant". The behavior of xml:space cascades to all descendant elements, but it can be turned off locally by setting the xml:space attribute to the value "default". Allowed values are: "default" *(Allows the application to handle white space as necessary. Not including an xml:space attribute produces the same result as using the default value.)* , "preserve" *(Instructs the application to maintain white space "as-is", suggesting that it might have meaning.)* [att.whitespace]
Member of	
Contained by	**MEI.frbr** expression item **MEI.header** meiHead source work
May contain	**Text**

Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.whitespace" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:group>
   <rng:choice>
    <rng:text/>
    <rng:ref name=" macro.anyXML" />
   </rng:choice>
  </rng:group>
 </rng:zeroOrMore>
</content>
```

<extent>

<extent> Used to express size in terms other than physical dimensions, such as number of pages, number of records in file, number of bytes, performance duration for music, audio recordings and visual projections, etc.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " **byte**" *(Byte.)*, " **char**" *(Character.)*, " **cm**" *(Centimeter.)*, " **in**" *(Inch.)*, " **issue**" *(Serial issue.)*, " **mm**" *(Millimeter.)*, " **page**" *(Page.)*, " **pc**" *(Pica.)*, " **pt**" *(Point.)*, " **px**" *(Pixel.)*, " **record**" *(Record.)*, " **vol**" *(Serial volume.)*, " **vu**" *(MEI virtual unit.)* [att.measurement] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.biblPart model.physDescPart
Contained by	**MEI.frbr** expression **MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fileDesc fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.measurement" />`
	`<memberOf key=" model.biblPart" />`
	`<memberOf key=" model.physDescPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`

	<rng:zeroOrMore> </rng:zeroOrMore> </content>
Remarks	Use the dimensions element when it is necessary to specify the **physical** size of materials being described, for example, height and width.This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<f>

<f> (figure) – Single element of a figured bass indication.	
Module	MEI.harmony
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval]

	@extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.fLike
Contained by	**MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.harmony** f fb
May contain	**Text**

	MEI.edittrans abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.f.anl" /> <memberOf key=" att.f.ges" /> <memberOf key=" att.f.log" /> <memberOf key=" att.f.vis" /> <memberOf key=" model.fLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>

<fTrem>

<fTrem> (fingered tremolo) – A rapid alternation between a pair of notes (or chords or perhaps between a note and a chord) that are (usually) farther apart than a major second.	
Module	MEI.cmn
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl]

	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Describes the style of the tremolo. Allowed values are: " **meas**" *(Measured tremolo.)*, " **unmeas**" *(Unmeasured tremolo.)* [att.fTrem.log] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @measperf *(optional)* The performed duration of an individual note in a measured tremolo. Value conforms to data.DURATION.cmn . [att.tremmeasured] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @slash *(optional)* Indicates the number of slashes present. Value conforms to data.SLASH . [att.slashcount] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike.cmn
Contained by	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**MEI.shared** chord note
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.fTrem.log" />
 <memberOf key=" att.fTrem.vis" />
 <memberOf key=" att.fTrem.ges" />
 <memberOf key=" att.fTrem.anl" />
 <memberOf key=" model.eventLike.cmn" />
</classes>
<content>
 <rng:choice>
   <rng:group>
     <rng:ref name=" chord" />
     <rng:choice>
        <rng:ref name=" chord" />
        <rng:ref name=" note" />
     </rng:choice>
   </rng:group>
   <rng:group>
     <rng:ref name=" note" />
     <rng:choice>
        <rng:ref name=" chord" />
        <rng:ref name=" note" />
```

```
      </rng:choice>
    </rng:group>
  </rng:choice>
</content>
```
 |

<facsimile>

<facsimile> Contains a representation of some written source in the form of a set of images rather than as transcribed or encoded text.	
Module	MEI.facsimile
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.resourceLike
Contained by	**MEI.facsimile** facsimile **MEI.performance** performance **MEI.shared** music
May contain	**MEI.facsimile** surface
Declaration
```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.declaring" />
 <memberOf key=" model.resourceLike" />
</classes>
```
 |

	<content> <rng:zeroOrMore> <rng:ref name=" surface" /> </rng:zeroOrMore> </content>
Remarks	The @decls attribute may be used to link the collection of images with a particular source described in the header.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<famName>

<famName> (family name) – Contains a family (inherited) name, as opposed to a given, baptismal, or nick name.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.persNamePart

Contained by	**MEI.namesdates** addName famName foreName genName nameLink persName roleName
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.persNamePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

<fb>

<fb> (figured bass) – Symbols added to a bass line that indicate harmony. Used to improvise a chordal accompaniment. Sometimes called Generalbass, thoroughbass, or basso continuo.	
Module	MEI.harmony

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.figbassLike
Contained by	**MEI.harmony** fb harm
May contain	**MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.harmony** f
Declaration	`<classes>`

```
  <memberOf key=" att.common" />
  <memberOf key=" att.common.anl" />
  <memberOf key=" att.facsimile" />
  <memberOf key=" model.figbassLike" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:choice>
    <rng:ref name=" model.fLike" />
    <rng:ref name=" model.editLike" />
    <rng:ref name=" model.transcriptionLike" />
  </rng:choice>
 </rng:zeroOrMore>
</content>
```

<fermata>

<fermata> An indication placed over a note or rest to indicate that it should be held longer than its written value. May also occur over a bar line to indicate the end of a phrase or section. Sometimes called a 'hold' or 'pause'.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of*

	this pointer.) , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Describes the visual appearance of the fermata; that is, whether it occurs as upright or inverted. Allowed values are: " inv" *(Inverted, i.e., curve or bracket below the dot.)*, " norm" *(Upright; i.e., curve or bracket above the dot.)* [att.fermata.vis] @glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @shape *(optional)* Describes the visual appearance of the fermata; that is, whether it has a curved, square, or angular shape. Allowed values are: " **curved**" *(A curve above or below the dot.)*, " **square**" *(A bracket above or below the dot.)*, " **angular**" *(A triangle above or below the dot.)* [att.fermata.vis] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.fermata.log" />`
	`<memberOf key=" att.fermata.vis" />`
	`<memberOf key=" att.fermata.ges" />`
	`<memberOf key=" att.fermata.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.controleventLike.cmn" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The fermata element is a specialized form of, i.e., syntactic sugar for, dir/@type="fermata" with &ferm; or &uferm; as its PCDATA content. The @shape attribute may be used to record whether the fermata is curved or square. Other visual forms of a fermata may be indicated via the @altsym attribute. The starting point of the fermata may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute. It is a semantic error not to specify a starting point attribute.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real.

	<sch:rule context= "mei:fermata"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> </sch:rule>

<fig>

<fig> (figure) – Groups elements representing or containing graphic information such as an illustration or figure.	
Module	MEI.figtable
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.figureLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear

	MEI.figtable fig figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title titlePage width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**MEI.figtable** figDesc graphic **MEI.shared** caption
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.typed" /> <memberOf key=" att.xy" /> <memberOf key=" model.figureLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.captionLike" /> <rng:ref name=" figDesc" /> <rng:ref name=" model.graphicLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on the figure element in the Text Encoding Initiative (TEI) standard.

<figDesc>

<figDesc> (figure description) – Contains a brief prose description of the appearance or content of a graphic figure, for use when documenting an image without displaying it.	
Module	MEI.figtable
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.figDescLike
Contained by	**MEI.facsimile** surface zone **MEI.figtable** fig figDesc
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num p rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.figDescLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textcomponentLike" />`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Best practice suggests the use of controlled vocabulary for figure descriptions. Don't confuse this entity with a figure caption. A caption is text primarily intended for display with an illustration. It may or may not function as a description of the illustration.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.
Constraints	Mixed content is not allowed when lg, p, quote, or table is used. Unstructured text not allowed when lg, p, quote, or table elements are used. `<sch:rule context= "mei:figDesc[mei:lg or mei:p or mei:quote or mei:table]">` `<sch:assert test= "not(*[../text()[normalize-space()]])"> Mixed content is not allowed when lg, p, quote, or table is used. </sch:assert>` `<sch:assert test= "not(*[not(local-name() eq 'biblList' or local-name() eq 'castList' or local-name() eq 'lg' or local-name() eq 'list' or local-name() eq 'p' or local-name() eq 'quote' or local-name() eq 'table')])" > Unstructured text not allowed when lg, p, quote, or table elements are used. </sch:assert>` `</sch:rule>`

<fileChar>

<fileChar> (file characteristics) – Standards or schemes used to encode the file (e.g., ASCII, SGML, etc.), physical characteristics of the file (e.g., recording density, parity, blocking, etc.), and other characteristics that have a bearing on how the file can be processed.	
Module	MEI.header

Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.physDescPart" />`
	`</classes>`
	`<content>`
	`<rng:text/>`
	`</content>`

<fileDesc>

<fileDesc> (file description) – Contains a full bibliographic description of the MEI file.

Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.header** meiHead
May contain	**MEI.header** editionStmt notesStmt pubStmt seriesStmt sourceDesc titleStmt **MEI.shared** extent
Declaration	

```
<classes>
 <memberOf key=" att.bibl" />
 <memberOf key=" att.common" />
</classes>
<content>
 <rng:ref name=" titleStmt" />
 <rng:optional>
   <rng:ref name=" editionStmt" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" extent" />
 </rng:optional>
 <rng:ref name=" pubStmt" />
 <rng:optional>
   <rng:ref name=" seriesStmt" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" notesStmt" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" sourceDesc" />
 </rng:optional>
```

	`</content>`
Remarks	Extent in this context represents file size.This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<fing>

<fing> finger – An individual finger in a fingering indication.	
Module	MEI.fingering
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid]

	@subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.fingeringLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg

	MEI.edittrans abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.fingering** fing fingGrp **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.fing.anl" /> <memberOf key=" att.fing.ges" /> <memberOf key=" att.fing.log" /> <memberOf key=" att.fing.vis" /> <memberOf key=" att.typed" /> <memberOf key=" model.fingeringLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Constraints	The stack element is not allowed as a descendant of fing. <sch:rule context="mei:fing">

	<sch:assert test= "not(descendant::mei:stack)"> The stack element is not allowed as a descendant of fing. </sch:assert> </sch:rule>

<fingGrp>

<fingGrp> (finger group)– A group of individual fingers in a fingering indication.	
Module	MEI.fingering
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Allowed values are: " **alter**" *(alternation of fingers.)*, " **combi**" *(combination of fingers.)*, " **subst**" *(substitution of fingers.)* [att.fingGrp.log] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @orient *(optional)* Allowed values are: " **horiz**" *(Combination expressed horizontally, as for brass instruments.)*, " **vert**" *(Combination expressed vertically, as for woodwind instruments or piano.)* [att.fingGrp.vis] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Member of	model.fingeringLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.fingering** fing fingGrp **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.fingering** fing fingGrp
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.fingGrp.anl" /> <memberOf key=" att.fingGrp.ges" /> <memberOf key=" att.fingGrp.log" /> <memberOf key=" att.fingGrp.vis" /> <memberOf key=" att.typed" /> <memberOf key=" model.fingeringLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.fingeringLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Constraints	At least 2 fing or fingGrp elements are required. <sch:rule context="mei:fingGrp"> <sch:assert test="count(mei:fing) + count(mei:fingGrp) > 1"> At least 2 fing or fingGrp elements are required. </sch:assert> </sch:rule>

Constraints	When @tstamp or @startid is present on fingGrp, its child elements cannot have a @tstamp or @startid attribute.
	When @tstamp or @startid is not present on fingGrp, each of its child elements must have a @tstamp or @startid attribute.
	
	`<sch:rule context= "mei:fingGrp[not(ancestor::mei:fingGrp)][@tstamp or @startid]">`
	`<sch:assert test= "not(child::mei:*[@tstamp or @startid])"> When @tstamp or @startid is present on fingGrp, its child elements cannot have a @tstamp or @startid attribute. </sch:assert>`
	`</sch:rule>`
	`<sch:rule context= "mei:fingGrp[not(ancestor::mei:fingGrp)][not(@tstamp or @startid)]">`
	`<sch:assert test= "count(descendant::mei:*[@tstamp or @startid]) = count(child::mei:*[local-name()='fing' or local-name()='fingGrp'])" > When @tstamp or @startid is not present on fingGrp, each of its child elements must have a @tstamp or @startid attribute. </sch:assert>`
	`</sch:rule>`

<fingerprint>

<fingerprint> Contains a string that uniquely identifies an item, such as those constructed by combining groups of characters transcribed from specified pages of a printed item or a file's checksum.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.authorized" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" model.physDescPart" />`
	`</classes>`
	`<content>`
	`<rng:text/>`
	`</content>`

<foreName>

<foreName> Contains a forename, given or baptismal name.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype string. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype NMTOKEN, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable]

	@evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype positiveInteger. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.persNamePart
Contained by	**MEI.namesdates** addName famName foreName genName nameLink persName roleName
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.persNamePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<front>

<front> (front matter) – Bundles prefatory text found before the start of the musical text.	
Module	MEI.text
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.frontLike
Contained by	**MEI.text** front
May contain	**MEI.shared** div lb pb titlePage
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" />

	<memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.frontLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.divLike" /> <rng:ref name=" model.frontPart" /> <rng:ref name=" model.milestoneLike.text" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	titlePage may be used to transcribe the item's title page. Other front matter structures, such as a preface, dedication, or table of contents, may be encoded as textual divisions; that is, as div elements, with an optional head sub-element describing the nature of the division. The pb element is allowed here in order to accommodate page images, e.g. cover, endpapers, etc. before and after the actual textual matter.This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<funder>

<funder> Names of individuals, institutions, or organizations responsible for funding. Funders provide financial support for a project; they are distinct from sponsors, who provide intellectual support and authority.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.respLikePart
Contained by	**MEI.header** byline perfDuration titleStmt **MEI.shared** arranger author bibl biblScope composer creation editor extent funder genre imprint librettist lyricist physLoc recipient relatedItem respStmt series sponsor textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.respLikePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<gap>

<gap> Indicates a point where material has been omitted in a transcription, whether as part of sampling practice or for editorial reasons described in the MEI header.	
Module	MEI.edittrans
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @extent *(optional)* Indicates the extent of damage or omission. Value of datatype string. [att.extent] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @reason *(optional)* Holds a short phrase describing the reason for missing textual material (gap), why material is supplied (supplied), or why transcription is difficult (unclear). Value of datatype string. [att.reasonident] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " byte" *(Byte.)*, " char" *(Character.)*, " cm" *(Centimeter.)*, " in" *(Inch.)*, " issue" *(Serial issue.)*, " mm" *(Millimeter.)*, " page" *(Page.)*, " pc" *(Pica.)*, " pt" *(Point.)*, " px" *(Pixel.)*, " record" *(Record.)*, " vol" *(Serial volume.)*, " vu" *(MEI virtual unit.)* [att.measurement] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.transcriptionLike

Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.extent" />`
	`<memberOf key=" att.handident" />`
	`<memberOf key=" att.reasonident" />`
	`<memberOf key=" att.measurement" />`
	`<memberOf key=" model.transcriptionLike" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	When material is omitted because it is illegible or inaudible, unclear should be used instead. Similarly, use damage if the omission is due to damage and del if the omission is because the material is marked as deleted, or otherwise indicated as superfluous or spurious in the copy text by an author, scribe, annotator, or corrector. An indication of how much material has been omitted from the transcription may be recorded in the @extent attribute. The @unit attribute names the unit used for describing the extent of the gap. The @reason attribute gives the reason for omission. Sample values include 'sampling', 'irrelevant', 'cancelled'. The @resp attribute

	contains an ID reference to an element containing the name of the editor, transcriber or encoder responsible for the decision not to provide any transcription of the material and hence the application of the gap tag. The @hand attribute signifies the hand which made the deletion in the case of text omitted from the transcription because of deliberate deletion by an identifiable hand. The @cert attribute signifies the degree of certainty ascribed to the identification of the extent of the missing material.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<genName>

<genName> (generational name component) – Contains a name component used to distinguish otherwise similar names on the basis of the relative ages or generations of the persons named.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.persNamePart
Contained by	**MEI.namesdates** addName famName foreName genName nameLink persName roleName

May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.persNamePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<genre>

<genre> Term or terms that designate a category characterizing a particular style, form, or content.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]

	@authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.biblPart
Contained by	**MEI.header** perfDuration **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.biblPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<geogFeat>

<geogFeat> (geographical feature name) – Contains a common noun identifying a geographical feature.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.geogNamePart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" att.typed" /> <memberOf key=" model.geogNamePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<geogName>

<geogName> (geographic name) – The proper noun designation for a place, natural feature, or political jurisdiction.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical]

	@enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype positiveInteger. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.nameLike.geogName
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer creation date depth desc dir distributor dynam edition editor event eventList extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository respStmt role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName

	MEI.ptrref ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" att.typed" /> <memberOf key=" model.nameLike.geogName" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Examples include Black Forest; Baltimore, Maryland; and Quartier Latin, Paris. Geographic name parts can be encoded using geogName sub-elements. For greater specificity, however, use district, settlement, region, country, and bloc sub-elements. The name of the list from which a controlled value is taken, such as the Thesaurus of Geographic Names (TGN), may be recorded using the @authority attribute.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<gliss>

<gliss> (glissando) – A continuous or sliding movement from one pitch to another, usually indicated by a straight or wavy line.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color]

	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography]

	@fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

	@startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype decimal. [att.xy2] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]
Member of	model.controleventLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

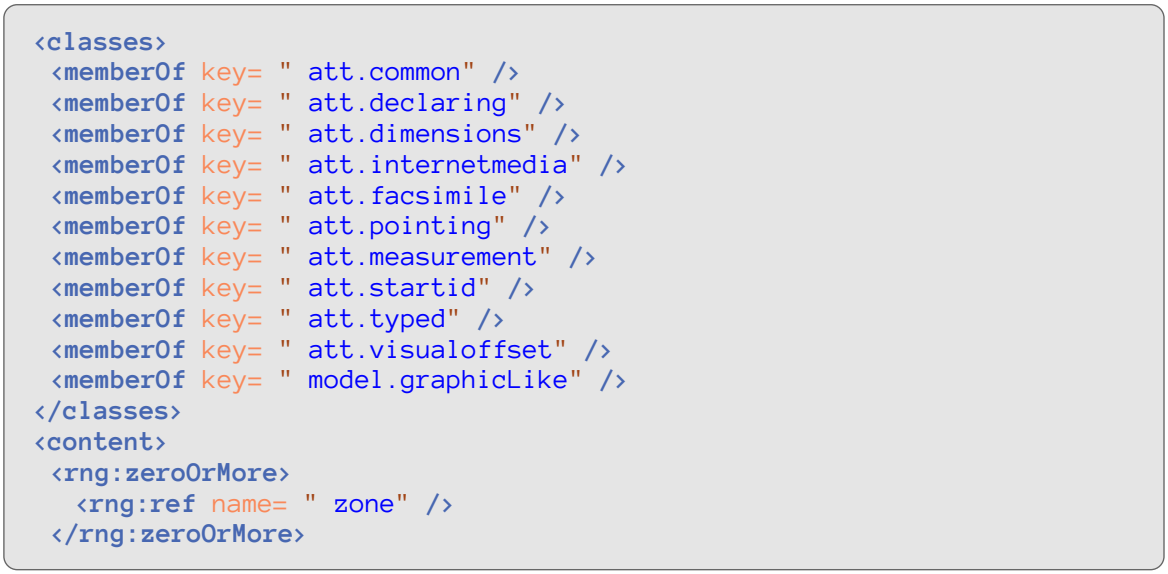
Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.gliss.log" />`
	`<memberOf key=" att.gliss.vis" />`
	`<memberOf key=" att.gliss.ges" />`
	`<memberOf key=" att.gliss.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.controleventLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`

	<rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Commonly also called a 'slide'. The term 'glissando' is frequently used to indicate both the case where distinct intermediate pitches are produced (as on the piano) and the case where they are not (as on the trombone), though the latter is sometimes referred to as 'portamento'. The visual appearance of the indicating line may be recorded in the @lform and @lwidth attributes. The starting point of the glissando may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify one starting and one ending type of attribute.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. Must have one of the attributes: dur, dur.ges, endid, or tstamp2. <sch:rule context= "mei:gliss"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> <sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert> </sch:rule>

<graphic>

<graphic> Indicates the location of an inline graphic.	
Module	MEI.figtable
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @height *(optional)* Measurement of the vertical dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.height]

	@ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @mimetype *(optional)* Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. Value of datatype **string**. [att.internetmedia] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @ulx *(optional)* Indicates the upper-left corner x coordinate. Value of datatype **nonNegativeInteger**. [graphic] @uly *(optional)* Indicates the upper-left corner y coordinate. Value of datatype **nonNegativeInteger**. [graphic] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " **byte**" *(Byte.)*, " **char**" *(Character.)*, " **cm**" *(Centimeter.)*, " **in**" *(Inch.)*, " **issue**" *(Serial issue.)*, " **mm**" *(Millimeter.)*, " **page**" *(Page.)*, " **pc**" *(Pica.)*, " **pt**" *(Point.)*, " **px**" *(Pixel.)*, " **record**" *(Record.)*, " **vol**" *(Serial volume.)*, " **vu**" *(MEI virtual unit.)* [att.measurement] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @width *(optional)* Measurement of the horizontal dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.width] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " **onLoad**" *(Load the target resource(s) immediately.)*, " **onRequest**"

	(Load the target resource(s) upon user request.), " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.graphicLike
Contained by	**MEI.facsimile** surface zone **MEI.figtable** fig graphic **MEI.shared** incip **MEI.usersymbols** symbolDef
May contain	**MEI.facsimile** zone
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.declaring" />
 <memberOf key=" att.dimensions" />
 <memberOf key=" att.internetmedia" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.pointing" />
 <memberOf key=" att.measurement" />
 <memberOf key=" att.startid" />
 <memberOf key=" att.typed" />
 <memberOf key=" att.visualoffset" />
 <memberOf key=" model.graphicLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" zone" />
 </rng:zeroOrMore>
```

	`</content>`
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.
Constraints	Graphic child of zone should not have children. Graphic should have either a startid attribute or ulx and uly attributes. Graphic should not have @ulx or @uly attributes. Graphic should not have @ho or @vo attributes. `<sch:rule context= "mei:zone/mei:graphic"> <sch:assert role= "warning" test= "count(mei:*) = 0"> Graphic child of zone should not have children. </sch:assert> </sch:rule> <sch:rule context= "mei:symbolDef/mei:graphic"> <sch:assert role= "warning" test= "@startid or (@ulx and @uly)"> Graphic should have either a startid attribute or ulx and uly attributes. </sch:assert> </sch:rule> <sch:rule context= "mei:graphic[not(ancestor::mei:symbolDef or ancestor::mei:zone)]"> <sch:assert role= "warning" test= "not(@ulx or @uly)"> Graphic should not have @ulx or @uly attributes. </sch:assert> <sch:assert role= "warning" test= "not(@ho or @vo)"> Graphic should not have @ho or @vo attributes. </sch:assert> </sch:rule>`

<group>

<group> Contains a composite musical text, grouping together a sequence of distinct musical texts (or groups of such musical texts) which are regarded as a unit for some purpose, for example, the collected works of a composer.	
Module	MEI.shared
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.musicPart
Contained by	**MEI.shared** group music
May contain	**MEI.shared** group music
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" model.musicPart" /> </classes> <content> <rng:choice> <rng:ref name=" music" /> <rng:ref name=" group" /> </rng:choice> <rng:zeroOrMore> <rng:choice> <rng:ref name=" music" /> <rng:ref name=" group" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Because its model contains the music element, each of the subordinate MEI documents can have its own front and back matter.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<grpSym>

<grpSym> (group symbol) – A brace or bracket used to group two or more staves of a score or part.	
Module	MEI.shared
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym]

	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @level *(optional)* Indicates the nesting level of staff grouping symbols. Value of datatype **positiveInteger**. [att.grpSym.log] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @symbol *(optional)* Specifies the symbol used to group a set of staves. Allowed values are: " brace" *(Curved symbol, i.e., {.)*, " bracket" *(Square symbol, i.e., [, but with curved/angled top and bottom segments.)*, " bracketsq" *(Square symbol, i.e., [, with horizontal top and bottom segments.)*, " line" *(Line symbol, i.e., |, (wide) line without top and bottom curved/horizontal segments.)* , " none" *(Grouping symbol missing.)* [att.staffgroupingsym] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	
Contained by	**MEI.shared** scoreDef staffGrp
May contain	**MEI.shared** label

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`

	`<memberOf key=" att.grpSym.log" /> <memberOf key=" att.grpSym.vis" /> <memberOf key=" att.grpSym.ges" /> <memberOf key=" att.grpSym.anl" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.labelLike" /> </rng:zeroOrMore> </content>`
Remarks	This element provides an alternative to the staffGrp element's @symbol attribute. It may be used when exact placement or editorial details for the grouping symbol must be recorded.
Constraints	In scoreDef, grpSym must have startid, endid, and level attributes. `<sch:rule context= "mei:grpSym[parent::mei:scoreDef]"> <sch:assert test= "@startid and @endid and @level"> In scoreDef, grpSym must have startid, endid, and level attributes. </sch:assert> </sch:rule>`
Constraints	In staffGrp, grpSym must not have startid, endid, or level attributes. `<sch:rule context= "mei:grpSym[parent::mei:staffGrp]"> <sch:assert test= "not(@startid or @endid or @level)"> In staffGrp, grpSym must not have startid, endid, or level attributes. </sch:assert> </sch:rule>`

<hairpin>

<hairpin> Indicates continuous dynamics expressed on the score as wedge-shaped graphics, e.g. < and >.	
Module	MEI.cmn
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl]

	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(required)* Captures the visual rendition and function of the hairpin; that is, whether it indicates an increase or a decrease in volume. Allowed values are: " **cres**" *(Crescendo; i.e., louder.)*, " **dim**" *(Diminuendo; i.e., softer.)* [att.hairpin.log] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @niente *(optional)* Indicates that the hairpin starts from or ends in silence. Often rendered as a small circle attached to the closed end of the hairpin. See Gould, p. 108. Value conforms to data.BOOLEAN . [att.hairpin.log] @opening *(optional)* Specifies the distance between the lines at the open end of a hairpin dynamic mark. Value conforms to data.MEASUREMENTABS . [att.hairpin.vis] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical]

	@tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @val *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue] @val2 *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue2] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable

	MEI.shared dir dynam layer ornam phrase tempo
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.hairpin.log" /> <memberOf key=" att.hairpin.vis" /> <memberOf key=" att.hairpin.ges" /> <memberOf key=" att.hairpin.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.controleventLike.cmn" /> </classes> <content> <rng:empty/> </content>
Remarks	The hairpin element is used for *graphical*, i.e., crescendo and diminuendo, dynamic markings. For instantaneous or continuous *textual* dynamics, such as 'p', 'mf', or 'cres. poco a poco', the dynam element should be used. The starting point of the hairpin marking may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify one starting and one ending type of attribute. MIDI values associated with the graphical dynamic sign may be recorded in the @val and @val2 attributes.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. Must have one of the attributes: dur, dur.ges, endid, or tstamp2. <sch:rule context= "mei:hairpin"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> <sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert> </sch:rule>

<halfmRpt>

<halfmRpt> (half-measure repeat) – A half-measure repeat in any meter.	
Module	MEI.cmn

Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike.cmn
Contained by	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature

	MEI.neumes ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.halfmRpt.log" /> <memberOf key=" att.halfmRpt.vis" /> <memberOf key=" att.halfmRpt.ges" /> <memberOf key=" att.halfmRpt.anl" /> <memberOf key=" model.eventLike.cmn" /> </classes> <content> <rng:empty/> </content>

<hand>

<hand> Defines a distinct scribe or handwriting style.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @initial *(optional)* Marks this hand as the first one of the document. Value conforms to data.BOOLEAN . [hand] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @medium *(optional)* Describes the writing medium. Value of datatype **string**. [att.medium] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.header** handList
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" att.medium" /> <memberOf key=" att.responsibility" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	The @initial attribute indicates whether this is the first or main scribe of the document. The @medium attribute describes the writing medium, e.g., 'pencil', or the tint or type of ink, e.g.

	'brown'. The @resp attribute contains an ID reference to an element containing the name of the editor or transcriber responsible for identifying the hand. The characteristics of the hand, particularly those related to the quality of the writing, such as 'shaky', 'thick', etc. may be described within the content of the hand element. This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<handList>

<handList> Container for one or more hand elements.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**MEI.header** hand **MEI.shared** head label
Declaration	`<classes>`

	<memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.typed" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:optional> <rng:ref name=" model.labelLike" /> </rng:optional> <rng:ref name=" hand" /> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<handShift>

<handShift> Marks the beginning of a passage written in a new hand, or of a change in the scribe, writing style, ink or character of the document hand.	
Module	MEI.edittrans
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @character *(optional)* Describes the character of the new hand. Value is plain text. [handShift] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @medium *(optional)* Describes the writing medium. Value of datatype string. [att.medium] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@new *(optional)* Identifies the new hand. The value must contain the ID of a hand element given elsewhere in the document. Value conforms to data.URI . [handShift] @old *(optional)* Identifies the old hand. The value must contain the ID of a hand element given elsewhere in the document. Value conforms to data.URI . [handShift] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Empty**

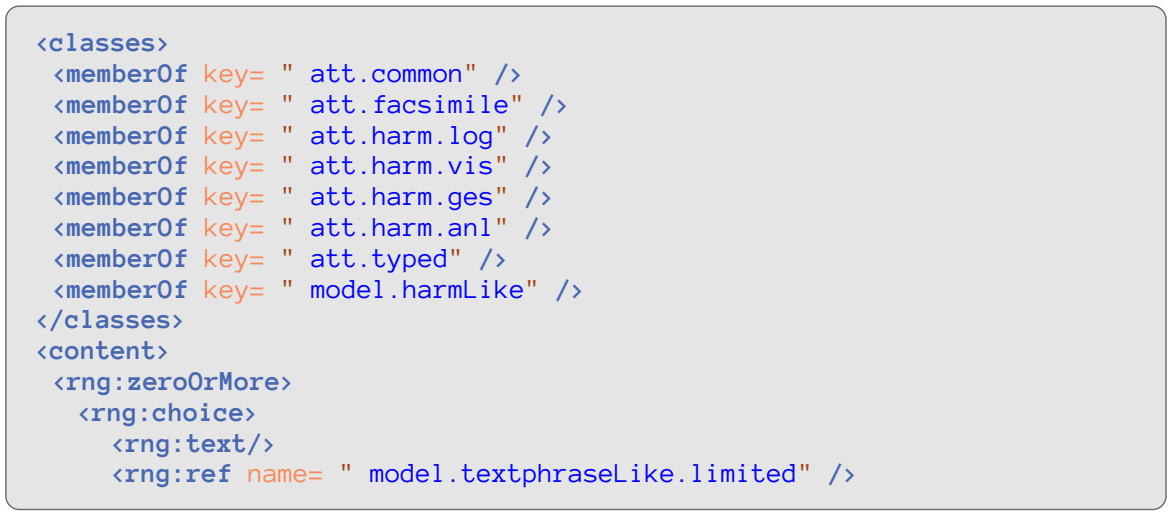
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.medium" /> <memberOf key=" model.transcriptionLike" /> </classes> <content> <rng:empty/> </content>`
Remarks	The @character attribute describes characteristics of the hand, particularly those related to the quality of the writing, e.g., 'shaky', 'thick', regular'. A description of the tint or type of ink, e.g. 'brown' or the writing medium, e.g. 'pencil', may be placed in the @medium attribute. The new hand may be identified using the @new attribute, while the previous hand may be recorded in the @old attribute. The @resp attribute contains an ID reference to an element containing the name of the editor or transcriber responsible for identifying the change of hand. The @cert attribute signifies the degree of certainty ascribed to the identification of the new hand.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.
Constraints	@new attribute should have content. The value in @new should correspond to the @xml:id attribute of a hand element. `<sch:rule context= "@new"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @new attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:hand/@xml:id"> The value in @new should correspond to the @xml:id attribute of a hand element. </sch:assert> </sch:rule>`
Constraints	@old attribute should have content. The value in @old should correspond to the @xml:id attribute of a hand element. `<sch:rule context= "@old"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @old attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:hand/@xml:id"> The value in @old should correspond to the @xml:id attribute of a hand element. </sch:assert> </sch:rule>`

<harm>

<harm> (harmony) – An indication of harmony, e.g., chord names, tablature grids, harmonic analysis, figured bass.	
Module	MEI.harmony
Attributes	@chordref *(optional)* Contains a reference to a <chordDef> element elsewhere in the document. Value conforms to data.URI . [att.harm.log] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile]

	@ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @inth *(optional)* Encodes the harmonic interval between pitches occurring at the same time. One or more values from data.INTERVAL.HARMONIC , separated by spaces. [att.intervalharmonic] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @rendgrid *(optional)* Describes how the harmonic indication should be rendered. Allowed values are: " **grid**" *(Chord tablature grid.)*, " **gridtext**" *(Chord tablature grid and the element's textual content.)*, " **text**" *(Textual content of the element.)* [att.harm.vis] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

	@startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.harmLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.harmony** harm **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.harmony** fb **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** anchoredText curve line symbol
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.harm.log" />
 <memberOf key=" att.harm.vis" />
 <memberOf key=" att.harm.ges" />
 <memberOf key=" att.harm.anl" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.harmLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:text/>
     <rng:ref name=" model.textphraseLike.limited" />
```

	<rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.figbassLike" /> </rng:choice> </rng:zeroOrMore> </content>
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. <sch:rule context= "mei:harm"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> </sch:rule>

<harpPedal>

<harpPedal> (harp pedal) – Harp pedal diagram.	
Module	MEI.cmn
Attributes	@a *(optional)* Indicates the pedal setting for the harp's A strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @b *(optional)* Indicates the pedal setting for the harp's B strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @c *(optional)* Indicates the pedal setting for the harp's C strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @d *(optional)* Indicates the pedal setting for the harp's D strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log]

	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @e *(optional)* Indicates the pedal setting for the harp's E strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @f *(optional)* Indicates the pedal setting for the harp's F strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @g *(optional)* Indicates the pedal setting for the harp's G strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.harpPedal.log" />`
	`<memberOf key=" att.harpPedal.vis" />`
	`<memberOf key=" att.harpPedal.ges" />`
	`<memberOf key=" att.harpPedal.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.controleventLike.cmn" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The starting point of the harp pedal diagram may be indicated by either a @tstamp, @tstamp.ges, @tstamp.real or @startid attribute. It is a semantic error not to specify a starting point attribute.

Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real.
	
	`<sch:rule context= "mei:harpPedal">`
	`<sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real">`
	`Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert>`
	`</sch:rule>`

<head>

<head> (heading) – Contains any heading, for example, the title of a section of text, or the heading of a list.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-

	tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.headLike
Contained by	**MEI.frbr** componentGrp expressionList itemList relationList **MEI.header** appInfo classification contents editorialDecl handList history langUsage notesStmt perfMedium perfResList projectDesc samplingDecl sourceDesc termList **MEI.shared** annot biblList castList div event eventList head incip **MEI.text** lg list
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> <memberOf key=" att.xy" /> <memberOf key=" model.headLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore>`

	`</content>`
Remarks	One or more head elements usually identify the parent element and/or its purpose.This element is modelled on elements in Encoded Archival Description (EAD), Text Encoding Initiative (TEI), and HTML standards.

<height>

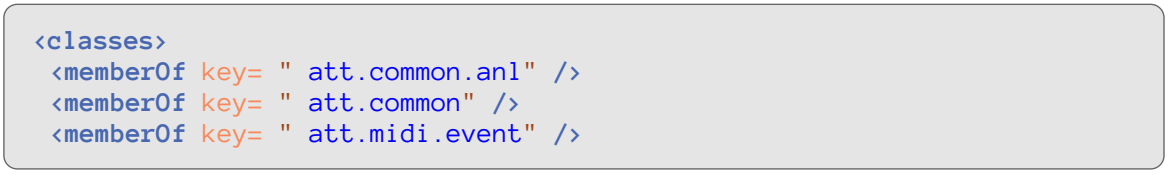
<height> Description of the vertical size of an object.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @quantity *(optional)* Numeric value capturing a measurement or count. Can only be interpreted in combination with the unit or currency attribute. Value of datatype **a decimal number no smaller than 0** . [att.quantity] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " **byte**" *(Byte.)*, " **char**" *(Character.)*, " **cm**" *(Centimeter.)*, " **in**" *(Inch.)*, " **issue**" *(Serial issue.)*, " **mm**" *(Millimeter.)*, " **page**" *(Page.)*, " **pc**" *(Pica.)*, " **pt**" *(Point.)*, " **px**" *(Pixel.)*, " **record**" *(Record.)*, " **vol**" *(Serial volume.)*, " **vu**" *(MEI virtual unit.)* [att.measurement] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.dimLike

Contained by	**MEI.header** dimensions **MEI.shared** depth height width
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.quantity" />`
	`<memberOf key=" att.measurement" />`
	`<memberOf key=" model.dimLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

<hex>

<hex> Arbitrary MIDI data in hexadecimal form.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl]

	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.midi** midi
May contain	**Text**
Declaration	

	<pre></classes>
	<content>
	  <rng:text/>
	</content></pre>

Remarks	The element's content must be wrapped in a CDATA section to avoid parsing errors.

<history>

<history> Provides a container for information about the history of a resource. To facilitate efficient data interchange, basic information about the circumstances surrounding the creation of bibliographic resources should be recorded within the creation element.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.frbr** expression item **MEI.header** source work
May contain	**MEI.figtable** table **MEI.shared** biblList castList div eventList head p **MEI.text** lg list quote
Declaration	<pre><classes></pre>

```
  <memberOf key=" att.common" />
  <memberOf key=" att.bibl" />
</classes>
<content>
  <rng:zeroOrMore>
    <rng:ref name=" model.headLike" />
  </rng:zeroOrMore>
  <rng:zeroOrMore>
    <rng:choice>
      <rng:ref name=" model.divLike" />
      <rng:ref name=" model.textcomponentLike" />
    </rng:choice>
  </rng:zeroOrMore>
</content>
```

<identifier>

<identifier> An alpha-numeric string that establishes the identity of the described material.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.identifierLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.frbr** expression item **MEI.harmony** f harm **MEI.header** accessRestrict audience availability byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance pubStmt seriesStmt soundChan source specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark work **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 physLoc publisher pubPlace recipient rend repository respStmt role roleDesc series sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.authorized" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.identifierLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

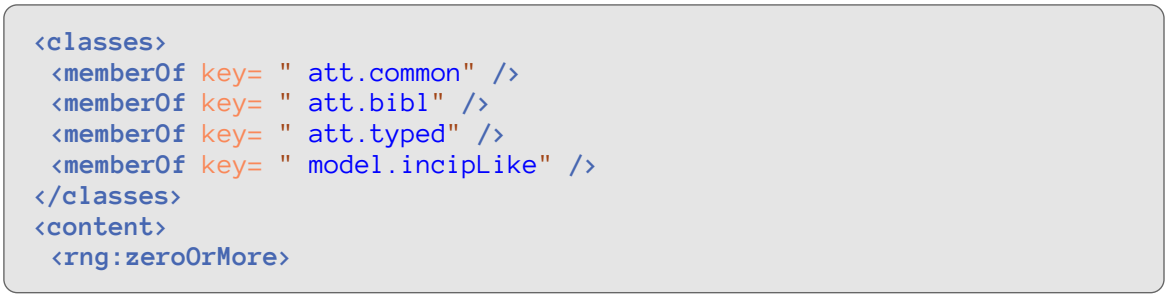
Remarks	Examples include an International Standard Book/Music Number, Library of Congress Control Number, publisher's number, a personal identification number, an entry in a bibliography or catalog, etc. The @type attribute may be used to indicate the system from which the identifier was derived.

<imprint>

<imprint> Information relating to the publication or distribution of a bibliographic item.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.biblPart model.titlePagePart
Contained by	**MEI.header** byline perfDuration **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date distributor identifier lb name num pb publisher pubPlace rend repository respStmt stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" model.biblPart" /> <memberOf key=" model.titlePagePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.imprintPart" /> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" respStmt" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<incip>

<incip> (incipit) – The opening music and/or words of a composition.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.incipLike
Contained by	**MEI.frbr** expression **MEI.header** key mensuration meter work **MEI.shared** incip tempo
May contain	**MEI.figtable** graphic **MEI.header** incipCode incipText key mensuration meter perfRes perfResList **MEI.shared** annot clef clefGrp head role score tempo
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.incipLike" />
</classes>
<content>
 <rng:zeroOrMore>
```

```
    <rng:ref name=" model.headLike" />
  </rng:zeroOrMore>
  <rng:optional>
    <rng:ref name=" tempo" />
  </rng:optional>
  <rng:optional>
    <rng:ref name=" role" />
  </rng:optional>
  <rng:optional>
    <rng:choice>
      <rng:ref name=" clef" />
      <rng:ref name=" clefGrp" />
    </rng:choice>
  </rng:optional>
  <rng:optional>
    <rng:choice>
      <rng:ref name=" perfRes" />
      <rng:ref name=" perfResList" />
    </rng:choice>
  </rng:optional>
  <rng:optional>
    <rng:ref name=" key" />
  </rng:optional>
  <rng:optional>
    <rng:ref name=" meter" />
  </rng:optional>
  <rng:optional>
    <rng:ref name=" mensuration" />
  </rng:optional>
  <rng:zeroOrMore>
    <rng:choice>
      <rng:ref name=" incipCode" />
      <rng:ref name=" incipText" />
      <rng:ref name=" model.scoreLike" />
      <rng:ref name=" model.graphicLike" />
      <rng:ref name=" annot" />
    </rng:choice>
  </rng:zeroOrMore>
</content>
```

Remarks

The incipText element may be used to capture a text incipit, while score is available to provide an MEI-encoded musical incipit. Images of an incipit may be referenced using the graphic element. An incipit encoded in a text format other than MEI may be placed in the incipCode element.

<incipCode>

<incipCode> Incipit coded in a non-XML, plain text format, such as Plaine & Easie Code.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @form *(optional)* Form of the encoded incipit. Allowed values are: " **plaineAndEasie**" *(Plaine & Easie Code.)*, " **humdrumKern**" *(Humdrum Kern format.)*, " **parsons**" *(Parsons code.)* [incipCode] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @mimetype *(optional)* Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. Value of datatype **string**. [att.internetmedia] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " **onLoad**" *(Load the target resource(s) immediately.)*, " **onRequest**" *(Load the target resource(s) upon user request.)*, " **none**" *(Do not permit loading of the target resource(s).)*, " **other**" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " **new**" *(Open in a new window.)*, " **replace**" *(Load the referenced resource in the same window.)*, " **embed**" *(Embed the referenced resource at the point of the link.)*, " **none**" *(Do not permit traversal to the referenced resource.)*, " **other**" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:space *(optional)* Allows one to signal to an application whether an element's white space is "significant". The behavior of xml:space cascades to all descendant elements, but it can be

	turned off locally by setting the xml:space attribute to the value "default". Allowed values are: " default" *(Allows the application to handle white space as necessary. Not including an xml:space attribute produces the same result as using the default value.)* , " preserve" *(Instructs the application to maintain white space "as-is", suggesting that it might have meaning.)* [att.whitespace]
Member of	
Contained by	**MEI.shared** incip
May contain	**Text**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.internetmedia" />`
	`<memberOf key=" att.pointing" />`
	`<memberOf key=" att.whitespace" />`
	`</classes>`
	`<content>`
	`<rng:text/>`
	`</content>`

Constraints	incipCode must have a form or mimetype attribute.
	`<sch:rule context="mei:incipCode">`
	`<sch:assert test="@form or @mimetype"> incipCode must have a form or mimetype attribute. </sch:assert>`
	`</sch:rule>`

<incipText>

<incipText> Opening words of a musical composition.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart]

	@mimetype *(optional)* Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. Value of datatype **string**. [att.internetmedia] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " **onLoad**" *(Load the target resource(s) immediately.)*, " **onRequest**" *(Load the target resource(s) upon user request.)*, " **none**" *(Do not permit loading of the target resource(s).)*, " **other**" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " **new**" *(Open in a new window.)*, " **replace**" *(Load the referenced resource in the same window.)*, " **embed**" *(Embed the referenced resource at the point of the link.)*, " **none**" *(Do not permit traversal to the referenced resource.)*, " **other**" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.shared** incip
May contain	**MEI.shared** p **MEI.text** lg

Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" att.pointing" /> <memberOf key=" att.internetmedia" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.pLike" /> <rng:ref name=" model.lgLike" /> </rng:choice> </rng:zeroOrMore> </content>`

<ineume>

<ineume> (interrupted neume) – A graphically interrupted neume; that is, a neume which is logically a single entity but is written using multiple signs.	
Module	MEI.neumes
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography]

	@fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Provides a subclass or functional label for the neume. Value conforms to data.INEUMEFORM . [att.ineume.log] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @name *(optional)* Records the name of the neume. Value conforms to data.INEUMENAME . [att.ineume.log] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike.neumes

Contained by	**MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** layer
May contain	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt meterSig meterSigGrp tuplet **MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.lyrics** verse **MEI.mensural** ligature mensur proport **MEI.neumes** ineume uneume **MEI.shared** barLine chord clef clefGrp custos keySig note pad rest space
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.ineume.log" /> <memberOf key=" att.ineume.vis" /> <memberOf key=" att.ineume.ges" /> <memberOf key=" att.ineume.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.eventLike.neumes" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.eventLike" /> <rng:ref name=" model.eventLike.neumes" /> <rng:ref name=" macro.neumeModifierLike" /> <rng:ref name=" model.appLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.verseLike" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	The constituent signs of the interrupted neume may be encoded using ineume and uneume sub-elements.

<inscription>

<inscription> An inscription added to an item, such as a bookplate, a note designating the item as a gift, and/or the author's signature.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.lang" />
 <memberOf key=" model.physDescPart" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:text/>
     <rng:ref name=" model.textphraseLike.limited" />
     <rng:ref name=" model.editLike" />
     <rng:ref name=" model.transcriptionLike" />
   </rng:choice>
 </rng:zeroOrMore>
</content>
```

<instrDef>

<instrDef> (instrument definition) – MIDI instrument declaration.	
Module	MEI.midi
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @midi.channel *(optional)* Records a MIDI channel value. Value conforms to data.MIDICHANNEL . [att.channelized] @midi.duty *(optional)* Specifies the 'on' part of the duty cycle as a percentage of a note's duration. Value conforms to data.PERCENT . [att.channelized] @midi.instrname *(optional)* Provides a General MIDI label for the MIDI instrument. Value conforms to data.MIDINAMES . [att.midiinstrument] @midi.instrnum *(optional)* Sets the MIDI instrument number. Value conforms to data.MIDIVALUE . [att.midiinstrument] @midi.pan *(optional)* Sets the instrument's position in a stereo field. Values of 0 and 1 both pan left, 127 pans right, and 64 pans to the center. Value conforms to data.MIDIVALUE . [att.midiinstrument] @midi.port *(optional)* Sets the MIDI port value. Value conforms to data.MIDIVALUE . [att.channelized] @midi.track *(optional)* Sets the MIDI track. Value of datatype **positiveInteger**. [att.channelized] @midi.volume *(optional)* Sets the instrument's volume. Value conforms to data.MIDIVALUE . [att.midiinstrument]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.instrDefLike
Contained by	**MEI.midi** instrDef instrGrp **MEI.shared** layerDef staffDef staffGrp
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.channelized" />`
	`<memberOf key=" att.midiinstrument" />`
	`<memberOf key=" model.instrDefLike" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	This element provides a starting or default instrument declaration for a staff, a group of staves, or a layer. Following scoreDef, staffDef, layerDef, or MIDI prog elements may then change the instrument as necessary.

<instrGrp>

<instrGrp> (instrument group) – Collects MIDI instrument definitions.	
Module	MEI.midi
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.shared** scoreDef
May contain	**MEI.midi** instrDef
Declaration	<classes> <memberOf key=" att.common" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.instrDefLike" /> </rng:oneOrMore> </content>

<interpretation>

<interpretation> Describes the scope of any analytic or interpretive information added to the transcription of the music.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.editorialDeclPart
Contained by	**MEI.header** correction editorialDecl interpretation normalization segmentation stdVals
May contain	**MEI.shared** p
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.datapointing" /> <memberOf key=" att.lang" /> <memberOf key=" model.editorialDeclPart" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.pLike" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<item>

<item> Single instance or exemplar of a source/manifestation.	
Module	MEI.frbr
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of*

	that pointer will be taken, and so on, until an element is found which is not a pointer.) , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.itemLike
Contained by	**MEI.frbr** componentGrp item itemList
May contain	**MEI.frbr** componentGrp relationList **MEI.header** availability classification extMeta history notesStmt physDesc **MEI.shared** identifier physLoc

Declaration	

```
<classes>
 <memberOf key=" att.datapointing" />
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.pointing" />
 <memberOf key=" att.targeteval" />
 <memberOf key=" model.itemLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" model.identifierLike" />
 </rng:zeroOrMore>
 <rng:optional>
   <rng:ref name=" availability" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" physDesc" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" physLoc" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" history" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" notesStmt" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" classification" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" componentGrp" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" relationList" />
 </rng:optional>
 <rng:zeroOrMore>
   <rng:ref name=" extMeta" />
 </rng:zeroOrMore>
</content>
```

<itemList>

<itemList> Gathers bibliographic item entities.	
Module	MEI.frbr

Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.header** source
May contain	**MEI.frbr** item **MEI.shared** head
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.typed" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:ref name=" model.headLike" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
  <rng:ref name=" model.itemLike" />
 </rng:zeroOrMore>
</content>
```

<key>

<key> Key captures information about tonal center and mode.	
Module	MEI.header

Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @mode *(optional)* Indicates major, minor, or other tonality. Value conforms to data.MODE . [att.keySig.log] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @sig *(optional)* Indicates where the key lies in the circle of fifths. Value conforms to data.KEYSIGNATURE . [att.keySig.log] @sig.mixed *(optional)* Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. One or more values from data.KEYSIGTOKEN , separated by spaces. [att.keySig.log] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.workIdent
Contained by	**MEI.frbr** expression **MEI.header** key mensuration meter work **MEI.shared** incip tempo
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.keySig.log" />

	<memberOf key=" model.workIdent" /> </classes> <content> <rng:text/> </content>
Remarks	This element is used exclusively within bibliographic descriptions. Do not confuse this element with keySig, which is used within the body of an MEI file to record this data.

<keyAccid>

<keyAccid> (key accidental) – Accidental in a key signature.	
Module	MEI.shared
Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography]

	@fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Specifies whether enharmonic (written) values or implicit ("perform-able") values are allowed. Allowed values are: " implicit" *(Only performed values (sharp, flat, natural) allowed.)*, " explicit" *(All enharmonic (written) values allowed.)* [keyAccid] @glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.keyAccidLike
Contained by	**MEI.shared** keyAccid keySig
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.keyAccid.anl" /> <memberOf key=" att.keyAccid.ges" /> <memberOf key=" att.keyAccid.log" /> <memberOf key=" att.keyAccid.vis" /> <memberOf key=" model.keyAccidLike" /> </classes> <content> <rng:empty/> </content>
Remarks	It is a semantic error not to provide one of the following: the @x and @y pair of attributes, the @pname and @oct pair of attributes, or the @loc attribute.
Constraints	One of the following is required: @x and @y attribute pair, @pname and @oct attribute pair, or @loc attribute. <sch:rule context= "mei:keyAccid"> <sch:assert test= "(@x and @y) or (@pname and @oct) or @loc"> One of the following is required: @x and @y attribute pair, @pname and @oct attribute pair, or @loc attribute. </sch:assert> </sch:rule>

<keySig>

<keySig> (key signature) – Written key signature.	
Module	MEI.shared

Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @mode *(optional)* Indicates major, minor, or other tonality. Value conforms to data.MODE . [att.keySig.log] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @sig *(optional)* Indicates where the key lies in the circle of fifths. Value conforms to data.KEYSIGNATURE . [att.keySig.log] @sig.mixed *(optional)* Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. One or more values from data.KEYSIGTOKEN , separated by spaces. [att.keySig.log] @sig.showchange *(optional)* Determines whether cautionary accidentals should be displayed at a key change. Value conforms to data.BOOLEAN . [att.keySig.vis] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.keySigLike
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos keySig layer note pad rest scoreDef space staffDef
May contain	**MEI.shared** keyAccid

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.keySig.anl" />`
	`<memberOf key=" att.keySig.ges" />`
	`<memberOf key=" att.keySig.log" />`
	`<memberOf key=" att.keySig.vis" />`
	`<memberOf key=" model.keySigLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" model.keyAccidLike" />`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element may be used as an alternative to the key.* attributes (especially @key.sig.mixed) on scoreDef and staffDef.

</>

<l> (line of text) – Contains a single line of text within a line group.	
Module	MEI.text
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.lLike
Contained by	**MEI.text** l lg
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.lLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Do not confuse this element with the line element, which is used for graphical lines that occur in music notation.This element is modelled on elements in the Text Encoding Initiative (TEI) standard.

<label>

<label> A container for text that identifies the feature to which it is attached.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang]

	@type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.labelLike
Contained by	**MEI.header** contents handList termList **MEI.shared** biblList grpSym label layerDef staffDef staffGrp **MEI.text** list
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.source" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.labelLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`

	<rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<langUsage>

<langUsage> (language usage) – Groups elements describing the languages, sub-languages, dialects, etc., represented within the encoded resource.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.frbr** expression **MEI.header** source work
May contain	**MEI.header** language **MEI.shared** head

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.datapointing" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:oneOrMore> <rng:ref name=" language" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<language>

<language> Description of a language used in the document.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-

	tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** langUsage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Textual elements may be related to this element via their @xml:lang attribute, which normally takes the form of a code, drawn from a coded list, such as ISO639-2b. The name and web location of the authorizing list may be encoded in the @authority attribute and the @authURI attribute, respectively.This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<layer>

<layer> An independent stream of events on a staff.

Module	MEI.shared
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @def *(optional)* Provides a mechanism for linking the layer to a layerDef element. Value conforms to data.URI . [att.layer.log] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @metcon *(optional)* Indicates the relationship between the content of a staff or layer and the prevailing meter. Allowed values are: " c" *(Complete; i.e., conformant with the prevailing meter.)*, " i" *(Incomplete; i.e., not enough beats.)*, " o" *(Overfull; i.e., too many beats.)* [att.meterconformance] @n *(optional)* A non-negative integer value functioning as a "name". Value of datatype nonNegativeInteger. [layer] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]

Member of	model.layerLike
Contained by	**MEI.cmn** ossia **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.shared** layer staff
May contain	**MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.critapp** app **MEI.edittrans** add choice corr cpMark damage del gap handShift orig reg restore sic subst supplied unclear **MEI.fingering** fing fingGrp **MEI.harmony** harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.neumes** ineume syllable uneume **MEI.shared** accid annot artic barLine chord clef clefGrp custos dir div dot dynam keySig note ornam pad pb phrase rest sb scoreDef space staffDef tempo **MEI.usersymbols** anchoredText curve line
Declaration	

```
<classes>
 <memberOf key=" att.commonPart" />
 <memberOf key=" att.declaring" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.layer.log" />
 <memberOf key=" att.layer.vis" />
 <memberOf key=" att.layer.ges" />
 <memberOf key=" att.layer.anl" />
 <memberOf key=" model.layerLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:ref name=" model.appLike" />
     <rng:ref name=" model.divLike" />
     <rng:ref name=" model.milestoneLike.music" />
```

	<rng:ref name=" model.annotLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.layerPart" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The term 'layer' is used instead of 'voice' in order to avoid confusion between 'voice' and 'voice leading' and 'voicing'. The @def attribute may be used to create a connection with a layerDef element where logical and visual information about the layer is recorded. Alternatively, the @n attribute may be used as a reference to a layerDef element with the same value in its @n attribute. If neither @def nor @n attributes are present, then encoding order of the layers is presumed to match the encoding order of the layer definitions.

<layerDef>

<layerDef> (layer definition) – Container for layer meta-information.	
Module	MEI.shared
Attributes	@beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " **acc**" *(Beam lines grow farther apart from left to right.)*, " **rit**" *(Beam lines grow closer together from left to right.)*, " **norm**" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @dur.default *(optional)* Contains a default duration in those situations when the first note, rest, chord, etc. in a measure does not have a duration specified. Value conforms to data.DURATION . [att.duration.default]

	@instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @label.abbr *(optional)* Provides a label for a group of staves on pages after the first page. Usually, this label takes an abbreviated form. Value of datatype **string**. [att.labels.addl] @n *(optional)* A non-negative integer value functioning as a "name". Value of datatype **nonNegativeInteger**. [layerDef] @num.default *(optional)* Along with numbase.default, describes the default duration as a ratio. num.default is the first value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @numbase.default *(optional)* Along with num.default, describes the default duration as a ratio. numbase.default is the second value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @octave.default *(optional)* Contains a default octave specification for use when the first note, rest, chord, etc. in a measure does not have an octave value specified. Value conforms to data.OCTAVE . [att.octavedefault] @text.fam *(optional)* Provides a default value for the font family name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTFAMILY . [att.textstyle] @text.name *(optional)* Provides a default value for the font name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTNAME . [att.textstyle] @text.size *(optional)* Provides a default value for the font size of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSIZE . [att.textstyle] @text.style *(optional)* Provides a default value for the font style of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSTYLE . [att.textstyle] @text.weight *(optional)* Provides a default value for the font weight for text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTWEIGHT . [att.textstyle] @trans.diat *(optional)* Records the amount of diatonic pitch shift, e.g., C to C♯ = 0, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @trans.semi *(optional)* Records the amount of pitch shift in semitones, e.g., C to C♯ = 1, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition]

	@visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.layerDefLike
Contained by	**MEI.shared** layerDef staffDef
May contain	**MEI.midi** instrDef **MEI.shared** label
Declaration	<classes> <memberOf key=" att.commonPart" /> <memberOf key=" att.declaring" /> <memberOf key=" att.layerDef.log" /> <memberOf key=" att.layerDef.vis" /> <memberOf key=" att.layerDef.ges" /> <memberOf key=" att.layerDef.anl" /> <memberOf key=" model.layerDefLike" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.labelLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" model.instrDefLike" /> </rng:zeroOrMore> </content>

<lb>

<lb> (line break) – An empty formatting element that forces text to begin on a new line.	
Module	MEI.shared

Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @func *(optional)* States whether the line break follows a single line or a line group. Allowed values are: " line" , " group" [lb] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.lbLike
Contained by	**MEI.cmn** gliss octave reh **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict altId audience byline captureMode carrierForm classCode condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.lyrics** verse **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor div dynam edition editor extent funder genre head height identifier imprint

	label lb librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title titlePage width **MEI.text** back front l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.source" /> <memberOf key=" att.typed" /> <memberOf key=" model.lbLike" /> </classes> <content> <rng:empty/> </content>
Remarks	The @n attribute should be used to record a number associated with this textual line. See comment on verse element for description of @func attribute. Do not confuse this element with the sb element, which performs a similar function for musical notation.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<lem>

<lem> (lemma) – Contains the lemma, or base text, of a textual variation.	
Module	MEI.critapp
Attributes	@cause *(optional)* Classifies the cause for the variant reading, according to any appropriate typology of possible origins. Value of datatype NMTOKEN. [att.crit] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of*

	this pointer.) , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype positiveInteger. [att.sequence] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest"

	(Load the target resource(s) upon user request.), " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.critapp** app
May contain	**MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.critapp** app **MEI.edittrans** add choice corr cpMark damage del gap handShift orig reg restore sic subst supplied unclear **MEI.fingering** fing fingGrp **MEI.harmony** harm **MEI.lyrics** lyrics verse **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.neumes** ineume syllable uneume **MEI.shared** accid annot artic barLine chord clef clefGrp custos dir div dot dynam ending expansion keySig layer note ornam pad pb phrase rest sb scoreDef section space staff staffDef staffGrp syl tempo **MEI.usersymbols** anchoredText curve line

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.crit" /> <memberOf key=" att.pointing" /> <memberOf key=" att.rdg.anl" /> <memberOf key=" att.rdg.ges" /> <memberOf key=" att.rdg.log" /> <memberOf key=" att.rdg.vis" /> <memberOf key=" att.targeteval" /> <memberOf key=" att.typed" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" expansion" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.appLike" /> <rng:ref name=" model.divLike" /> <rng:ref name=" model.milestoneLike.music" /> <rng:ref name=" model.staffGrpLike" /> <rng:ref name=" model.annotLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.rdgPart.critapp" /> <rng:ref name=" model.sectionPart" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The lem element may also be used, under some circumstances, to record the base text of the source edition, to mark the readings of a base witness, to indicate the preference of an editor or encoder for a particular reading, or to make clear, in cases of ambiguity, precisely which portion of the main text the variation applies to. Those who prefer to work without the notion of a base text may prefer not to use it at all. An integer indicating the position of this reading in a sequence, when there is reason to presume a sequence of the variant readings, may be captured in the @seq attribute.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<lg>

<lg> (line group) – May be used for any section of text that is organized as a group of lines; however, it is most often used for a group of verse lines functioning as a formal unit, e.g. a stanza, refrain, verse paragraph, etc.

Module	MEI.text
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.lgLike
Contained by	**MEI.figtable** figDesc td th **MEI.header** history incipText **MEI.shared** annot div p pgDesc pgFoot pgFoot2 pgHead pgHead2 titlePage **MEI.text** lg li quote

May contain	**MEI.shared** head **MEI.text** l lg
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> <memberOf key=" att.xy" /> <memberOf key=" model.lgLike" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:choice> <rng:ref name=" model.lLike" /> <rng:ref name=" model.lgLike" /> </rng:choice> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.lLike" /> <rng:ref name=" model.lgLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<li>

** ** (list item) – Single item in a <list>.	
Module	MEI.text
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.text** list
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num p pb rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textcomponentLike" />`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`

	<rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on elements in the Encoded Archival Description (EAD), Text Encoding Initiative (TEI), and HTML standards.

<librettist>

<librettist> Person or organization who is a writer of the text of an opera, oratorio, etc.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]

Member of	model.respLikePart
Contained by	**MEI.header** byline perfDuration titleStmt **MEI.shared** arranger author bibl biblScope composer creation editor extent funder genre imprint librettist lyricist physLoc recipient relatedItem respStmt series sponsor textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> <memberOf key=" model.respLikePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<ligature>

<ligature> A mensural notation symbol that combines two or more notes into a single sign.	
Module	MEI.mensural
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl]

	@corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Provides an indication of the function of the ligature. Value conforms to data.LIGATUREFORM . [att.ligature.log] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike.mensural
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature mensur proport **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space

May contain	**MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** cpMark **MEI.fingering** fing fingGrp **MEI.harmony** harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.neumes** ineume syllable uneume **MEI.shared** accid artic barLine chord clef clefGrp custos dir dot dynam keySig note ornam pad phrase rest scoreDef space staffDef tempo

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.ligature.log" />`
	`<memberOf key=" att.ligature.vis" />`
	`<memberOf key=" att.ligature.ges" />`
	`<memberOf key=" att.ligature.anl" />`
	`<memberOf key=" model.eventLike.mensural" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" model.layerPart" />`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The rhythmic meaning of the components of a ligature is typically contextual, not absolute; therefore, an interpretative duration may be encoded on each of the components using either the @dur.ges attribute or the @num and @numbase attribute pair. The ligature element should **not** be used for brackets in modern notation that indicate notes that were part of a ligature in the original source.

<line>

<line> A visual line that cannot be represented by a more specific; i.e., semantic, element.	
Module	MEI.usersymbols

Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.line.vis] @endsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.line.vis] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Visual form of the line. Value conforms to data.LINEFORM . [att.line.vis] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.line.vis] @startsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.line.vis] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed]

	@vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @width *(optional)* Width of the line. Value conforms to data.LINEWIDTH . [att.line.vis] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]
Member of	model.graphicprimitiveLike
Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.harmony** harm **MEI.neumes** syllable **MEI.shared** dir ending layer ornam part pgDesc score section staff tempo **MEI.usersymbols** anchoredText curve line symbolDef
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.line.anl" /> <memberOf key=" att.line.ges" /> <memberOf key=" att.line.log" /> <memberOf key=" att.line.vis" /> <memberOf key=" att.typed" /> <memberOf key=" model.graphicprimitiveLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	The starting point of the line may be identified in absolute output coordinate terms using the @x and @y attributes. The attributes in the att.visualoffset class may be used to record horizontal, vertical, or time offsets from these absolute coordinates or from the location of the element reference in the @startid attribute. Similarly, the terminal point of the line may be recorded using the @x2 and @y2 attributes. Attributes in the att.visualoffset2 class maybe used to record the offsets of the ending point. Textual content of the line element, e.g. 'gliss.', may be rendered with the line. The appearance of the line is captured in the color, @form and @width attributes.
Constraints	When used in the symbolDef context, must have either a startid attribute or x and y attributes. When used in the symbolDef context, must have either an endid attribute or both x2 and y2 attributes. When used in the score context, must have a startid, tstamp, tstamp.ges or tstamp.real attribute or both x and y attributes. When used in the score context, must have an endid, dur, dur.ges, or tstamp2 attribute or both x2 and y2 attributes. `<sch:rule context= "mei:line[ancestor::mei:symbolDef]"> <sch:assert test= "@startid or (@x and @y)"> When used in the symbolDef context, must have either a startid attribute or x and y attributes. </sch:assert> <sch:assert test= "@endid or (@x2 and @y2)"> When used in the symbolDef context, must have either an endid attribute or both x2 and y2 attributes. </sch:assert> </sch:rule> <sch:rule context= "mei:line[not(ancestor::mei:symbolDef)]">`

	<sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real or (@x and @y)"> When used in the score context, must have a startid, tstamp, tstamp.ges or tstamp.real attribute or both x and y attributes. </sch:assert> <sch:assert test= "@dur or @dur.ges or @endid or @tstamp2 or (@x2 and @y2)"> When used in the score context, must have an endid, dur, dur.ges, or tstamp2 attribute or both x2 and y2 attributes. </sch:assert> </sch:rule>

<list>

<list> A formatting element that contains a series of items separated from one another and arranged in a linear, often vertical, sequence.	
Module	MEI.text
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @form *(optional)* Used to indicate the format of a list. In a "simple" list, li elements are not numbered or bulleted. In a "marked" list, the sequence of the list items is not critical, and a bullet, box, dash, or other character is displayed at the start of each item. In an "ordered" list, the sequence of the items is important, and each li is lettered or numbered. Style sheet functions should be used to specify the mark or numeration system for each li. Allowed values are: " simple" *(Items are not numbered or bulleted.)*, " marked" *(Bullet, box, dash, or other character is displayed before each item.)*, " ordered" *(Each item is numbered or lettered.)* [list] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Captures the nature of the content of a list. Allowed values are: " gloss" *(Each list item glosses some term or concept, which is given by a label element preceding the list item.)* , " index" *(Each list item is an entry in an index such as the alphabetical topical index at the back of a print volume.)* , " instructions" *(Each list item is a step in a sequence of instructions, as in a recipe.)*, " litany" *(Each list item is one of a sequence of petitions, supplications or invocations, typically in a religious ritual.)* , " syllogism" *(Each list item is part of an argument consisting of two or more propositions and a final conclusion derived from them.)* [list]

	@x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.listLike
Contained by	**MEI.figtable** figDesc td th **MEI.header** history **MEI.shared** annot biblList castList div event eventList p pgDesc pgFoot pgFoot2 pgHead pgHead2 titlePage **MEI.text** li list quote
May contain	**MEI.shared** head label **MEI.text** li

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.xy" />`
	`<memberOf key=" model.listLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" model.headLike" />`
	`</rng:zeroOrMore>`
	`<rng:zeroOrMore>`
	`<rng:optional>`
	`<rng:ref name=" model.labelLike" />`
	`</rng:optional>`

	<rng:ref name=" li" /> </rng:zeroOrMore> </content>
Remarks	This element is modelled on elements in Encoded Archival Description (EAD), Text Encoding Initiative (TEI), and HTML standards.
Constraints	In a list of type "gloss" all items must be immediately preceded by a label. <sch:rule context= "mei:list[@type='gloss']"> <sch:assert test= "count(mei:label) = count(mei:li)"> In a list of type "gloss" all items must be immediately preceded by a label. </sch:assert> </sch:rule>

<lyricist>

<lyricist> Person or organization who is a writer of the text of a song.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.respLikePart
Contained by	**MEI.header** byline perfDuration titleStmt **MEI.shared** arranger author bibl biblScope composer creation editor extent funder genre imprint librettist lyricist physLoc recipient relatedItem respStmt series sponsor textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> <memberOf key=" model.respLikePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>`

<lyrics>

<lyrics> Vocally performed 'text' of a musical composition, such as a song or opera.	
Module	MEI.lyrics
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.lyricsLike
Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.lyrics** lyrics **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** layer
May contain	**MEI.lyrics** verse
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.lyrics.log" /> <memberOf key=" att.lyrics.vis" /> <memberOf key=" att.lyrics.ges" /> <memberOf key=" att.lyrics.anl" />`

	<memberOf key=" model.lyricsLike" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.verseLike" /> </rng:oneOrMore> </content>
Remarks	The @staff attribute gives the staff to which the lyrics are attached. If there is more than one layer on that staff, the @layer attribute may be used to indicate the layer from which the rhythm should be taken. Often, automatic text underlay may rely on the notes of the indicated staff. When this is not desirable, however, the rhythm of the lyrics may be recorded in the @rhythm attribute of the parent verse element.

<mRest>

<mRest> (measure rest) – Complete measure rest in any meter.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @cutout *(optional)* "Cut-out" style indicated for this measure. Allowed values are: " cutout" *(The staff lines should not be drawn.)* [att.cutout] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent]

	@fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.eventLike.measureFilling
Contained by	**MEI.cmn** mRest mRpt mRpt2 mSpace multiRest multiRpt

	MEI.critapp lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.shared** layer
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.mRest.log" /> <memberOf key=" att.mRest.vis" /> <memberOf key=" att.mRest.ges" /> <memberOf key=" att.mRest.anl" /> <memberOf key=" model.eventLike.measureFilling" /> </classes> <content> <rng:empty/> </content>
Remarks	Automatically-generated numbering of consecutive measures of rest may be controlled via the @multi.number attribute on the scoreDef or staffDef elements.

<mRpt>

<mRpt> (measure repeat) – An indication that the previous measure should be repeated.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical]

	@tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike.measureFilling
Contained by	**MEI.cmn** mRest mRpt mRpt2 mSpace multiRest multiRpt **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.shared** layer
May contain	**Empty**

Declaration	
	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.mRpt.log" />`
	`<memberOf key=" att.mRpt.vis" />`
	`<memberOf key=" att.mRpt.ges" />`
	`<memberOf key=" att.mRpt.anl" />`
	`<memberOf key=" model.eventLike.measureFilling" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The automated numbering of consecutive measures of rest may be controlled via the @multi.number attribute on the scoreDef or staffDef elements.

<mRpt2>

<mRpt2> (2-measure repeat) – An indication that the previous two measures should be repeated.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike.measureFilling
Contained by	**MEI.cmn** mRest mRpt mRpt2 mSpace multiRest multiRpt **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.shared** layer
May contain	**Empty**

Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.mRpt2.log" />
 <memberOf key=" att.mRpt2.vis" />
 <memberOf key=" att.mRpt2.ges" />
 <memberOf key=" att.mRpt2.anl" />
 <memberOf key=" model.eventLike.measureFilling" />
</classes>
<content>
 <rng:empty/>
</content>
```

<mSpace>

<mSpace> (measure space) – A measure containing only empty space in any meter.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @cutout *(optional)* "Cut-out" style indicated for this measure. Allowed values are: " cutout" *(The staff lines should not be drawn.)* [att.cutout] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent]

	@instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.eventLike.measureFilling
Contained by	**MEI.cmn** mRest mRpt mRpt2 mSpace multiRest multiRpt **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.shared** layer
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.mSpace.log" />`
	`<memberOf key=" att.mSpace.vis" />`
	`<memberOf key=" att.mSpace.ges" />`
	`<memberOf key=" att.mSpace.anl" />`
	`<memberOf key=" model.eventLike.measureFilling" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The automated numbering of consecutive measures of space may be controlled via the @multi.number attribute on the scoreDef or staffDef elements.

<mapping>

<mapping> One or more characters which are related to the parent symbol in some respect, as specified by the type attribute.	
Module	MEI.usersymbols

Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.usersymbols** symbolDef
May contain	**Text**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.responsibility" />`
	`<memberOf key=" att.typed" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" mei_symbol" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

<marker>

<marker> MIDI marker meta-event.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common.anl" /> <memberOf key=" att.common" /> <memberOf key=" att.lang" /> <memberOf key=" att.midi.event" /> </classes> <content> <rng:text/> </content>

<mdiv>

<mdiv> (musical division) – Contains a subdivision of the body of a musical text.	
Module	MEI.shared
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed]

	@type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.mdivLike
Contained by	**MEI.shared** body mdiv
May contain	**MEI.shared** mdiv parts score
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.typed" /> <memberOf key=" model.mdivLike" /> </classes> <content> <rng:choice> <rng:group> <rng:optional> <rng:ref name=" model.scoreLike" /> </rng:optional> <rng:optional> <rng:ref name=" model.partsLike" /> </rng:optional> </rng:group> <rng:zeroOrMore> <rng:ref name=" model.mdivLike" /> </rng:zeroOrMore> </rng:choice> </content>
Remarks	The mdiv element may contain one or both of 2 possible views of the music. The score view is the traditional full and open score while the parts view contains each performer's view of the score; that is, his part. These 2 views are necessary because it is not always possible or desirable to generate one from the other. The score and parts elements are placed here and not directly within the body element because score and part characteristics may change from mdiv to mdiv. For example, the 2nd movement of a symphony may require different performing forces (and therefore different score and part layout) than the other movements. The mdiv element may be

	recursively nested in order to represent music which exhibits this kind of structure. For example, an opera is normally divided into acts, which are in turn divided into scenes.

<measure>

<measure> Unit of musical time consisting of a fixed number of note-values of a given type, as determined by the prevailing meter, and delimited in musical notation by bar lines.	
Module	MEI.cmn
Attributes	@barplace *(optional)* Records the location of a bar line. Value conforms to data.BARPLACE . [att.barplacement] @control *(optional)* Indicates whether or not a bar line is "controlling"; that is, if it indicates a point of alignment across all the parts. Bar lines within a score are usually controlling; that is, they "line up". Bar lines within parts may or may not be controlling. When applied to <measure>, this attribute indicates the nature of the right barline but not the left. Value conforms to data.BOOLEAN . [att.meterconformance.bar] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @join *(optional)* Used for linking visually separate entities that form a single logical entity, for example, multiple slurs broken across a system break that form a single musical phrase. Also used to indicate a measure which metrically completes the current one. Record the identifiers of the separately encoded components, excluding the one carrying the attribute. One or more values from data.URI , separated by spaces. [att.joined] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart]

	@left *(optional)* Indicates the visual rendition of the left bar line. It is present here only for facilitation of translation from legacy encodings which use it. Usually, it can be safely ignored. Value conforms to data.BARRENDITION . [att.measure.log] @metcon *(optional)* Indicates the relationship between the content of a measure and the prevailing meter. Value conforms to data.BOOLEAN . [att.meterconformance.bar] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @right *(optional)* Indicates the function of the right bar line and is structurally important. Value conforms to data.BARRENDITION . [att.measure.log] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @taktplace *(optional)* If takt bar lines are to be used, then the taktplace attribute may be used to denote the staff location of the shortened bar line. The location may include staff lines, spaces, and the spaces directly above and below the staff. The value ranges between 0 (just below the staff) to 2 * number of staff lines (directly above the staff). For example, on a 5-line staff the lines would be numbered 1,3,5,7, and 9 while the spaces would be numbered 0,2,4,6,8,10. For example, a value of '9' puts the bar line through the top line of a 5-line staff. Value conforms to data.STAFFLOC . [att.barplacement] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " byte" *(Byte.)*, " char" *(Character.)*, " cm" *(Centimeter.)*, " in" *(Inch.)*, " issue" *(Serial issue.)*, " mm" *(Millimeter.)*, " page"

	(Page.), " pc" *(Pica.)*, " pt" *(Point.)*, " px" *(Pixel.)*, " record" *(Record.)*, " vol" *(Serial volume.)*, " vu" *(MEI virtual unit.)* [att.measurement] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @width *(optional)* Measurement of the horizontal dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.width] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.measureLike
Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.shared** ending section
May contain	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal octave ossia pedal reh slur tie tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.critapp** app **MEI.edittrans** add choice corr cpMark damage del gap handShift orig reg restore sic subst supplied unclear **MEI.fingering** fing fingGrp **MEI.harmony** harm

	MEI.lyrics lyrics **MEI.midi** midi **MEI.shared** annot dir div dynam ornam pb phrase sb staff staffDef tempo **MEI.usersymbols** anchoredText curve line
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.pointing" /> <memberOf key=" att.measure.log" /> <memberOf key=" att.measure.vis" /> <memberOf key=" att.measure.ges" /> <memberOf key=" att.measure.anl" /> <memberOf key=" att.targeteval" /> <memberOf key=" att.typed" /> <memberOf key=" model.measureLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.appLike" /> <rng:ref name=" model.divLike" /> <rng:ref name=" model.milestoneLike.music" /> <rng:ref name=" model.staffDefLike" /> <rng:ref name=" model.annotLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.measurePart" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	In MEI, the measure element is a grouping mechanism for events and control events. Pointing attributes make it possible to connect this element to other internal or external entities, such as media objects or annotations. The @width attribute may be used to capture the width of the measure for interchange with music printing systems that utilize this information for printing.

<mei>

<mei> Contains a single MEI-conformant document, consisting of an MEI header and a musical text, either in isolation or as part of an meiCorpus element.

Module	MEI.shared
Attributes	@meiversion *(optional)* Specifies a generic MEI version label. Allowed values are: " 3.0.0" *(This version of MEI.)* [att.meiversion] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.corpus** meiCorpus
May contain	**MEI.header** meiHead **MEI.shared** music

Declaration	`<classes>`
	`<memberOf key=" att.meiversion" />`
	`<memberOf key=" att.id" />`
	`</classes>`
	`<content>`
	`<rng:ref name=" meiHead" />`
	`<rng:ref name=" music" />`
	`</content>`

Remarks	The mei element defines an instance of a document encoded with the MEI schema. It is the document element for a single document containing a header and data. The name of this element should not be changed by any customization in order to assure an absolute minimum level of MEI compliance.

Constraints	The values in @staff must correspond to @n attribute of a staffDef element.
	`<sch:rule context= "mei:*[@staff]">`
	`<sch:assert test= "every $i in tokenize(@staff, '\s+') satisfies $i=//mei:staffDef/@n"> The values in @staff must correspond to @n attribute of a staffDef element. </sch:assert>`
	`</sch:rule>`

<meiCorpus>

<meiCorpus> (MEI corpus) – A group of related MEI documents, consisting of a header for the group, and one or more <mei> elements, each with its own complete header.	
Module	MEI.corpus
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @meiversion *(optional)* Specifies a generic MEI version label. Allowed values are: " 3.0.0" *(This version of MEI.)* [att.meiversion] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.startLike.corpus
Contained by	**MEI.corpus** meiCorpus
May contain	**MEI.header** meiHead **MEI.shared** mei
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.meiversion" /> <memberOf key=" model.startLike.corpus" /> </classes> <content> <rng:ref name=" meiHead" /> <rng:zeroOrMore> <rng:ref name=" mei" /> </rng:zeroOrMore> </content>
Remarks	This element is modelled on the teiCorpus element in the Text Encoding Initiative (TEI) standard. The MEI instances making up the corpus may be related in a number of ways, for example, by

	composer, by similar instrumentation, by holding institution, etc. This element's name should not be changed in order to assure an absolute minimum level of MEI compliance.

<meiHead>

<meiHead> (MEI header) – Supplies the descriptive and declarative metadata prefixed to every MEI-conformant text.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @meiversion *(optional)* Specifies a generic MEI version label. Allowed values are: " **3.0.0**" *(This version of MEI.)* [att.meiversion] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Specifies the kind of document to which the header is attached, for example whether it is a corpus or individual text. Allowed values are: " **music**" *(Header is attached to a music document.)*, " **corpus**" *(Header is attached to a corpus.)* [meiHead] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.startLike.header
Contained by	**MEI.corpus** meiCorpus **MEI.header** meiHead **MEI.shared** mei
May contain	**MEI.header** altId encodingDesc extMeta fileDesc revisionDesc workDesc

Declaration	`<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.lang" /> <memberOf key=" att.meiversion" /> <memberOf key=" model.startLike.header" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" altId" /> </rng:zeroOrMore> <rng:ref name=" fileDesc" /> <rng:optional> <rng:ref name=" encodingDesc" /> </rng:optional> <rng:optional> <rng:ref name=" workDesc" /> </rng:optional> <rng:zeroOrMore> <rng:ref name=" extMeta" /> </rng:zeroOrMore> <rng:optional> <rng:ref name=" revisionDesc" /> </rng:optional> </content>`
Remarks	In order to encourage uniformity in the provision of metadata across document types, this element is modelled on an element in the Text Encoding Initiative (TEI) standard. This information is often essential in a machine-readable environment. Five sub-elements must be encoded in the following order: altId(optional), fileDesc(required), encodingDesc(optional), workDesc(optional), and revisionDesc(optional). These elements and their sub-elements provide: a unique identifier for the MEI file, bibliographic information about the MEI file and its sources, information about the encoding process, information about the creation of the work being encoded, and statements regarding significant revisions of the file. The @xml:lang attribute may be used to indicate the language in which the metadata content of the header is provided.

<mensur>

<mensur> (mensuration) – Collects information about the metrical relationship between a note value and the next smaller value; that is, either triple or duple.	
Module	MEI.mensural

Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dot *(optional)* Specifies whether a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensur.log] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " horizontal" , " vertical" [att.mensur.vis] @glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensur.vis] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensur.log] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @slash *(optional)* Indicates the number of slashes present. Value conforms to data.SLASH . [att.slashcount] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike.mensural model.staffDefPart.mensural
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature mensur proport

	MEI.neumes ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space staffDef
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.mensur.log" />`
	`<memberOf key=" att.mensur.vis" />`
	`<memberOf key=" att.mensur.ges" />`
	`<memberOf key=" att.mensur.anl" />`
	`<memberOf key=" model.eventLike.mensural" />`
	`<memberOf key=" model.staffDefPart.mensural" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The mensur element is provided for the encoding of mensural notation. The @slash attribute indicates the number lines added to the mensuration sign. For example, one slash is added for what we now call 'alla breve'.

<mensuration>

<mensuration> Captures information about mensuration within bibliographic descriptions.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @dot *(optional)* Specifies whether a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensur.log] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensur.log] @slash *(optional)* Indicates the number of slashes present. Value conforms to data.SLASH . [att.slashcount] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.workIdent
Contained by	**MEI.frbr** expression **MEI.header** key mensuration meter work **MEI.shared** incip tempo
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" att.mensur.log" /> <memberOf key=" model.workIdent" /> </classes> <content>

	<rng:text/> </content>

<metaText>

<metaText> MIDI text meta-event.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.midi** midi
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common.anl" /> <memberOf key=" att.common" /> <memberOf key=" att.lang" /> <memberOf key=" att.midi.event" /> </classes> <content> <rng:text/> </content>

<meter>

<meter> Captures information about the time signature within bibliographic descriptions.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @count *(optional)* Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3. Value of datatype a string matching the following regular expression: "\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*" . [att.meterSig.log] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @sym *(optional)* Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. Value conforms to data.METERSIGN . [att.meterSig.log] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @unit *(optional)* Contains the number indicating the beat unit, that is, the bottom number of the meter signature. Value of datatype **decimal**. [att.meterSig.log] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.workIdent
Contained by	**MEI.frbr** expression **MEI.header** key mensuration meter work **MEI.shared** incip tempo
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" att.meterSig.log" /> <memberOf key=" model.workIdent" /> </classes> <content> <rng:text/> </content>
Remarks	This element is used exclusively within bibliographic descriptions. Do not confuse meter with the meterSig or meterSigGrp or attributes used by staffDef and scoreDef to record this data within the body of an MEI file.

<meterSig>

<meterSig> (meter signature) – Written meter signature.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @count *(optional)* Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3. Value of datatype **a string matching the following regular expression: "\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*"** . [att.meterSig.log] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Contains an indication of how the meter signature should be rendered. Allowed values are: " **num**" *(Show only the number of beats.)*, " **denomsym**" *(The lower number in the meter signature is replaced by a note symbol.)*, " **norm**" *(Meter signature rendered using traditional numeric values.)*, " **invis**" *(Meter signature not rendered.)* [att.meterSig.vis] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @sym *(optional)* Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. Value conforms to data.METERSIGN . [att.meterSig.log] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @unit *(optional)* Contains the number indicating the beat unit, that is, the bottom number of the meter signature. Value of datatype **decimal**. [att.meterSig.log] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.meterSigLike
Contained by	**MEI.cmn** beam meterSig meterSigGrp tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest scoreDef space staffDef
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`

	<memberOf key=" att.meterSig.anl" /> <memberOf key=" att.meterSig.ges" /> <memberOf key=" att.meterSig.log" /> <memberOf key=" att.meterSig.vis" /> <memberOf key=" model.meterSigLike" /> </classes> <content> <rng:empty/> </content>

<meterSigGrp>

<meterSigGrp> (meter signature group) – Used to capture alternating, interchanging, and mixed meter signatures.	
Module	MEI.cmn
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @func *(required)* Function of the meter signature group. Allowed values are: " alternating" *(Meter signatures appear in alternating measures.)*, " interchanging" *(Meter signatures are interchangable, e.g. 3/4 and 6/8.)*, " mixed" *(Meter signatures with different unit values are used to express a complex metrical pattern that is not expressable using traditional means, such as 2/4+1/8.)* [att.meterSigGrp.log] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.meterSigLike
Contained by	**MEI.cmn** beam meterSig meterSigGrp tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest scoreDef space staffDef
May contain	**MEI.cmn** meterSig

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.meterSigGrp.anl" />`
	`<memberOf key=" att.meterSigGrp.ges" />`
	`<memberOf key=" att.meterSigGrp.log" />`
	`<memberOf key=" att.meterSigGrp.vis" />`
	`<memberOf key=" model.meterSigLike" />`
	`</classes>`
	`<content>`
	`<rng:ref name=" meterSig" />`
	`<rng:oneOrMore>`
	`<rng:ref name=" meterSig" />`
	`</rng:oneOrMore>`
	`</content>`

<midi>

<midi> Container for elements that contain information useful when generating MIDI output.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.midiLike
Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg

	MEI.edittrans abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.midi** midi **MEI.neumes** syllable **MEI.shared** layer
May contain	**MEI.midi** cc chan chanPr cue hex metaText noteOff noteOn port prog seqNum trkName vel
Declaration	
Remarks	The @label attribute can be used to differentiate between multiple MIDI data streams, e.g. quantized/unquantized, straight/swing, ornamented/as notated, etc.

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.midi.log" />
 <memberOf key=" att.midi.vis" />
 <memberOf key=" att.midi.ges" />
 <memberOf key=" att.midi.anl" />
 <memberOf key=" model.midiLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:ref name=" cc" />
     <rng:ref name=" chan" />
     <rng:ref name=" chanPr" />
     <rng:ref name=" cue" />
     <rng:ref name=" hex" />
     <rng:ref name=" mei_marker" />
     <rng:ref name=" metaText" />
     <rng:ref name=" noteOff" />
     <rng:ref name=" noteOn" />
     <rng:ref name=" port" />
     <rng:ref name=" prog" />
     <rng:ref name=" seqNum" />
     <rng:ref name=" trkName" />
     <rng:ref name=" vel" />
   </rng:choice>
 </rng:zeroOrMore>
</content>
```

<mordent>

<mordent> An ornament indicating rapid alternation of the main note with a secondary note, usually a step below, but sometimes a step above.	
Module	MEI.cmnOrnaments
Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography]

	@form *(optional)* Traditionally, the 'normal' mordent is written as a short wavy line with a vertical line through it and the inverted mordent is written without the vertical line. However, the meaning of these signs is sometimes reversed. See Read, p. 245-246. Another attribute in the visual domain would be necessary in order to be completely explicit about which visual symbol is actually to be rendered. Allowed values are: " **inv**" *(Inverted mordent, e.g., performed as the principal note, followed by its upper neighbor, with a return to the principal note.)* , " **norm**" *("normal" mordent, e.g., performed as the written note, followed by its lower neighbor, with a return to the written note.)* [att.mordent.log] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @long *(optional)* When the long attribute is set to 'yes', a double or long mordent, consisting of 5 notes, is indicated. Value conforms to data.BOOLEAN . [att.mordent.log] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid]

	@subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.ornamentLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.mordent.log" /> <memberOf key=" att.mordent.vis" /> <memberOf key=" att.mordent.ges" /> <memberOf key=" att.mordent.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.ornamentLike.cmn" /> </classes> <content> <rng:empty/> </content>
Remarks	The starting point of the mordent may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute. It is a semantic error not to specify one of these attributes.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. <sch:rule context= "mei:mordent"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> </sch:rule>

<multiRest>

<multiRest> (multiple rest) – Multiple measures of rest compressed into a single symbol, frequently found in performer parts.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @block *(optional)* When the block attribute is used, combinations of the 1, 2, and 4 measure rest forms (Read, p. 104) should be rendered instead of the modern form or an alternative symbol. Value conforms to data.BOOLEAN . [att.multiRest.vis] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl]

	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Records a number or count accompanying a notational feature. Value of datatype **positiveInteger**. [att.numbered] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched]

	@ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike.measureFilling
Contained by	**MEI.cmn** mRest mRpt mRpt2 mSpace multiRest multiRpt **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.shared** layer
May contain	**Empty**

Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.multiRest.log" />
 <memberOf key=" att.multiRest.vis" />
 <memberOf key=" att.multiRest.ges" />
 <memberOf key=" att.multiRest.anl" />
 <memberOf key=" model.eventLike.measureFilling" />
</classes>
<content>
 <rng:empty/>
</content>
```

<multiRpt>

<multiRpt> (multiple repeat) – Multiple repeated measures.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography]

	@fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Records a number or count accompanying a notational feature. Value of datatype **positiveInteger**. [att.numbered] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike.measureFilling
Contained by	**MEI.cmn** mRest mRpt mRpt2 mSpace multiRest multiRpt **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.shared** layer
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.multiRpt.log" /> <memberOf key=" att.multiRpt.vis" /> <memberOf key=" att.multiRpt.ges" /> <memberOf key=" att.multiRpt.anl" /> <memberOf key=" model.eventLike.measureFilling" /> </classes> <content> <rng:empty/> </content>
Remarks	In modern publishing practice, repeats of more than two measures should be written out using repeat signs. This element, however, is provided for handling non-standard practices often found in manuscript. The @num attribute records the number of measures to be repeated.

<music>

<music> Contains a single musical text of any kind, whether unitary or composite, for example, an etude, opera, song cycle, symphony, or anthology of piano solos.	
Module	MEI.shared
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring]

	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @meiversion *(optional)* Specifies a generic MEI version label. Allowed values are: " **3.0.0**" *(This version of MEI.)* [att.meiversion] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.shared** group mei
May contain	**MEI.facsimile** facsimile **MEI.performance** performance **MEI.shared** body group
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" att.meiversion" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.resourceLike" /> </rng:zeroOrMore> <rng:ref name=" macro.musicPart" /> </content>

<name>

<name> Proper noun or noun phrase.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]

	@authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name]

	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provides any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [name] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Allowed values are: " person" *(A personal name.)*, " corporation" *(Name of a corporate body.)*, " location" *(Name of a location.)*, " process" *(Name of a process or software application.)*, " style" *(Name of a musical style; i.e., form, genre, technique, etc.)*, " time" *(Name of a period of time.)* [name] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.eventPart model.nameLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict application audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref

	MEI.shared actor addrLine annot arranger author bibl biblScope caption composer creation date depth desc dir distributor dynam edition editor event eventList extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository respStmt role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" model.eventPart" /> <memberOf key=" model.nameLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	Contains the name of an entity that is difficult to tag more specifically, for example, as a corpName, geogName, persName, or title. The name element may be used in place of the more specific elements when it is not known what kind of name is being described or when a high

	degree of precision is not necessary. For example, the name element might be used when it is not clear whether the name "Bach" refers to a person or a geographic feature. The name element may be used for an individual, such as 'Henry VIII, King of England'; a corporate body, such as 'The Beatles'; a geographical place; an expanse of time, such as 'The Romantic Era'; or a mechanical (often generative) process. When name parts are needed, name sub-elements are recommended. The recommended values for the @type attribute are: person, corporation, location, period, and process. Dates associated with *the name* (not necessarily the same as those pertaining to the *entity described by the name*) may be recorded using @startdate, @enddate, @notbefore, @notafter, and @isodate attributes. The name of the list from which a controlled value is taken, such as the Thesaurus of Geographic Names (TGN) or Library of Congress Name Authority File (LCNAF), and its electronically-available location may be recorded using the @authority and @authURI attributes.This element is modelled on an element in the Encoded Archival Description (EAD) standard.
Constraints	Recommended practice is to use name elements to capture sub-parts of a generic name. `<sch:rule context= "mei:name"> <sch:assert role= "warning" test= "not(mei:geogName or mei:persName or mei:corpName)"> Recommended practice is to use name elements to capture sub-parts of a generic name. </sch:assert> </sch:rule>`

<nameLink>

<nameLink> (name link) – Contains a connecting phrase or link used within a name but not regarded as part of it, such as "van der" or "of", "from", etc.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical]

	@enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype positiveInteger. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.persNamePart
Contained by	**MEI.namesdates** addName famName foreName genName nameLink persName roleName
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" att.typed" /> <memberOf key=" model.persNamePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" />`

```
    </rng:choice>
  </rng:zeroOrMore>
</content>
```
 |
| **Remarks** | This element is modelled on an element in the Text Encoding Initiative (TEI) standard. |

<normalization>

<normalization> Indicates the extent of normalization or regularization of the original source carried out in converting it to electronic form.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @method *(optional)* Indicates the method employed to mark corrections and normalizations. Allowed values are: " **silent**" *(Corrections and normalizations made silently.)*, " **tags**" *(Corrections and normalizations indicated using elements.)* [att.regularmethod] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.editorialDeclPart
Contained by	**MEI.header** correction editorialDecl interpretation normalization segmentation stdVals

May contain	**MEI.shared** p
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.datapointing" /> <memberOf key=" att.lang" /> <memberOf key=" att.regularmethod" /> <memberOf key=" model.editorialDeclPart" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.pLike" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<note>

<note> A single pitched event.	
Module	MEI.shared
Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @accid.ges *(optional)* Records the performed pitch inflection. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.accidental.performed] @altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @artic *(optional)* Encodes the written articulation(s). Articulations are normally encoded in order from the note head outward; that is, away from the stem. See additional notes at att.vis.note. Only articulations should be encoded in the artic attribute; for example, fingerings should be encoded using the <fingering> element. One or more values from data.ARTICULATION , separated by spaces. [att.articulation] @artic.ges *(optional)* Records performed articulation that differs from the written value. One or more values from data.ARTICULATION , separated by spaces. [att.articulation.performed] @beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed]

	@breaksec *(optional)* Presence of this attribute indicates that the secondary beam should be broken following this note/chord. The value of the attribute records the number of beams which should remain unbroken. Value of datatype **positiveInteger**. [att.beamsecondary] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @colored *(optional)* Indicates this feature is 'colored'; that is, it is a participant in a change in rhythmic values. In mensural notation, coloration is indicated by colored notes (red, black, etc.) where void notes would otherwise occur. In CMN, coloration is indicated by an inverse color; that is, the note head is void when it would otherwise be filled and vice versa. Value conforms to data.BOOLEAN . [att.coloration] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @deg *(optional)* Captures relative scale degree information using Humdrum **deg syntax -- an optional indicator of melodic approach (^ = ascending approach, v = descending approach), a scale degree value (1 = tonic ... 7 = leading tone), and an optional indication of chromatic alteration. The amount of chromatic alternation is not indicated. Value conforms to data.SCALEDEGREE . [att.harmonicfunction] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography]

	@fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @gliss *(optional)* Indicates that this element participates in a glissando. Value conforms to data.GLISSANDO . [att.note.ges.cmn] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @grace *(optional)* Marks a note or chord as a "grace" (without a definitive written duration) and records from which other note/chord it should "steal" time. Value conforms to data.GRACE . [att.graced] @grace.time *(optional)* Records the amount of time to be "stolen" from a non-grace note/chord. Value conforms to data.PERCENT . [att.graced] @head.color *(optional)* Captures the overall color of a notehead. Value conforms to data.COLOR . [att.noteheads] @head.fill *(optional)* Describes how/if the notehead is filled. Value conforms to data.FILL . [att.noteheads] @head.fillcolor *(optional)* Captures the fill color of a notehead if different from the overall note color. Value conforms to data.COLOR . [att.noteheads] @head.mod *(optional)* Records any additional symbols applied to the notehead. One or more values from data.NOTEHEADMODIFIER , separated by spaces. [att.noteheads] @head.rotation *(optional)* Describes rotation applied to the basic notehead shape. A positive value rotates the notehead in a counter-clockwise fashion, while negative values produce clockwise rotation. Value conforms to data.ROTATION . [att.noteheads] @head.shape *(optional)* Used to override the head shape normally used for the given duration. Value conforms to data.HEADSHAPE . [att.noteheads] @head.visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.noteheads] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident]

	@intm *(optional)* Encodes the melodic interval from the previous pitch. The value may be a general directional indication (u, d, s), an indication of diatonic interval direction, quality, and size, or a precise numeric value in half steps. Value conforms to data.INTERVAL.MELODIC . [att.intervalmelodic] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lig *(optional)* Indicates this element's participation in a ligature. Allowed values are: " **recta**" , " **obliqua**" [att.note.log.mensural] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @lv *(optional)* Indicates the attachment of an l.v. (laissez vibrer) sign to this element. Value conforms to data.BOOLEAN . [att.lvpresent] @mfunc *(optional)* Describes melodic function using Humdrum **embel syntax. Value conforms to data.MELODICFUNCTION . [att.melodicfunction] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @oct.ges *(optional)* Records performed octave information that differs from the written value. Value conforms to data.OCTAVE . [att.note.ges] @ornam *(optional)* Indicates that this element has an attached ornament. If visual information about the ornament is needed, then one of the elements that represents an ornament (mordent, trill, or turn) should be employed. One or more values from data.ORNAM.cmn , separated by spaces. [att.ornam] @pclass *(optional)* Holds pitch class information. Value conforms to data.PITCHCLASS . [att.pitchclass] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @pname.ges *(optional)* Contains a performed pitch name that differs from the written value. Value conforms to data.PITCHNAME.GES . [att.note.ges] @pnum *(optional)* Holds a pitch-to-number mapping, a base-40 or MIDI note number, for example. Value conforms to data.PITCHNUMBER . [att.note.ges]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @psolfa *(optional)* Contains sol-fa designation, e.g., do, re, mi, etc., in either a fixed or movable Do system. Value of datatype **NMTOKEN**. [att.solfa] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @slur *(optional)* Indicates that this element participates in a slur. If visual information about the slur needs to be recorded, then a <slur> element should be employed. One or more values from data.SLUR , separated by spaces. [att.slurpresent] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @stem.dir *(optional)* Describes the direction of a stem. Value conforms to data.STEMDIRECTION . [att.stems] @stem.len *(optional)* Encodes the stem length. Value conforms to data.MEASUREMENTABS . [att.stems] @stem.mod *(optional)* Encodes any stem "modifiers"; that is, symbols rendered on the stem, such as tremolo or Sprechstimme indicators. Value conforms to data.STEMMODIFIER . [att.stems] @stem.pos *(optional)* Records the position of the stem in relation to the note head(s). Value conforms to data.STEMPOSITION . [att.stems] @stem.with *(optional)* Contains an indication of which staff a note or chord that logically belongs to the current staff should be visually placed on; that is, the one above or the one below. Value conforms to data.OTHERSTAFF . [att.stems.cmn] @stem.x *(optional)* Records the output x coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems] @stem.y *(optional)* Records the output y coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems] @syl *(optional)* Holds an associated sung text syllable. Value of datatype **string**. [att.syltext] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tab.fret *(optional)* Records the fret at which a string should be stopped. Value conforms to data.FRETNUMBER . [att.note.ges.tablature] @tab.string *(optional)* Records which string is to be played. Value conforms to data.STRINGNUMBER . [att.note.ges.tablature]

	@tie *(optional)* Indicates that this element participates in a tie. If visual information about the tie needs to be recorded, then a <tie> element should be employed. One or more values from data.TIE , separated by spaces. [att.tiepresent] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent] @vel *(optional)* MIDI Note-on/off velocity. Value conforms to data.MIDIVALUE . [att.midivelocity] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.chordPart model.eventLike
Contained by	**MEI.cmn** beam bTrem fTrem tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature

	MEI.neumes ineume syllable uneume **MEI.shared** artic barLine chord clef clefGrp custos layer note pad rest space
May contain	**MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.lyrics** verse **MEI.shared** accid artic dot syl
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.note.log" /> <memberOf key=" att.note.vis" /> <memberOf key=" att.note.ges" /> <memberOf key=" att.note.anl" /> <memberOf key=" model.chordPart" /> <memberOf key=" model.eventLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.noteModifierLike" /> <rng:ref name=" model.verseLike" /> <rng:ref name=" model.sylLike" /> <rng:ref name=" model.appLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>`
Remarks	The accid and artic sub-elements may be used instead of the note element's attributes when accid and artic represent first-class objects, e.g., when they require attributes, such as @x and @y location attributes. Similarly, the syl sub-element may be used instead of the @syl attribute. The verse sub-element may be used to group text syllables by verse. The @colored attribute may be used to indicate coloration. In the mensural repertoire, coloration is a temporary change in the underlying mensuration from perfect to imperfect. In the CMN repertoire, coloration is an inversion of the note head's normal rendition, that is, the note head is void when it would otherwise be filled and vice versa. Do not confuse this with visual color.

<noteOff>

<noteOff> MIDI note-off event.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(required)* MIDI number in the range set by data.MIDIVALUE. Value conforms to data.MIDIVALUE . [att.midinumber] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

Member of	
Contained by	**MEI.midi** midi
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.midi.event" />`
	`<memberOf key=" att.midinumber" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

<noteOn>

<noteOn> MIDI note-on event.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(required)* MIDI number in the range set by data.MIDIVALUE. Value conforms to data.MIDIVALUE . [att.midinumber] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.midi** midi
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common.anl" /> <memberOf key=" att.common" /> <memberOf key=" att.midi.event" /> <memberOf key=" att.midinumber" /> </classes> <content> <rng:empty/> </content>

<notesStmt>

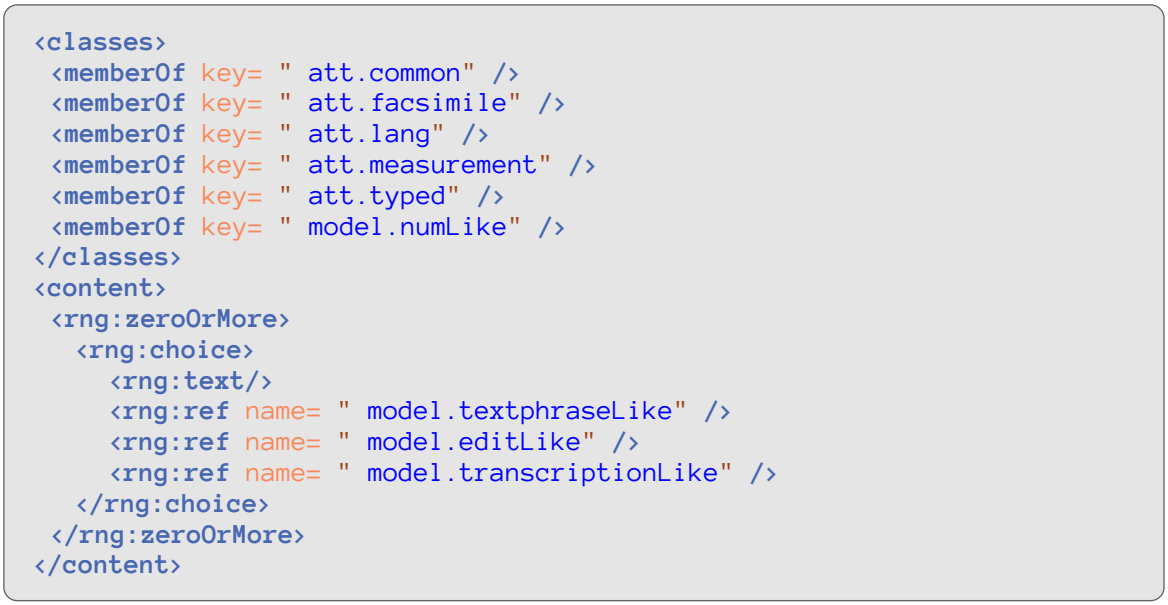
<notesStmt> (notes statement)– Collects any notes providing information about a text additional to that recorded in other parts of the bibliographic description.

Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.frbr** expression item **MEI.header** fileDesc source work
May contain	**MEI.shared** annot head
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:oneOrMore> <rng:ref name=" model.annotLike" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<num>

<num> (number) – Numeric information in any form.	
Module	MEI.shared

Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " **byte**" *(Byte.)*, " **char**" *(Character.)*, " **cm**" *(Centimeter.)*, " **in**" *(Inch.)*, " **issue**" *(Serial issue.)*, " **mm**" *(Millimeter.)*, " **page**" *(Page.)*, " **pc**" *(Pica.)*, " **pt**" *(Point.)*, " **px**" *(Pixel.)*, " **record**" *(Record.)*, " **vol**" *(Serial volume.)*, " **vu**" *(MEI virtual unit.)* [att.measurement] @value *(optional)* Numeric value capturing a measurement or count. Can only be interpreted in combination with the unit attribute. Value of datatype **decimal**. [num] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.numLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark

	MEI.namesdates addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.measurement" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.numLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:text/>
     <rng:ref name=" model.textphraseLike" />
     <rng:ref name=" model.editLike" />
     <rng:ref name=" model.transcriptionLike" />
   </rng:choice>
 </rng:zeroOrMore>
</content>
```

Remarks	Use this element only when it is necessary to display a number in a special way or to identify it with a @type attribute.

<octave>

<octave> An indication that a passage should be performed one or more octaves above or below its written pitch.	
Module	MEI.cmn
Attributes	@coll *(optional)* Indicates whether the octave displacement should be performed simultaneously with the written notes, i.e., "coll' ottava". Unlike other octave signs which are indicated by broken lines, coll' ottava typically uses an unbroken line or a series of longer broken lines, ending with a short vertical stroke. See Read, p. 47-48. Allowed values are: " coll" *(Coll' ottava (with the octave).)* [att.octave.log] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dis *(optional)* Records the amount of octave displacement. Value conforms to data.OCTAVE.DIS . [att.octavedisplacement] @dis.place *(optional)* Records the direction of octave displacement. Value conforms to data.PLACE . [att.octavedisplacement] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid]

	@endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.octave.log" />`
	`<memberOf key=" att.octave.vis" />`
	`<memberOf key=" att.octave.ges" />`
	`<memberOf key=" att.octave.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.controleventLike.cmn" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`

	<rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The @dis and @dis.place attributes record the amount and direction of displacement, respectively. The @lform and @lwidth attributes capture the appearance of the continuation line associated with the octave displacement. The starting point of the octave displacement may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify one starting and one ending type of attribute. Also, note that the @dur attribute is not required because the octave displacement can be visually instantaneous.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. Must have one of the attributes: dur, dur.ges, endid, or tstamp2. <sch:rule context= "mei:octave"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> <sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert> </sch:rule>

<orig>

<orig> (original) – Contains material which is marked as following the original, rather than being normalized or corrected.	
Module	MEI.edittrans
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.choicePart model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription

	MEI.namesdates addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol
Declaration	

	<memberOf key=" att.typed" /> <memberOf key=" model.choicePart" /> <memberOf key=" model.transcriptionLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.eventLike" /> <rng:ref name=" model.eventLike.neumes" /> <rng:ref name=" model.controleventLike" /> <rng:ref name=" model.lyricsLike" /> <rng:ref name=" model.midiLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.eventLike.measureFilling" /> <rng:ref name=" model.noteModifierLike" /> <rng:ref name=" model.sectionLike" /> <rng:ref name=" model.measureLike" /> <rng:ref name=" model.staffLike" /> <rng:ref name=" model.layerLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.fLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element will often be combined with a regularized form within a choice element. The editor(s) responsible for asserting that the material is original may be recorded in the @resp attribute. The value of resp must point to one or more identifiers declared in the document header. The @cert attribute signifies the degree of certainty ascribed to the transcription of the original text.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<ornam>

<ornam> An element indicating an ornament that is not a mordent, turn, or trill.	
Module	MEI.shared
Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid]

	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

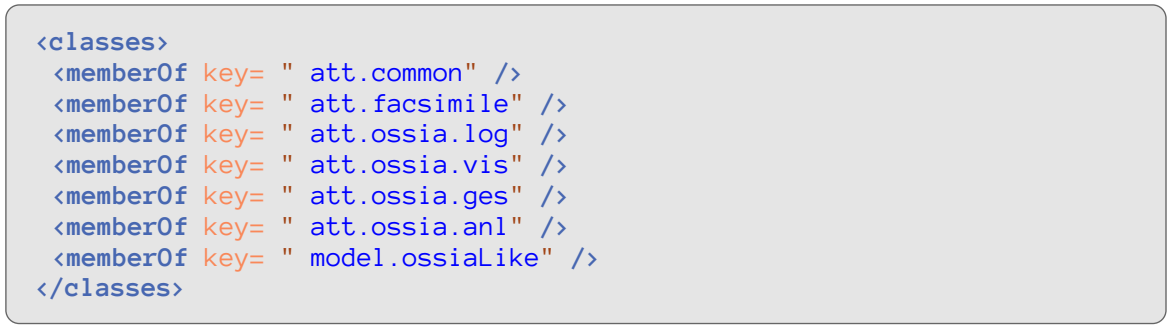
	@place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.controleventLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** anchoredText curve line symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.ornam.log" />

	<memberOf key=" att.ornam.vis" /> <memberOf key=" att.ornam.ges" /> <memberOf key=" att.ornam.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.controleventLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The glyph of the ornament may be indicated with the @altsym attribute, and it is recommended to provide an expansion of the ornament on the staff content. The starting point of the ornament may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute. It is a semantic error not to specify one of these attributes.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. <sch:rule context= "mei:ornam"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> </sch:rule>

<ossia>

<ossia> An alternate notational version .	
Module	MEI.cmn
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.ossiaLike
Contained by	**MEI.cmn** measure ossia **MEI.shared** staff
May contain	**MEI.shared** layer staff
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.ossia.log" />
 <memberOf key=" att.ossia.vis" />
 <memberOf key=" att.ossia.ges" />
 <memberOf key=" att.ossia.anl" />
 <memberOf key=" model.ossiaLike" />
</classes>
```

	<content> <rng:choice> <rng:group> <rng:ref name=" model.staffLike" /> <rng:oneOrMore> <rng:ref name=" model.staffLike" /> </rng:oneOrMore> </rng:group> <rng:group> <rng:ref name=" model.layerLike" /> <rng:oneOrMore> <rng:ref name=" model.layerLike" /> </rng:oneOrMore> </rng:group> </rng:choice> </content>
Remarks	The alternative material in an ossia often provides a simpler, easier-to-perform option, while at other times the alternate material provides indications of performance practice, such as ornamentation. Often an ossia is rendered above the main staff on a reduced-size staff. Sometimes the alternate material occurs on the same staff as the primary text, but in a separate layer. In this case, the alternative material is often rendered in small-sized notation.
Constraints	In a measure, ossia may only contain staff elements. In a staff, ossia may only contain layer elements. <sch:rule context= "mei:measure/mei:ossia"> <sch:assert test= "count(mei:*) = count(mei:staff)"> In a measure, ossia may only contain staff elements. </sch:assert> </sch:rule> <sch:rule context= "mei:staff/mei:ossia"> <sch:assert test= "count(mei:*) = count(mei:layer)"> In a staff, ossia may only contain layer elements. </sch:assert> </sch:rule>

<otherChar>

<otherChar> (other distinguishing characteristic) – Any characteristic that serves to differentiate a work or expression from another.	
Module	MEI.header

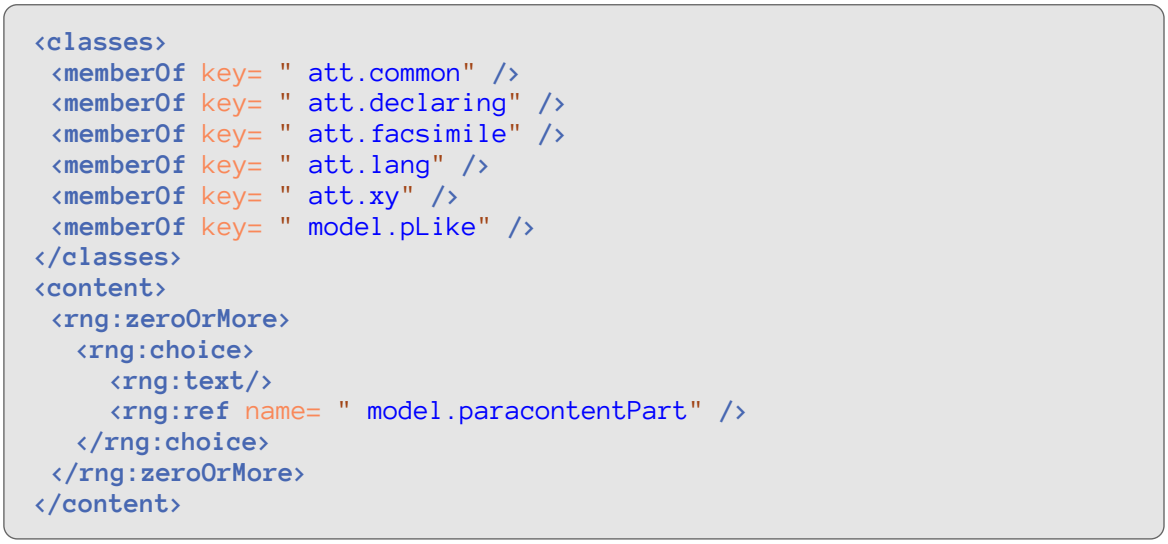
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.frbr** expression **MEI.header** work
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.lang" />
</classes>
<content>
 <rng:zeroOrMore>
```

	<rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<p>

<p> (paragraph) – One or more text phrases that form a logical prose passage.	
Module	MEI.shared
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.pLike
Contained by	**MEI.figtable** figDesc td th **MEI.header** application changeDesc contents correction editorialDecl history incipText interpretation normalization physDesc projectDesc samplingDecl segmentation stdVals **MEI.shared** annot div event p pgDesc pgFoot pgFoot2 pgHead pgHead2 series titlePage **MEI.text** li quote
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num pb rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** symbol
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.declaring" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.xy" />
 <memberOf key=" model.pLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:text/>
     <rng:ref name=" model.paracontentPart" />
   </rng:choice>
 </rng:zeroOrMore>
</content>
```

Remarks	A paragraph is usually typographically distinct: The text usually begins on a new line and the first letter of the content is often indented, enlarged, or both.This element is modelled on elements in the Encoded Archival Description, Text Encoding Initiative (TEI), and HTML standards.

<pad>

<pad> (padding) – An indication of extra visual space between notational elements.	
Module	MEI.shared
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @num *(required)* Amount of "padding" to be added, in interline units; that is, in units of 1/2 the distance between adjacent staff lines. Value of datatype **decimal**. [att.pad.log] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature

	MEI.neumes ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.pad.log" />`
	`<memberOf key=" att.pad.vis" />`
	`<memberOf key=" att.pad.ges" />`
	`<memberOf key=" att.pad.anl" />`
	`<memberOf key=" model.eventLike" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

<part>

<part> An alternative visual rendition of the score from the point of view of a particular performer (or group of performers).	
Module	MEI.shared
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.partLike
Contained by	**MEI.shared** part parts
May contain	**MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.shared** annot div ending pb sb scoreDef section staffDef **MEI.usersymbols** anchoredText curve line

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.declaring" />`
	`<memberOf key=" att.part.log" />`
	`<memberOf key=" att.part.vis" />`
	`<memberOf key=" att.part.ges" />`
	`<memberOf key=" att.part.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.partLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`

	<rng:ref name=" model.appLike" /> <rng:ref name=" model.divLike" /> <rng:ref name=" model.milestoneLike.music" /> <rng:ref name=" model.annotLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.scorePart" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	part elements are not used in MEI to indicate voice leading. @next attributes on event elements should be used for this purpose. part elements are useful for encoding individual parts when there is no score, such as early music part books, when the music has non-aligning bar lines, when different layout, such as page turns, are needed for the score and parts, or for accommodating software that requires part-by-part encoding. When assembly of the parts into a score is desired and there are non-aligning bar lines, bar lines which indicate points of alignment across all the parts may be marked as 'controlling', while non-aligning ones may be marked as 'non-controlling'.

<parts>

<parts> Provides a container for performers' parts.	
Module	MEI.shared
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.partsLike
Contained by	**MEI.shared** mdiv parts
May contain	**MEI.shared** part
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" att.parts.log" /> <memberOf key=" att.parts.vis" /> <memberOf key=" att.parts.ges" /> <memberOf key=" att.parts.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.partsLike" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.partLike" /> </rng:zeroOrMore> </content>

<pb>

<pb> (page break) – An empty formatting element that forces text to begin on a new page.	
Module	MEI.shared
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @folium *(optional)* States the side of a leaf (as in a manuscript) on which the content following the <pb> element occurs. Allowed values are: " **verso**" , " **recto**" [att.pb.vis] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.pbLike
Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.figtable** td th **MEI.header** contentItem **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.neumes** syllable **MEI.ptrref** ref **MEI.shared** addrLine annot bibl caption date div ending head identifier imprint layer name num p part pb rend sb score section staff title titlePage **MEI.text** back front l li quote
May contain	**MEI.shared** pgDesc pgFoot pgHead

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.pointing" /> <memberOf key=" att.source" /> <memberOf key=" att.typed" /> <memberOf key=" att.pb.anl" /> <memberOf key=" att.pb.ges" /> <memberOf key=" att.pb.log" /> <memberOf key=" att.pb.vis" /> <memberOf key=" model.pbLike" /> </classes> <content> <rng:ref name=" macro.metaLike.page" /> </content>
Remarks	The @n attribute should be used to record the page number displayed in the source. It need not be an integer, e.g., 'iv', or 'p17-3'. The logical page number can be calculated by counting previous pb ancestor elements. When used in a score context, a page break implies an accompanying system break.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<pedal>

<pedal> Piano pedal mark.	
Module	MEI.cmn
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dir *(required)* Records the position of the piano damper pedal. Allowed values are: " down" *(Depress the pedal.)*, " up" *(Release the pedal.)*, " half" *(Half pedal.)*, " bounce" *(Release then immediately depress the pedal.)* [att.pedal.log] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid]

	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " **line**" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " **pedstar**" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , " **altpedstar**" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pedal.vis] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend]

	@lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

	@type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.pedal.log" />`
	`<memberOf key=" att.pedal.vis" />`
	`<memberOf key=" att.pedal.ges" />`
	`<memberOf key=" att.pedal.anl" />`
	`<memberOf key=" att.typed" />`

	<memberOf key=" model.controleventLike.cmn" /> </classes> <content> <rng:empty/> </content>
Remarks	The starting point of the pedal mark may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute. It is a semantic error not to specify one of these attributes.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. <sch:rule context= "mei:pedal"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> </sch:rule>

<perfDuration>

<perfDuration> (performance duration) – Used to express the duration of performance of printed or manuscript music or the playing time for a sound recording, videorecording, etc.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodur *(optional)* Holds a W3C duration value, e.g., "PT2H34M45.67S". Value of datatype **duration**. [perfDuration] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.biblPart model.physDescPart
Contained by	**MEI.frbr** expression **MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark work **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.biblPart" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" />`

	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	

<perfMedium>

<perfMedium> (performance medium) – Indicates the number and character of the performing forces used in a musical composition.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.frbr** expression **MEI.header** work
May contain	**MEI.header** perfResList **MEI.shared** annot castList head

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.authorized" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:optional> <rng:ref name=" castList" /> </rng:optional> <rng:optional> <rng:ref name=" perfResList" /> </rng:optional> <rng:zeroOrMore> <rng:ref name=" model.annotLike" /> </rng:zeroOrMore> </content>
Remarks	Arrangements are coded for the medium of the work being described, not for the original medium.

<perfRes>

<perfRes> (performance resource) – Name of an instrument on which a performer plays, a performer's voice range, or a standard performing ensemble designation.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype string. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype NMTOKEN, separated by spaces. [att.canonical]

	@count *(optional)* Indicates the number of performers. Value of datatype **positiveInteger**. [perfRes] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @solo *(optional)* Marks this instrument or vocal part as a soloist. Do not use this attribute for a solo instrument which is not accompanied. Value conforms to data.BOOLEAN . [perfRes] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** perfRes perfResList **MEI.shared** castItem incip
May contain	**Text** **MEI.header** perfRes
Declaration	`<classes>`

```
  <memberOf key=" att.common" />
  <memberOf key=" att.authorized" />
  <memberOf key=" att.bibl" />
  <memberOf key=" att.canonical" />
  <memberOf key=" att.edit" />
  <memberOf key=" att.lang" />
 </classes>
 <content>
  <rng:zeroOrMore>
   <rng:choice>
    <rng:text/>
    <rng:ref name=" perfRes" />
   </rng:choice>
  </rng:zeroOrMore>
 </content>
```

<perfResList>

<perfResList> Several instrumental or vocal resources treated as a group.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @count *(optional)* Indicates the number of performers. Value of datatype **positiveInteger**. [perfResList] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.header** perfMedium perfResList **MEI.shared** incip
May contain	**MEI.header** perfRes perfResList **MEI.shared** head

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.authorized" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.canonical" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.lang" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" model.headLike" />`
	`</rng:zeroOrMore>`
	`<rng:zeroOrMore>`

	<rng:choice> <rng:ref name=" perfRes" /> <rng:ref name=" perfResList" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The function of instrumentalists or vocalists is represented by the choice of perfRes and perfResList child elements. Arrangements are coded for the medium of the work being described, not for the original medium.

<performance>

<performance> A presentation of one or more musical works.	
Module	MEI.performance
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.resourceLike
Contained by	**MEI.facsimile** facsimile **MEI.performance** performance **MEI.shared** music
May contain	**MEI.performance** recording

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" model.resourceLike" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" recording" /> </rng:zeroOrMore> </content>
Remarks	The @decls attribute may be used to link the collection with a particular source described in the header. This element is analogous to the facsimile element in the facsimile module.

<periodName>

<periodName> (period name) – A label that describes a period of time, such as 'Baroque' or '3rd Style period'.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile]

	@isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-

	tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.nameLike.label
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes>` `<memberOf key=" att.bibl" />`

	<memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" att.typed" /> <memberOf key=" model.nameLike.label" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The name of the list from which a controlled value is taken may be recorded using the @authority attribute.

<persName>

<persName> (personal name) – Designation for an individual, including any or all of that individual's forenames, surnames, honorific titles, and added names.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable]

	@evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype positiveInteger. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.nameLike.agent
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer creation date depth desc dir distributor dynam edition editor event eventList extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository respStmt role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ptr ref

	MEI.shared address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.bibl" /> <memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" att.typed" /> <memberOf key=" model.nameLike.agent" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.persNamePart" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Parts of a personal name may be captured using persName sub-elements. For greater specificity, however, use foreName, famName, genName, addName, genName, nameLink, and roleName elements. The name of the list from which a controlled value for persName is taken may be recorded using the @authority attribute.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<pgDesc>

<pgDesc> (page description) – Contains a brief prose description of the appearance or description of the content of a physical page.	
Module	MEI.shared
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.metaLike.page
Contained by	**MEI.shared** pb
May contain	**Text** **MEI.figtable** table **MEI.ptrref** ptr ref **MEI.shared** annot biblList castList eventList p **MEI.text** lg list quote **MEI.usersymbols** anchoredText curve line

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.metaLike.page" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.graphicprimitiveLike" />`
	`<rng:ref name=" model.textcomponentLike" />`
	`<rng:ref name=" model.annotLike" />`
	`<rng:ref name=" model.locrefLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Best practice suggests the use of controlled vocabulary. Don't confuse this element with a figure caption. A caption is text primarily intended for display with an illustration. It may or may not function as a description of the illustration.

<pgFoot>

<pgFoot> (page footer) – A running footer on the first page. Also, used to temporarily override a running footer on individual pages.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @halign *(optional)* Records horizontal alignment of the page footer. Value conforms to data.HORIZONTALALIGNMENT . [pgFoot] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.shared** pb scoreDef

May contain	**Text** **MEI.critapp** app **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num p rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** anchoredText symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.typed" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textcomponentLike" />`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`<rng:ref name=" model.appLike" />`
	`<rng:ref name=" anchoredText" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is used to capture the textual data that often appears on the first page of printed music. It may also be used for similarly formatted material in manuscripts. When used within pb, it records a temporary suspension of the pattern of page footers established by the use of pgFoot within a previous scoreDef. Auto-generated page numbers may be indicated with a processing instruction. The pgHead, pgHead2, pgFoot, and pgFoot2 elements should ***not*** be used to encode textual notes/annotations.

<pgFoot2>

<pgFoot2> (page footer 2) – A running footer on the pages following the first.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @halign *(optional)* Records horizontal alignment of the page footer. Use multiple values to capture an alternating pattern. One or more values from data.HORIZONTALALIGNMENT , separated by spaces. [pgFoot2] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.shared** scoreDef
May contain	**Text** **MEI.critapp** app **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear

	MEI.figtable fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num p rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** anchoredText symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textcomponentLike" /> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.appLike" /> <rng:ref name=" anchoredText" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is used to capture the textual data that often appears on the second and succeeding pages of printed music. It may also be used for similarly formatted material in manuscripts. Auto-generated page numbers may be indicated with a processing instruction. The pgHead, pgHead2, pgFoot, and pgFoot2 elements should ***not*** be used to encode textual notes/annotations.

<pgHead>

<pgHead> (page header) – A running header on the first page. Also, used to temporarily override a running header on individual pages.	
Module	MEI.shared

Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @halign *(optional)* Records horizontal alignment of the page header. Value conforms to data.HORIZONTALALIGNMENT . [pgHead] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.shared** pb scoreDef
May contain	**Text** **MEI.critapp** app **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num p rend repository stack title

	MEI.text lg list quote **MEI.usersymbols** anchoredText symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textcomponentLike" /> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.appLike" /> <rng:ref name=" anchoredText" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is used to capture the textual data that often appears on the first page of printed music. It may also be used for similarly formatted material in manuscripts. When used within pb, it records a temporary suspension of the pattern of page headers established by the use of pgHead within a previous scoreDef. Auto-generated page numbers may be indicated with a processing instruction. The pgHead, pgHead2, pgFoot, and pgFoot2 elements should ***not*** be used to encode textual notes/annotations.

<pgHead2>

<pgHead2> (page header 2) – A running header on the pages following the first.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @halign *(optional)* Records horizontal alignment of the page header. Use multiple values to capture an alternating pattern. One or more values from data.HORIZONTALALIGNMENT , separated by spaces. [pgHead2]

	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.shared** scoreDef
May contain	**Text** **MEI.critapp** app **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num p rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** anchoredText symbol

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.typed" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textcomponentLike" /> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.appLike" /> <rng:ref name=" anchoredText" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is used to capture the textual data that often appears at the top of the second and succeeding pages of printed music. It may also be used for similarly formatted material in manuscripts. Auto-generated page numbers may be indicated with a processing instruction. The pgHead, pgHead2, pgFoot, and pgFoot2 elements should ***not*** be used to encode textual notes/annotations.

<phrase>

<phrase> Indication of 1) a "unified melodic idea" or 2) performance technique.	
Module	MEI.shared
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color]

	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @join *(optional)* Used for linking visually separate entities that form a single logical entity, for example, multiple slurs broken across a system break that form a single musical phrase. Also used to indicate a measure which metrically completes the current one. Record the identifiers

	of the separately encoded components, excluding the one carrying the attribute. One or more values from data.URI , separated by spaces. [att.joined] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to]

	@tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]
Member of	model.controleventLike
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo

May contain	**MEI.usersymbols** curve
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.phrase.log" /> <memberOf key=" att.phrase.vis" /> <memberOf key=" att.phrase.ges" /> <memberOf key=" att.phrase.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.controleventLike" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" curve" /> </rng:zeroOrMore> </content>`
Remarks	Historically, the term "slur" indicated two notes performed legato, while the term "phrase" was used for a "unified melodic idea". Nowadays, however, "slur" often has the same meaning as "phrase" (See Read, p. 265-266), since the visual rendition of the two concepts is the same. MEI provides two distinct elements so that those users wishing to maintain a distinction for historical reasons may do so. If the user does not want to maintain the distinction, then the more generic slur element should be employed. The starting point of the phrase/slur may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify one starting and one ending type of attribute. Either @place, @bulge, or @bezier attributes may be used to record the curvature of the phrase/slur. The slur and tie elements may be used instead of the slur.* and tie.* attributes provided on chord and note elements when 1) they are required by software, or 2) multiple, alternative slurs are needed.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. Must have one of the attributes: dur, dur.ges, endid, or tstamp2. `<sch:rule context= "mei:phrase"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> <sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert> </sch:rule>`

Constraints	The visual attributes of the phrase (@bezier, @bulge, @curvedir, @lform, @lwidth, @ho, @startho, @endho, @to, @startto, @endto, @vo, @startvo, @endvo, @x, @y, @x2, and @y2) will be overridden by visual attributes of the contained curve elements.
	
	`<sch:rule context= "mei:phrase[mei:curve[@bezier or @bulge or @curvedir or @lform or @lwidth or @ho or @startho or @endho or @to or @startto or @endto or @vo or @startvo or @endvo or @x or @y or @x2 or @y2]]" ›`
	`<sch:assert role= "warning" test= "not(@bezier or @bulge or @curvedir or @lform or @lwidth or @ho or @startho or @endho or @to or @startto or @endto or @vo or @startvo or @endvo or @x or @y or @x2 or @y2)" ›` The visual attributes of the phrase (@bezier, @bulge, @curvedir, @lform, @lwidth, @ho, @startho, @endho, @to, @startto, @endto, @vo, @startvo, @endvo, @x, @y, @x2, and @y2) will be overridden by visual attributes of the contained curve elements. `</sch:assert›`
	`</sch:rule›`

<physDesc>

<physDesc> (physical description) – Container for information about the appearance, construction, or handling of physical materials, such as their dimension, quantity, color, style, and technique of creation.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.frbr** item **MEI.header** source

May contain	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent p titlePage
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.pLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" model.physDescPart" /> </rng:zeroOrMore> </content>
Remarks	Dedicatory text and title page features may also be encoded here when they are not transcribed as part of the front or back matter; i.e., when they are considered to be meta-data rather than a transcription.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<physLoc>

<physLoc> (physical location) – Groups information about the current physical location of a bibliographic item, such as the repository in which it is located and its shelf mark(s), and its previous locations.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.biblPart
Contained by	**MEI.frbr** item **MEI.header** perfDuration source **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**MEI.header** provenance **MEI.shared** identifier repository
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" model.biblPart" /> </classes> <content> <rng:zeroOrMore> <rng:group> <rng:ref name=" model.repositoryLike" /> <rng:zeroOrMore> <rng:ref name=" model.identifierLike" /> </rng:zeroOrMore> </rng:group> </rng:zeroOrMore> <rng:optional> <rng:ref name=" provenance" /> </rng:optional> </content>
Remarks	This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<physMedium>

<physMedium> (physical medium) – Records the physical materials used in the source, such as ink and paper.	
Module	MEI.header

Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.authorized" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.physDescPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	All materials may be described in a single physMedium element or multiple elements may be used, one for each medium.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<plateNum>

<plateNum> (plate number) – Designation assigned to a resource by a music publisher, usually printed at the bottom of each page, and sometimes appearing also on the title page.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.physDescPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	While it is often called a "plate number", it does not always contain numbers. The @facs attribute may be used to record the location of the plate number in a facsimile image.

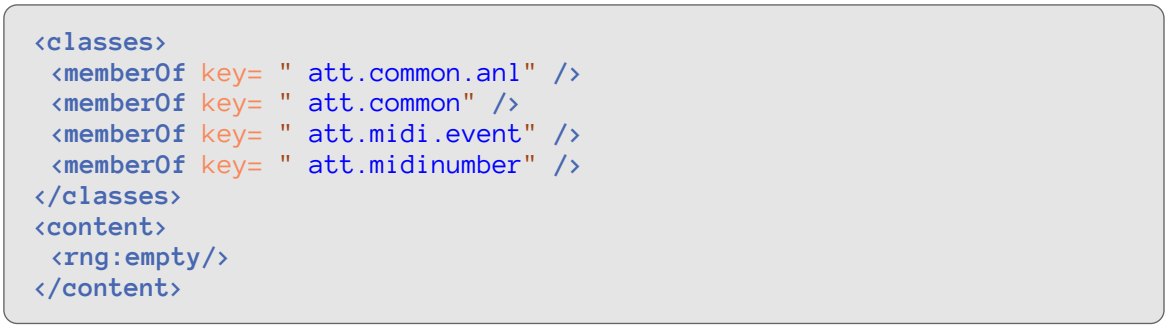
<playingSpeed>

<playingSpeed> Playing speed for a sound recording is the speed at which the carrier must be operated to produce the sound intended (e.g., 33 1/3 rpm, 19 cm/s, etc.).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName

	MEI.ptrref ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<port>

<port> MIDI port.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(required)* MIDI number in the range set by data.MIDIVALUE. Value conforms to data.MIDIVALUE . [att.midinumber]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.midi** midi
May contain	**Empty**
Declaration	

```
<classes>
 <memberOf key=" att.common.anl" />
 <memberOf key=" att.common" />
 <memberOf key=" att.midi.event" />
 <memberOf key=" att.midinumber" />
</classes>
<content>
 <rng:empty/>
</content>
```

<postBox>

<postBox> (postal box or post office box) contains a number or other identifier for some postal delivery point other than a street address.	
Module	MEI.namesdates
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.addressPart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref

	MEI.shared actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.addressPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<postCode>

<postCode> (postal code) contains a numerical or alphanumeric code used as part of a postal address to simplify sorting or delivery of mail.	
Module	MEI.namesdates
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.addressPart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.addressPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<price>

<price> The cost of access to a bibliographic item.	
Module	MEI.header
Attributes	@amount *(optional)* Numeric value capturing a cost. Can only be interpreted in combination with the currency attribute. Value of datatype **a decimal number matching the pattern "[0-9]+\.[0-9]{2}"** . [price] @analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @currency *(optional)* Monetary unit. Value of datatype **NMTOKEN**. [price] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** availability
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.lang" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Best practice suggests the use of controlled vocabulary for the currency attribute, such as the ISO 4217 list of currency designators.

<prog>

<prog> (program) – MIDI program change.	
Module	MEI.midi

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(required)* MIDI number in the range set by data.MIDIVALUE. Value conforms to data.MIDIVALUE . [att.midinumber] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.midi** midi
May contain	**Empty**

Declaration	

```
<classes>
 <memberOf key=" att.common.anl" />
 <memberOf key=" att.common" />
 <memberOf key=" att.midi.event" />
 <memberOf key=" att.midinumber" />
</classes>
<content>
 <rng:empty/>
</content>
```

<projectDesc>

<projectDesc> (project description) – Project-level meta-data describing the aim or purpose for which the electronic file was encoded, funding agencies, etc. together with any other relevant information concerning the process by which it was assembled or collected.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.encodingPart

Contained by	**MEI.header** appInfo editorialDecl encodingDesc projectDesc samplingDecl
May contain	**MEI.shared** head p
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.datapointing" /> <memberOf key=" att.lang" /> <memberOf key=" model.encodingPart" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:oneOrMore> <rng:ref name=" model.pLike" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<propName>

<propName> (property name) – Name of a property of the symbol.	
Module	MEI.usersymbols
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @type *(required)* Characterizes the property name. Allowed values are: " unicode" *(A registered Unicode normative or informative property name.)*, " local" *(A locally defined name.)* [propName] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	

Contained by	**MEI.usersymbols** symProp
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common" /> </classes> <content> <rng:text/> </content>

<propValue>

<propValue> (property value) – A single property value.	
Module	MEI.usersymbols
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.usersymbols** symProp
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common" /> </classes> <content>

	<rng:text/> </content>

<proport>

<proport> (proportion) – Description of note duration as arithmetic ratio.	
Module	MEI.mensural
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike.mensural model.staffDefPart.mensural
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature mensur proport **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space staffDef
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.proport.log" />`
	`<memberOf key=" att.proport.vis" />`
	`<memberOf key=" att.proport.ges" />`

	<memberOf key=" att.proport.anl" /> <memberOf key=" model.eventLike.mensural" /> <memberOf key=" model.staffDefPart.mensural" /> </classes> <content> <rng:empty/> </content>
Remarks	The proport element is provided for the encoding of mensural notation. It allows the description of note durations as arithmetic ratios. While mensuration refers to the normal relationships between note durations, proportion affects the relations of the note durations to the tactus.

<provenance>

<provenance> The record of ownership or custodianship of an item.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.shared** physLoc

May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date eventList identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.lang" />`
	`</classes>`
	`<content>`
	`<rng:choice>`
	`<rng:optional>`
	`<rng:ref name=" eventList" />`
	`</rng:optional>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</rng:choice>`
	`</content>`

Remarks	This element is modelled on elements in the Encoded Archival Description (EAD) and Text Encoding Initiative (TEI) standards.

<ptr>

<ptr> (pointer) – Defines a pointer to another location, using only attributes to describe the destination.	
Module	MEI.ptrref
Attributes	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of*

	this pointer.) , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @mimetype *(optional)* Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. Value of datatype string. [att.internetmedia] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.locrefLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th

	MEI.fingering fing **MEI.harmony** f harm **MEI.header** accessRestrict application audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgDesc pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc series sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.internetmedia" /> <memberOf key=" att.pointing" /> <memberOf key=" att.targeteval" /> <memberOf key=" att.typed" /> <memberOf key=" model.locrefLike" /> </classes> <content> <rng:empty/> </content>
Remarks	Unlike the ref element, ptr cannot contain text or sub-elements to describe the referenced object.This element is modelled on elements in the Encoded Archival Description (EAD) and Text Encoding Initiative (TEI) standards.

<pubPlace>

<pubPlace> (publication place) – Name of the place where a bibliographic item was published.

Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.imprintPart model.pubStmtPart
Contained by	**MEI.header** availability pubStmt **MEI.shared** bibl distributor imprint publisher pubPlace respStmt
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes>`

	<memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.imprintPart" /> <memberOf key=" model.pubStmtPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<pubStmt>

<pubStmt> (publication statement) – Container for information regarding the publication or distribution of a bibliographic item, including the publisher's name and address, the date of publication, and other relevant details.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.header** fileDesc source

May contain	**MEI.header** availability unpub **MEI.shared** address date distributor identifier publisher pubPlace respStmt
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> </classes> <content> <rng:choice> <rng:optional> <rng:ref name=" unpub" /> </rng:optional> <rng:zeroOrMore> <rng:ref name=" model.pubStmtPart" /> </rng:zeroOrMore> </rng:choice> </content>
Remarks	When an item is unpublished, use only the unpub sub-element.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<publisher>

<publisher> Name of the organization responsible for the publication of a bibliographic item.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.imprintPart model.pubStmtPart
Contained by	**MEI.header** availability pubStmt **MEI.shared** bibl distributor imprint publisher pubPlace respStmt
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.imprintPart" />`
	`<memberOf key=" model.pubStmtPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<quote>

<quote> (block quote) – A formatting element that designates an extended quotation; that is, a passage attributed to a source external to the text and normally set off from the text by spacing or other typographic distinction.	
Module	MEI.text
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.quoteLike
Contained by	**MEI.figtable** figDesc td th **MEI.header** history

	MEI.shared annot div p pgDesc pgFoot pgFoot2 pgHead pgHead2 titlePage **MEI.text** li quote
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num p pb rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" att.xy" />`
	`<memberOf key=" model.quoteLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.paracontentPart" />`
	`<rng:ref name=" p" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The source for the quote may be included in the optional bibl sub-element. Use rend for words that are enclosed in quotation marks for emphasis or for a short quoted phrase that occurs within a line of text.This element is modelled on elements found in HTML, TEI, and EAD standards.

<rdg>

<rdg> (reading) – Contains a single reading within a textual variation.	
Module	MEI.critapp
Attributes	@cause *(optional)* Classifies the cause for the variant reading, according to any appropriate typology of possible origins. Value of datatype NMTOKEN. [att.crit] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype positiveInteger. [att.sequence] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source]

	@subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.critapp** app
May contain	**MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.critapp** app

	MEI.edittrans add choice corr cpMark damage del gap handShift orig reg restore sic subst supplied unclear **MEI.fingering** fing fingGrp **MEI.harmony** harm **MEI.lyrics** lyrics verse **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.neumes** ineume syllable uneume **MEI.shared** accid annot artic barLine chord clef clefGrp custos dir div dot dynam ending expansion keySig layer note ornam pad pb phrase rest sb scoreDef section space staff staffDef staffGrp syl tempo **MEI.usersymbols** anchoredText curve line

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.crit" />`
	`<memberOf key=" att.pointing" />`
	`<memberOf key=" att.rdg.anl" />`
	`<memberOf key=" att.rdg.ges" />`
	`<memberOf key=" att.rdg.log" />`
	`<memberOf key=" att.rdg.vis" />`
	`<memberOf key=" att.targeteval" />`
	`<memberOf key=" att.typed" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" expansion" />`
	`</rng:zeroOrMore>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.appLike" />`
	`<rng:ref name=" model.divLike" />`
	`<rng:ref name=" model.milestoneLike.music" />`
	`<rng:ref name=" model.staffGrpLike" />`
	`<rng:ref name=" model.annotLike" />`
	`<rng:ref name=" model.graphicprimitiveLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`<rng:ref name=" model.rdgPart.critapp" />`
	`<rng:ref name=" model.sectionPart" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Since a reading can be a multi-measure section, the scoreDef element is allowed so that a reading may have its own meta-data without incurring the overhead of child section elements. The app sub-element is permitted in order to allow nested sub-variants.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<recipient>

<recipient> The name of the individual(s), institution(s) or organization(s) receiving correspondence.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.biblPart
Contained by	**MEI.header** perfDuration **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig

	MEI.namesdates bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.biblPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>

<recording>

<recording> A recorded performance.	
Module	MEI.performance
Attributes	@begin *(optional)* Specifies a point where the relevant content begins. A numerical value must be less and a time value must be earlier than that given by the end attribute. Value is plain text. [att.mediabounds] @betype *(optional)* Type of values used in the begin/end attributes. The begin and end attributes can only be interpreted meaningfully in conjunction with this attribute. Value conforms to data.BETYPE . [att.mediabounds] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring]

	@end *(optional)* Specifies a point where the relevant content ends. If not specified, the end of the content is assumed to be the end point. A numerical value must be greater and a time value must be later than that given by the begin attribute. Value is plain text. [att.mediabounds] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.performance** performance
May contain	**MEI.performance** avFile clip when

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.datapointing" />`
	`<memberOf key=" att.declaring" />`
	`<memberOf key=" att.mediabounds" />`
	`<memberOf key=" att.startid" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" avFile" />`
	`</rng:zeroOrMore>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" when" />`
	`</rng:zeroOrMore>`
	`<rng:zeroOrMore>`
	`<rng:ref name=" clip" />`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The @startid attribute may be used to hold a reference to the first feature occurring in this performance. This element is analogous to the surface element in the facsimile module.

Constraints	When @begin or @end is used, @betype should be present.
	
	`<sch:rule context= "mei:recording[@begin or @end]">`
	`<sch:assert role= "warning" test= "@betype"> When @begin or @end is used, @betype should be present. </sch:assert>`
	`</sch:rule>`

<ref>

<ref> (reference) – Defines a reference to another location that may contain text and sub-elements to describe the destination.	
Module	MEI.ptrref
Attributes	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @mimetype *(optional)* Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. Value of datatype string. [att.internetmedia] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest"

	(Load the target resource(s) upon user request.), " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.locrefLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict application audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgDesc pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc series sponsor stack syl tempo textLang title width

	MEI.text l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

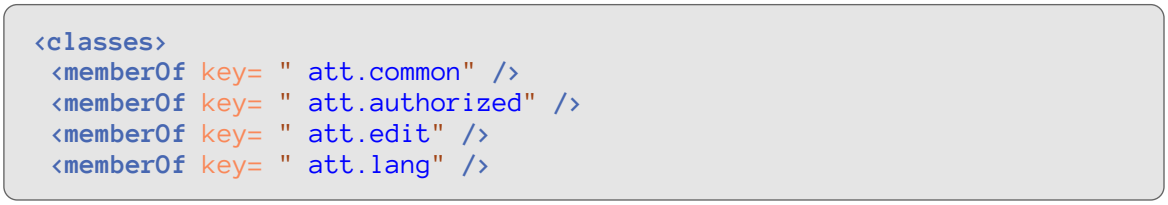
Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.internetmedia" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.pointing" />`
	`<memberOf key=" att.targeteval" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.locrefLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Unlike the ptr element, ref may contain text and sub-elements to describe the destination.This element is modelled on elements in the Encoded Archival Description (EAD) and TEI standards.

<reg>

<reg> (regularization) – Contains material which has been regularized or normalized in some sense.	
Module	MEI.edittrans
Attributes	@authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized]

	@authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.choicePart model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription

	MEI.namesdates addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol
Declaration	

	<memberOf key=" model.choicePart" /> <memberOf key=" model.transcriptionLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.eventLike" /> <rng:ref name=" model.eventLike.neumes" /> <rng:ref name=" model.controleventLike" /> <rng:ref name=" model.lyricsLike" /> <rng:ref name=" model.midiLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.eventLike.measureFilling" /> <rng:ref name=" model.noteModifierLike" /> <rng:ref name=" model.sectionLike" /> <rng:ref name=" model.measureLike" /> <rng:ref name=" model.staffLike" /> <rng:ref name=" model.layerLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.fLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	It is possible to identify the individual responsible for the regularization, and, using the choice and orig elements, to provide both original and regularized readings. The editor(s) responsible for asserting the regularized material may be recorded in the @resp attribute. The value of @resp must point to one or more identifiers declared in the document header. The @cert attribute signifies the degree of certainty ascribed to the regularized reading.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<region>

<region> Contains the name of an administrative unit such as a state, province, or county, larger than a settlement, but smaller than a country.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]

	@authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name]

	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.geogNamePart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width

	MEI.text l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.geogNamePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<reh>

<reh> (rehearsal mark) – In an orchestral score and its corresponding parts, a mark indicating a convenient point from which to resume rehearsal after a break.

Module	MEI.cmn
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]

Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Text** **MEI.shared** lb rend stack

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.reh.log" />`
	`<memberOf key=" att.reh.vis" />`
	`<memberOf key=" att.reh.ges" />`
	`<memberOf key=" att.reh.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.controleventLike.cmn" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.lbLike" />`
	`<rng:ref name=" model.rendLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	It may also be called a "rehearsal figure", or when numbers are used instead of letters, a "rehearsal number". See Read, p. 443. reh uses a subset of model.textphraseLike.limited.

<relatedItem>

<relatedItem> (related item) – Contains or references another bibliographic item which is related to the present one.

Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @rel *(required)* Describes the relationship between the <relatedItem> and the resource described in the parent element, i.e., <bibl>, <source> or <relatedItem>. The values are based on MODS version 3.4. The subject of these relations is always the <relatedItem>, and the object is always the parent of the <relatedItem>. "preceding" and "succeeding" indicate temporal order. Allowed values are: " **preceding**" *(Predecessor of the resource.)*, " **succeeding**" *(Successor to the resource.)*, " **original**" *(Original form of the resource.)*, " **host**" *(Parent containing the resource.)*, " **constituent**" *(Intellectual or physical component of the resource.)*, " **otherVersion**" *(Version of the resource's intellectual content not changed enough to be a different work.)* , " **otherFormat**" *(Version of the resource in a different physical format.)*, " **isReferencedBy**" *(Published bibliographic description, review, abstract, or index of the resource's content.)* , " **references**" *(Cited or referred to in the resource.)* [relatedItem] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " **onLoad**" *(Load the target resource(s) immediately.)*, " **onRequest**"

	(Load the target resource(s) upon user request.), " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.biblPart
Contained by	**MEI.header** perfDuration **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**MEI.shared** bibl
Declaration	

```
<classes>
 <memberOf key=" att.datapointing" />
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.pointing" />
 <memberOf key=" att.targeteval" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.biblPart" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:choice>
    <rng:ref name=" model.biblLike" />
    <!-- ptr/ref children aren't necessary as relatedItem is a member
    of att.pointing. -->
  </rng:choice>
 </rng:zeroOrMore>
</content>
```

<relation>

<relation> A relation element describes the relationship between its parent and the object referenced by the relation element's target attribute.	
Module	MEI.frbr
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @rel *(required)* Describes the relationship between the current entity and the target entity. Value conforms to data.FRBRRELATIONSHIP . [att.rel] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " **onLoad**" *(Load the target resource(s) immediately.)*, " **onRequest**"

	(Load the target resource(s) upon user request.), " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.relationLike
Contained by	**MEI.frbr** relation relationList
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.pointing" />`
	`<memberOf key=" att.rel" />`
	`<memberOf key=" att.targeteval" />`
	`<memberOf key=" model.relationLike" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The @rel attribute describes the nature of the relationship. In this triple, the parent element serves as subject, the referenced object as object. This element is used to implement FRBR-like structures in MEI.

<relationList>

<relationList> Gathers bibliographic relation elements.	
Module	MEI.frbr
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.frbr** expression item **MEI.header** source work
May contain	**MEI.frbr** relation **MEI.shared** head
Declaration	<classes> <memberOf key=" att.common" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" model.relationLike" /> </rng:zeroOrMore> </content>

<rend>

<rend> (render) – A formatting element indicating special visual rendering, e.g., bold or italicized, of a text word or phrase.

Module	MEI.shared
Attributes	@altrend *(optional)* Used to extend the values of the rend attribute. One or more values of datatype NMTOKEN, separated by spaces. [rend] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @halign *(optional)* Records horizontal alignment. Value conforms to data.HORIZONTALALIGNMENT . [att.horizontalalign] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @rend *(optional)* Captures the appearance of the element's contents using MEI-defined descriptors. One or more values from data.TEXTRENDITION , separated by spaces. [rend] @rotation *(optional)* A positive value for rotation rotates the text in a counter-clockwise fashion, while negative values produce clockwise rotation. Value conforms to data.DEGREES . [rend] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @valign *(optional)* Specifies the vertical position of the element content relative to the surrounding text. Allowed values are: " top" *(Aligns the top of the content with the top of the surrounding text.)*, " middle" *(Aligns the middle of the content with the middle of the surrounding text.)*, " bottom" *(Aligns the bottom of the content with the bottom of the surrounding text.)*, " baseline" *(Aligns the baseline of the content with the baseline of the surrounding text.)* [rend] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-

	tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @xml:space *(optional)* Allows one to signal to an application whether an element's white space is "significant". The behavior of xml:space cascades to all descendant elements, but it can be turned off locally by setting the xml:space attribute to the value "default". Allowed values are: " **default**" *(Allows the application to handle white space as necessary. Not including an xml:space attribute produces the same result as using the default value.)* , " **preserve**" *(Instructs the application to maintain white space "as-is", suggesting that it might have meaning.)* [att.whitespace]
Member of	model.rendLike
Contained by	**MEI.cmn** gliss octave reh **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict altId audience byline captureMode carrierForm classCode condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title

	MEI.usersymbols symbol

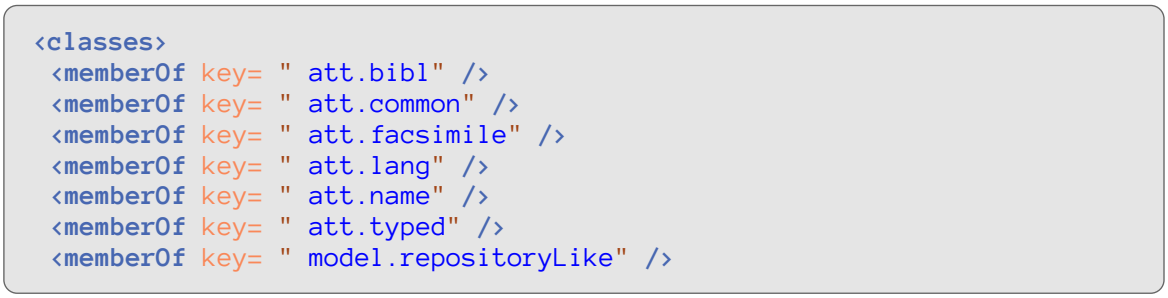
Declaration	`<classes>`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.horizontalalign" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.whitespace" />`
	`<memberOf key=" model.rendLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	When an entire element should be rendered in a special way, a style sheet function should be used instead of the rend element.

<repository>

<repository> Institution, agency, or individual which holds a bibliographic item.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.repositoryLike

Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer creation date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 physLoc publisher pubPlace recipient rend repository respStmt role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	

```
<classes>
 <memberOf key=" att.bibl" />
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.name" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.repositoryLike" />
```

	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name= " model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Sub-units of the holding institution may be marked with repository sub-elements. The name of the list from which a controlled value is taken may be recorded using the @authority attribute.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<resp>

<resp> (responsibility) – A phrase describing the nature of intellectual responsibility.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.shared** respStmt
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.canonical" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> </classes> <content> <rng:text/> </content>
Remarks	The name of the list from which a controlled value is taken may be recorded using the @authority attribute.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<respStmt>

<respStmt> (responsibility statement) – Names one or more individuals, groups, or in rare cases, mechanical processes, responsible for creation or realization of the intellectual or artistic content.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.pubStmtPart model.respLike
Contained by	**MEI.header** availability change editionStmt perfDuration pubStmt seriesStmt titleStmt **MEI.shared** bibl biblScope creation distributor extent genre imprint physLoc publisher pubPlace recipient relatedItem respStmt series textLang
May contain	**MEI.namesdates** corpName geogName persName **MEI.shared** name repository resp

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" model.pubStmtPart" />`
	`<memberOf key=" model.respLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" resp" />`
	`<rng:ref name=" model.nameLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.
Constraints	If at least one resp element isn't present, all name-like elements should have a @role attribute.

	<sch:rule context= "mei:*[local-name()='titleStmt' or local-name()='pubStmt' or local-name()='seriesStmt']/mei:respStmt"> <sch:assert role= "warning" test= "mei:resp or (count(mei:*[@role]) = count(mei:*))"> If at least one resp element isn't present, all name-like elements should have a @role attribute. </sch:assert> </sch:rule>

<rest>

<rest> A non-sounding event found in the source being transcribed.	
Module	MEI.shared
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile]

	@fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @spaces *(optional)* States how many spaces are covered by the rest. Value of datatype **positiveInteger**. [att.rest.vis.mensural] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.eventLike
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.shared** dot

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.rest.log" />`
	`<memberOf key=" att.rest.vis" />`
	`<memberOf key=" att.rest.ges" />`
	`<memberOf key=" att.rest.anl" />`
	`<memberOf key=" model.eventLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" dot" />`
	`<rng:ref name=" model.appLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	See (Read, p. 96-102). Do not confuse this element with the space element, which is used as an aid for visual alignment.
Constraints	The value of @line must be less than or equal to the number of lines on the staff.

	<sch:rule context= "mei:rest[@line]"> <sch:let name= "thisstaff" value= "ancestor::mei:staff/@n"/> <sch:assert test= "number(@line) <= number(preceding::mei:staffDef[@n=$thisstaff and @lines][1]/@lines)"> The value of @line must be less than or equal to the number of lines on the staff. </sch:assert> </sch:rule>

<restore>

<restore> Indicates restoration of material to an earlier state by cancellation of an editorial or authorial marking or instruction.	
Module	MEI.edittrans
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @desc *(optional)* Provides a description of the means of restoration, 'stet' or 'strike-down', for example. Value of datatype string. [restore] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype positiveInteger. [att.sequence]

	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText

May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.trans" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.transcriptionLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.eventLike" />`
	`<rng:ref name=" model.eventLike.neumes" />`
	`<rng:ref name=" model.controleventLike" />`
	`<rng:ref name=" model.lyricsLike" />`

	<rng:ref name=" model.midiLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.eventLike.measureFilling" /> <rng:ref name=" model.noteModifierLike" /> <rng:ref name=" model.sectionLike" /> <rng:ref name=" model.measureLike" /> <rng:ref name=" model.staffLike" /> <rng:ref name=" model.layerLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.fLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<revisionDesc>

<revisionDesc> (revision description) – Container for information about alterations that have been made to an MEI file.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.header** meiHead
May contain	**MEI.header** change

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" change" /> </rng:oneOrMore> </content>
Remarks	It is recommended that changes be recorded in reverse chronological order, with the most recent alteration first.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<role>

<role> Name of a dramatic role, as given in a cast list.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	

Contained by	**MEI.shared** castItem incip
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<roleDesc>

<roleDesc> (role description) – Describes a character's role in a drama.	
Module	MEI.shared
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	
Contained by	**MEI.shared** castGrp castItem
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<roleName>

<roleName> (role name) – Contains a name component which indicates that the referent has a particular role or position in society, such as an official title or rank.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable]

	@notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.persNamePart
Contained by	**MEI.namesdates** addName famName foreName genName nameLink persName roleName
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig

	MEI.namesdates bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.persNamePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<samplingDecl>

<samplingDecl> (sampling declaration) – Contains a prose description of the rationale and methods used in sampling texts in the creation of a corpus or collection.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.encodingPart
Contained by	**MEI.header** appInfo editorialDecl encodingDesc projectDesc samplingDecl
May contain	**MEI.shared** head p
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.datapointing" /> <memberOf key=" att.lang" /> <memberOf key=" model.encodingPart" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.headLike" /> </rng:zeroOrMore> <rng:oneOrMore> <rng:ref name=" model.pLike" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<sb>

<sb> (system break) – An empty formatting element that forces musical notation to begin on a new line.

Module	MEI.shared
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Indicates whether hash marks should be rendered between systems. See Read, p. 436, ex. 26-3. Allowed values are: " **hash**" *(Display hash marks between systems.)* [att.sb.vis] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.milestoneLike.music
Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg **MEI.neumes** syllable **MEI.shared** ending layer part sb score section staff
May contain	**MEI.shared** custos

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.source" />`
	`<memberOf key=" att.sb.log" />`
	`<memberOf key=" att.sb.vis" />`
	`<memberOf key=" att.sb.ges" />`
	`<memberOf key=" att.sb.anl" />`
	`<memberOf key=" model.milestoneLike.music" />`
	`</classes>`
	`<content>`
	`<rng:optional>`
	`<rng:ref name=" custos" />`
	`</rng:optional>`
	`</content>`

Remarks	Do not confuse this element with the lb element, which performs a similar function in prose.

<score>

<score> Full score view of the musical content.	
Module	MEI.shared
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.scoreLike

Contained by	**MEI.shared** incip mdiv score
May contain	**MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.shared** annot div ending pb sb scoreDef section staffDef **MEI.usersymbols** anchoredText curve line
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" att.score.log" /> <memberOf key=" att.score.vis" /> <memberOf key=" att.score.ges" /> <memberOf key=" att.score.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.scoreLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.appLike" /> <rng:ref name=" model.divLike" /> <rng:ref name=" model.milestoneLike.music" /> <rng:ref name=" model.annotLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.scorePart" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Since the measure element is optional, a score may consist entirely of pagebreaks, each of which points to a page image. div elements are allowed preceding and following sections of music data in order to accommodate blocks of explanatory text.

<scoreDef>

<scoreDef> (score definition) – Container for score meta-information.	
Module	MEI.shared

Attributes	@barplace *(optional)* Records the location of a bar line. Value conforms to data.BARPLACE . [att.barplacement] @beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " **acc**" *(Beam lines grow farther apart from left to right.)*, " **rit**" *(Beam lines grow closer together from left to right.)*, " **norm**" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis] @clef.color *(optional)* Describes the color of the clef. Value conforms to data.COLOR . [att.cleffing.vis] @clef.dis *(optional)* Records the amount of octave displacement to be applied to the clef. Value conforms to data.OCTAVE.DIS . [att.cleffing.log] @clef.dis.place *(optional)* Records the direction of octave displacement to be applied to the clef. Value conforms to data.PLACE . [att.cleffing.log] @clef.line *(optional)* Contains a default value for the position of the clef. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. Value conforms to data.CLEFLINE . [att.cleffing.log] @clef.shape *(optional)* Encodes a value for the clef symbol. Value conforms to data.CLEFSHAPE . [att.cleffing.log] @clef.visible *(optional)* Determines whether the clef is to be displayed. Value conforms to data.BOOLEAN . [att.cleffing.vis] @dur.default *(optional)* Contains a default duration in those situations when the first note, rest, chord, etc. in a measure does not have a duration specified. Value conforms to data.DURATION . [att.duration.default] @dynam.dist *(optional)* Records the default distance from the staff for dynamic marks. Value conforms to data.MEASUREMENTREL . [att.distances] @ending.rend *(optional)* Describes where ending marks should be displayed. Allowed values are: " **top**" *(Ending rendered only above top staff.)*, " **barred**" *(Ending rendered above staves that have bar lines drawn across them.)*, " **grouped**" *(Endings rendered above staff groups.)* [att.endings] @grid.show *(optional)* Determines whether to display guitar chord grids. Value conforms to data.BOOLEAN . [att.scoreDef.vis.cmn] @harm.dist *(optional)* Records the default distance from the staff of harmonic indications, such as guitar chord grids or functional labels. Value conforms to data.MEASUREMENTREL . [att.distances]

	@key.accid *(optional)* Contains an accidental for the tonic key, if one is required, e.g., if key.pname equals 'c' and key.accid equals 's', then a tonic of C# is indicated. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.keySigDefault.log] @key.mode *(optional)* Indicates major, minor, or other tonality. Value conforms to data.MODE . [att.keySigDefault.log] @key.pname *(optional)* Holds the pitch name of the tonic key, e.g. 'c' for the key of C. Value conforms to data.PITCHNAME . [att.keySigDefault.log] @key.sig *(optional)* Indicates where the key lies in the circle of fifths. Value conforms to data.KEYSIGNATURE . [att.keySigDefault.log] @key.sig.mixed *(optional)* Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. One or more values from data.KEYSIGTOKEN , separated by spaces. [att.keySigDefault.log] @key.sig.show *(optional)* Indicates whether the key signature should be displayed. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @key.sig.showchange *(optional)* Determines whether cautionary accidentals should be displayed at a key change. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @lyric.align *(optional)* Describes the alignment of lyric syllables associated with a note or chord. Value conforms to data.MEASUREMENTREL . [att.lyricstyle] @lyric.fam *(optional)* Sets the font family default value for lyrics. Value conforms to data.FONTFAMILY . [att.lyricstyle] @lyric.name *(optional)* Sets the font name default value for lyrics. Value conforms to data.FONTNAME . [att.lyricstyle] @lyric.size *(optional)* Sets the default font size value for lyrics. Value conforms to data.FONTSIZE . [att.lyricstyle] @lyric.style *(optional)* Sets the default font style value for lyrics. Value conforms to data.FONTSTYLE . [att.lyricstyle] @lyric.weight *(optional)* Sets the default font weight value for lyrics. Value conforms to data.FONTWEIGHT . [att.lyricstyle] @mensur.color *(optional)* Records the color of the mensuration sign. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.mensural.vis] @mensur.dot *(optional)* Determines if a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensural.log]

	@mensur.form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " **horizontal**" , " **vertical**" [att.mensural.vis] @mensur.loc *(optional)* Holds the staff location of the mensuration sign. Value conforms to data.STAFFLOC . [att.mensural.vis] @mensur.orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensural.vis] @mensur.sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensural.log] @mensur.size *(optional)* Describes the relative size of the mensuration sign. Value conforms to data.SIZE . [att.mensural.vis] @mensur.slash *(optional)* Indicates the number lines added to the mensuration sign. For example, one slash is added for what we now call 'alla breve'. Value of datatype **positiveInteger**. [att.mensural.log] @meter.count *(optional)* Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3. Value of datatype **a string matching the following regular expression: "\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*"** . [att.meterSigDefault.log] @meter.rend *(optional)* Contains an indication of how the meter signature should be rendered. Allowed values are: " **num**" *(Show only the number of beats.)*, " **denomsym**" *(The lower number in the meter signature is replaced by a note symbol.)*, " **norm**" *(Meter signature rendered using traditional numeric values.)*, " **invis**" *(Meter signature not rendered.)* [att.meterSigDefault.vis] @meter.showchange *(optional)* Determines whether a new meter signature should be displayed when the meter signature changes. Value conforms to data.BOOLEAN . [att.meterSigDefault.vis] @meter.sym *(optional)* Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. Value conforms to data.METERSIGN . [att.meterSigDefault.vis] @meter.unit *(optional)* Contains the number indicating the beat unit, that is, the bottom number of the meter signature. Value of datatype **decimal**. [att.meterSigDefault.log] @midi.bpm *(optional)* Captures the number of *quarter notes* per minute. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.MIDIBPM . [att.miditempo] @midi.channel *(optional)* Records a MIDI channel value. Value conforms to data.MIDICHANNEL . [att.channelized] @midi.duty *(optional)* Specifies the 'on' part of the duty cycle as a percentage of a note's duration. Value conforms to data.PERCENT . [att.channelized] @midi.mspb *(optional)* Records the number of microseconds per *quarter note*. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. At 120 quarter notes per minute, each quarter note will last 500,000 microseconds. Value conforms to data.MIDIMSPB . [att.miditempo]

	@midi.port *(optional)* Sets the MIDI port value. Value conforms to data.MIDIVALUE . [att.channelized] @midi.track *(optional)* Sets the MIDI track. Value of datatype **positiveInteger**. [att.channelized] @mm *(optional)* Used to describe tempo in terms of beats (often the meter signature denominator) per minute, ala M.M. (Maezel's Metronome). Do not confuse this attribute with midi.bpm or midi.mspb. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.TEMPOVALUE . [att.mmtempo] @mm.dots *(optional)* Records the number of augmentation dots required by a dotted metronome unit. Value conforms to data.AUGMENTDOT . [att.mmtempo] @mm.unit *(optional)* Captures the metronomic unit. Value conforms to data.DURATION . [att.mmtempo] @mnum.visible *(optional)* Indicates whether measure numbers should be displayed. Value conforms to data.BOOLEAN . [att.measurenumbers] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @multi.number *(optional)* Indicates whether programmatically calculated counts of multiple measures of rest (mRest) and whole measure repeats (mRpt) in parts should be rendered. Value conforms to data.BOOLEAN . [att.multinummeasures] @music.name *(optional)* Sets the default music font name. Value conforms to data.MUSICFONT . [att.notationstyle] @music.size *(optional)* Sets the default music font size. Value conforms to data.FONTSIZE . [att.notationstyle] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @num.default *(optional)* Along with numbase.default, describes the default duration as a ratio. num.default is the first value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @numbase.default *(optional)* Along with num.default, describes the default duration as a ratio. numbase.default is the second value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @octave.default *(optional)* Contains a default octave specification for use when the first note, rest, chord, etc. in a measure does not have an octave value specified. Value conforms to data.OCTAVE . [att.octavedefault] @ontheline *(optional)* Determines the placement of notes on a 1-line staff. A value of 'true' places all notes on the line, while a value of 'false' places stems-up notes above the line and stems-down notes below the line. Value conforms to data.BOOLEAN . [att.onelinestaff]

	@optimize *(optional)* Indicates whether staves without notes, rests, etc. should be displayed. When the value is 'true', empty staves are displayed. Value conforms to data.BOOLEAN . [att.optimization] @page.botmar *(optional)* Indicates the amount of whitespace at the bottom of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.height *(optional)* Specifies the height of the page; may be expressed in real-world units or staff steps. Value conforms to data.MEASUREMENTABS . [att.pages] @page.leftmar *(optional)* Indicates the amount of whitespace at the left side of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.panels *(optional)* Indicates the number of logical pages to be rendered on a single physical page. Value conforms to data.PAGE.PANELS . [att.pages] @page.rightmar *(optional)* Indicates the amount of whitespace at the right side of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.scale *(optional)* Indicates how the page should be scaled when rendered. Value conforms to data.PGSCALE . [att.pages] @page.topmar *(optional)* Indicates the amount of whitespace at the top of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.width *(optional)* Describes the width of the page; may be expressed in real-world units or staff steps. Value conforms to data.MEASUREMENTABS . [att.pages] @pedal.style *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " line" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " pedstar" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , " altpedstar" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pianopedals] @ppq *(optional)* Indicates the number of pulses (sometimes referred to as ticks or divisions) per quarter note. Unlike MIDI, MEI permits different values for a score and individual staves. Value of datatype positiveInteger. [att.timebase] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @proport.num *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.num is for the first value in the ratio. Value of datatype positiveInteger. [att.mensural.log] @proport.numbase *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.numbase is for the second value in the ratio. Value of datatype positiveInteger. [att.mensural.log] @reh.enclose *(optional)* Describes the enclosing shape for rehearsal marks. Allowed values are: " box" *(Enclosed by box.)*, " circle" *(Enclosed by circle.)*, " none" *(No enclosing shape.)* [att.rehearsal] @slur.lform *(optional)* Value conforms to data.LINEFORM . [att.slurrend] @slur.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.slurrend]

	@spacing.packexp *(optional)* Describes a note's spacing relative to its time value. Value of datatype **decimal**. [att.spacing] @spacing.packfact *(optional)* Describes the note spacing of output. Value of datatype **decimal**. [att.spacing] @spacing.staff *(optional)* Specifies the minimum amount of space between adjacent staves in the same system; measured from the bottom line of the staff above to the top line of the staff below. Value conforms to data.MEASUREMENTREL . [att.spacing] @spacing.system *(optional)* Describes the space between adjacent systems; a pair of space-separated values (minimum and maximum, respectively) provides a range between which a rendering system-supplied value may fall, while a single value indicates a fixed amount of space; that is, the minimum and maximum values are equal. One or two values from data.MEASUREMENTREL , separated by a space. [att.spacing] @system.leftline *(optional)* Indicates whether the staves are joined at the left by a continuous line. The default value is "true". Do not confuse this with the heavy vertical line used as a grouping symbol. Value conforms to data.BOOLEAN . [att.systems] @system.leftmar *(optional)* Describes the amount of whitespace at the left system margin relative to page.leftmar. Value conforms to data.MEASUREMENTABS . [att.systems] @system.rightmar *(optional)* Describes the amount of whitespace at the right system margin relative to page.rightmar. Value conforms to data.MEASUREMENTABS . [att.systems] @system.topmar *(optional)* Describes the distance from page's top edge to the first system; used for first page only. Value conforms to data.MEASUREMENTABS . [att.systems] @taktplace *(optional)* If takt bar lines are to be used, then the taktplace attribute may be used to denote the staff location of the shortened bar line. The location may include staff lines, spaces, and the spaces directly above and below the staff. The value ranges between 0 (just below the staff) to 2 * number of staff lines (directly above the staff). For example, on a 5-line staff the lines would be numbered 1,3,5,7, and 9 while the spaces would be numbered 0,2,4,6,8,10. For example, a value of '9' puts the bar line through the top line of a 5-line staff. Value conforms to data.STAFFLOC . [att.barplacement] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared] @text.dist *(optional)* Determines how far from the staff to render text elements. Value conforms to data.MEASUREMENTREL . [att.distances] @text.fam *(optional)* Provides a default value for the font family name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTFAMILY . [att.textstyle] @text.name *(optional)* Provides a default value for the font name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTNAME . [att.textstyle] @text.size *(optional)* Provides a default value for the font size of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSIZE . [att.textstyle]

	@text.style *(optional)* Provides a default value for the font style of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSTYLE . [att.textstyle] @text.weight *(optional)* Provides a default value for the font weight for text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTWEIGHT . [att.textstyle] @tie.lform *(optional)* Value conforms to data.LINEFORM . [att.tierend] @tie.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.tierend] @trans.diat *(optional)* Records the amount of diatonic pitch shift, e.g., C to C♯ = 0, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @trans.semi *(optional)* Records the amount of pitch shift in semitones, e.g., C to C♯ = 1, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @tune.Hz *(optional)* Holds a value for cycles per second, i.e., Hertz, for a tuning reference pitch. Value of datatype **decimal**. [att.scoreDef.ges] @tune.pname *(optional)* Holds the pitch name of a tuning reference pitch. Value conforms to data.PITCHNAME . [att.scoreDef.ges] @tune.temper *(optional)* Provides an indication of the tuning system, 'just', for example. Value conforms to data.TEMPERAMENT . [att.scoreDef.ges] @vu.height *(optional)* Defines the height of a "virtual unit" (vu) in terms of real-world units. A single vu is half the distance between the vertical center point of a staff line and that of an adjacent staff line. Value of datatype **a string matching the following regular expression: "\d+(\.\d+)?(cm|mm|in|pt|pc)"** . [att.scoreDef.vis] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.scoreDefLike
Contained by	**MEI.critapp** lem rdg **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** ending layer part score scoreDef section staff
May contain	**MEI.cmn** meterSig meterSigGrp **MEI.harmony** chordTable **MEI.midi** instrGrp

	MEI.shared grpSym keySig pgFoot pgFoot2 pgHead pgHead2 staffGrp **MEI.usersymbols** symbolTable
Declaration	

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<scoreFormat>

<scoreFormat> Describes the type of score used to represent a musical composition (e.g., short score, full score, condensed score, close score, etc.).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.frbr** expression **MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text**

Declaration	

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</classes>
<content>
 <rng:text/>
</content>
```

<section>

<section> Segment of music data.	
Module	MEI.shared
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @restart *(optional)* Indicates that staves begin again with this section. Value conforms to data.BOOLEAN . [att.section.vis] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.sectionLike

Contained by	**MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.shared** ending part score section
May contain	**MEI.cmn** measure **MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.shared** annot div ending expansion pb sb scoreDef section staff staffDef **MEI.usersymbols** anchoredText curve line
Declaration	

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<content>
 <rng:zeroOrMore>
   <rng:ref name=" expansion" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:ref name=" model.appLike" />
     <rng:ref name=" model.divLike" />
     <rng:ref name=" model.milestoneLike.music" />
     <rng:ref name=" model.annotLike" />
     <rng:ref name=" model.graphicprimitiveLike" />
     <rng:ref name=" model.editLike" />
     <rng:ref name=" model.transcriptionLike" />
     <rng:ref name=" model.sectionPart" />
   </rng:choice>
 </rng:zeroOrMore>
</content>
```

Remarks	This element functions as a container for actual music data. Pointing attributes make it possible to connect this element to other internal or external entities, such as media objects or annotations.
Constraints	A section containing an expansion element must have descendant section, ending, or rdg elements. `<sch:rule context= "mei:section[mei:expansion]"> <sch:assert test= "descendant::mei:section|descendant::mei:ending|descendant::mei:rdg"> A section containing an expansion element must have descendant section, ending, or rdg elements. </sch:assert> </sch:rule>`

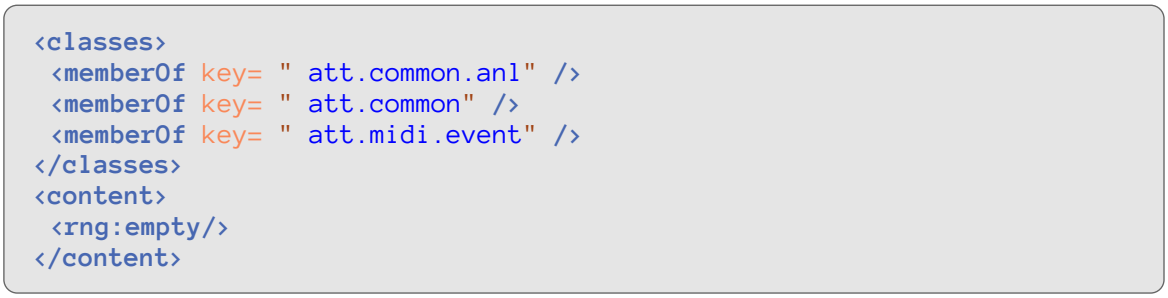
<segmentation>

<segmentation> Describes the principles according to which the musical text has been segmented, for example into movements, sections, etc.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]

Member of	model.editorialDeclPart
Contained by	**MEI.header** correction editorialDecl interpretation normalization segmentation stdVals
May contain	**MEI.shared** p
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.datapointing" /> <memberOf key=" att.lang" /> <memberOf key=" model.editorialDeclPart" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.pLike" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<seqNum>

<seqNum> (sequence number) – MIDI sequence number.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@num *(required)* Number in the range 0-65535. Value of datatype **a non-negative integer no larger than 65535** . [seqNum] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.midi** midi
May contain	**Empty**
Declaration	

```
<classes>
 <memberOf key=" att.common.anl" />
 <memberOf key=" att.common" />
 <memberOf key=" att.midi.event" />
</classes>
<content>
 <rng:empty/>
</content>
```

<series>

<series> Contains information about the serial publication in which a bibliographic item has appeared.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.biblPart model.titlePagePart
Contained by	**MEI.header** byline perfDuration **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang titlePage
May contain	**MEI.ptrref** ptr ref **MEI.shared** editor extent identifier p respStmt title
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" />

	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.biblPart" />`
	`<memberOf key=" model.titlePagePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.titleLike" />`
	`<rng:ref name=" model.locrefLike" />`
	`<rng:ref name=" editor" />`
	`<rng:ref name=" respStmt" />`
	`<rng:ref name=" extent" />`
	`<rng:ref name=" model.identifierLike" />`
	`<rng:ref name=" model.pLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<seriesStmt>

<seriesStmt> (series statement) – Groups information about the series, if any, to which a publication belongs.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.header** fileDesc seriesStmt source

May contain	**MEI.header** contents seriesStmt **MEI.shared** biblScope editor identifier respStmt title
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" model.titleLike" /> </rng:oneOrMore> <rng:zeroOrMore> <rng:choice> <rng:ref name=" editor" /> <rng:ref name=" respStmt" /> </rng:choice> </rng:zeroOrMore> <rng:zeroOrMore> <rng:choice> <rng:ref name=" model.identifierLike" /> <rng:ref name=" biblScope" /> <rng:ref name=" contents" /> <rng:ref name=" seriesStmt" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The title sub-element records the series title, the respStmt element records the person or group responsible for the series, and the identifier element contains a series identifier. The contents element should be used when it is necessary to enumerate the content of the series, but not describe each component. The seriesStmt element is provided within seriesStmt for the description of a sub-series.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<settlement>

<settlement> Contains the name of a settlement such as a city, town, or village identified as a single geo-political or administrative unit.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]

	@authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name]

	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.geogNamePart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width

	MEI.text l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.name" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.geogNamePart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<sic>

<sic> Contains apparently incorrect or inaccurate material.	
Module	MEI.edittrans

Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.choicePart model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText

May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.choicePart" />`
	`<memberOf key=" model.transcriptionLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.eventLike" />`
	`<rng:ref name=" model.eventLike.neumes" />`
	`<rng:ref name=" model.controleventLike" />`
	`<rng:ref name=" model.lyricsLike" />`
	`<rng:ref name=" model.midiLike" />`
	`<rng:ref name=" model.editLike" />`

	<rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.eventLike.measureFilling" /> <rng:ref name=" model.noteModifierLike" /> <rng:ref name=" model.sectionLike" /> <rng:ref name=" model.measureLike" /> <rng:ref name=" model.staffLike" /> <rng:ref name=" model.layerLike" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.fLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	A correction for the apparent error may be given in an accompanying child or sibling corr element.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<slur>

<slur> Indication of 1) a "unified melodic idea" or 2) performance technique.	
Module	MEI.cmn
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature]

	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @join *(optional)* Used for linking visually separate entities that form a single logical entity, for example, multiple slurs broken across a system break that form a single musical phrase. Also used to indicate a measure which metrically completes the current one. Record the identifiers of the separately encoded components, excluding the one carrying the attribute. One or more values from data.URI , separated by spaces. [att.joined] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident]

	@lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

	@tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype decimal. [att.xy2] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype decimal. [att.xy2]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**MEI.usersymbols** curve
Declaration	`<classes>`

<table>
<tr><td></td><td>

```
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.slur.log" />
 <memberOf key=" att.slur.vis" />
 <memberOf key=" att.slur.ges" />
 <memberOf key=" att.slur.anl" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.controleventLike.cmn" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:ref name=" curve" />
 </rng:zeroOrMore>
</content>
```

</td></tr>
<tr><td>Remarks</td><td>Historically, the term "slur" indicated two notes performed legato, while the term "phrase" was used for a "unified melodic idea". Nowadays, however, "slur" often has the same meaning as "phrase" (See Read, p. 265-266), since the visual rendition of the two concepts is the same. MEI provides two distinct elements so that those users wishing to maintain a distinction for historical reasons may do so. If the user does not want to maintain the distinction, then the more generic slur element should be employed. The starting point of the phrase/slur may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify one starting and one ending type of attribute. Either @place, @bulge, or @bezier attributes may be used to record the curvature of the phrase/slur. The slur and tie elements may be used instead of the slur.* and tie.* attributes provided on chord and note elements when 1) they are required by software, or 2) multiple, alternative slurs are needed.</td></tr>
<tr><td>Constraints</td><td>Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real.
Must have one of the attributes: dur, dur.ges, endid, or tstamp2.

```
<sch:rule context="mei:slur">
 <sch:assert test="@startid or @tstamp or @tstamp.ges or @tstamp.real">
 Must have one of the attributes: startid, tstamp, tstamp.ges or
 tstamp.real. </sch:assert>
 <sch:assert test="@dur or @dur.ges or @endid or @tstamp2"> Must have
 one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert>
</sch:rule>
```

</td></tr>
<tr><td>Constraints</td><td>The visual attributes of the slur (@bezier, @bulge, @curvedir, @lform, @lwidth, @ho, @startho, @endho, @to, @startto, @endto, @vo, @startvo, @endvo, @x, @y, @x2, and @y2) will be overridden by visual attributes of the contained curve elements.</td></tr>
</table>

	<sch:rule context= "mei:slur[mei:curve[@bezier or @bulge or @curvedir or @lform or @lwidth or @ho or @startho or @endho or @to or @startto or @endto or @vo or @startvo or @endvo or @x or @y or @x2 or @y2]]" > <sch:assert role= "warning" test= "not(@bezier or @bulge or @curvedir or @lform or @lwidth or @ho or @startho or @endho or @to or @startto or @endto or @vo or @startvo or @endvo or @x or @y or @x2 or @y2)" > The visual attributes of the slur (@bezier, @bulge, @curvedir, @lform, @lwidth, @ho, @startho, @endho, @to, @startto, @endto, @vo, @startvo, @endvo, @x, @y, @x2, and @y2) will be overridden by visual attributes of the contained curve elements. </sch:assert> </sch:rule>

<soundChan>

<soundChan> (sound channels) – Reflects the number of apparent sound channels in the playback of a recording (monaural, stereophonic, quadraphonic, etc.).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @num *(optional)* Records the channel configuration in numeric form. Value of datatype **positiveInteger**. [soundChan] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-

	tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.authorized" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.physDescPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The number of apparent playback channels can differ from the number of physical channels of the recording medium, i.e., 2-track monophonic recordings. In this example, the soundChan element should record the fact that there is a single output channel, while the trackConfig element should capture the existence of two physical tracks. This element is analogous to MARC field 344 subfield g.

<source>

<source> A bibliographic description of a source used in the creation of the electronic file.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.pointing] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " **onLoad**" *(Load the target resource(s) immediately.)*, " **onRequest**" *(Load the target resource(s) upon user request.)*, " **none**" *(Do not permit loading of the target resource(s).)*, " **other**" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " **new**" *(Open in a new window.)*, " **replace**" *(Load the referenced resource in the same window.)*, " **embed**" *(Embed the referenced resource at the point of the link.)*, " **none**" *(Do not permit traversal to the referenced resource.)*, " **other**" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

Member of	model.manifestationLike
Contained by	**MEI.frbr** componentGrp **MEI.header** source sourceDesc
May contain	**MEI.frbr** componentGrp itemList relationList **MEI.header** classification contents editionStmt extMeta history langUsage notesStmt physDesc pubStmt seriesStmt titleStmt **MEI.shared** biblList identifier physLoc
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.datapointing" />
 <memberOf key=" att.pointing" />
 <memberOf key=" att.targeteval" />
 <memberOf key=" model.manifestationLike" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:ref name=" model.identifierLike" />
 </rng:zeroOrMore>
 <rng:optional>
  <rng:ref name=" titleStmt" />
 </rng:optional>
 <rng:ref name=" macro.bibldescPart" />
 <rng:optional>
  <rng:ref name=" history" />
 </rng:optional>
 <rng:optional>
  <rng:ref name=" langUsage" />
 </rng:optional>
 <rng:optional>
  <rng:ref name=" contents" />
 </rng:optional>
 <rng:zeroOrMore>
  <rng:ref name=" biblList" />
 </rng:zeroOrMore>
 <rng:optional>
  <rng:ref name=" notesStmt" />
 </rng:optional>
 <rng:optional>
  <rng:ref name=" classification" />
 </rng:optional>
 <rng:optional>
  <rng:ref name=" itemList" />
```

	<rng:optional> <rng:optional> <rng:ref name=" componentGrp" /> </rng:optional> <rng:optional> <rng:ref name=" relationList" /> </rng:optional> <rng:zeroOrMore> <rng:ref name=" extMeta" /> </rng:zeroOrMore> </content>
Remarks	Multiple physDesc sub-elements may be used to describe the physically separate parts of a single source. The @data attribute may be used to reference one or more features that occur in this particular source. A URI referencing a description of the related item may be placed in the @target attribute.This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<sourceDesc>

<sourceDesc> (source description) – A container for the descriptions of the source(s) used in the creation of the electronic file.	
Module	MEI.header
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.header** fileDesc
May contain	**MEI.header** source

	MEI.shared head
Declaration	<classes> <memberOf key= " att.common" /> </classes> <content> <rng:zeroOrMore> <rng:ref name= " model.headLike" /> </rng:zeroOrMore> <rng:oneOrMore> <rng:ref name= " source" /> </rng:oneOrMore> </content>
Remarks	This element is recommended where the MEI file is a transcription of existing music, but is not required when the data is originally created in MEI form.

<space>

<space> A placeholder used to fill an incomplete measure, layer, etc. most often so that the combined duration of the events equals the number of beats in the measure.	
Module	MEI.shared
Attributes	@beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] @compressable *(optional)* Indicates whether a space is 'compressible', i.e., if it may be removed at the discretion of processing software. Value conforms to data.BOOLEAN . [att.space.vis] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.eventLike
Contained by	**MEI.cmn** beam tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.lyrics** verse **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**Empty**
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.space.log" /> <memberOf key=" att.space.vis" /> <memberOf key=" att.space.ges" /> <memberOf key=" att.space.anl" /> <memberOf key=" model.eventLike" /> </classes> <content> <rng:empty/> </content>`

<specRepro>

<specRepro> (special reproduction characteristic) – The equalization system, noise reduction system, etc. used in making the recording (e.g., NAB, DBX, Dolby, etc.).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized]

	@authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.authorized" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.lang" />`

```
  <memberOf key= " model.physDescPart" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:choice>
     <rng:text/>
     <rng:ref name= " model.textphraseLike.limited" />
   </rng:choice>
 </rng:zeroOrMore>
</content>
```

<sponsor>

<sponsor> Names of sponsoring individuals, organizations or institutions. Sponsors give their intellectual authority to a project; they are to be distinguished from funders, who provide the funding but do not necessarily take intellectual responsibility.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.respLikePart

Contained by	**MEI.header** byline perfDuration titleStmt **MEI.shared** arranger author bibl biblScope composer creation editor extent funder genre imprint librettist lyricist physLoc recipient relatedItem respStmt series sponsor textLang titlePage
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.respLikePart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on elements in the Text Encoding Initiative (TEI) and Encoded Archival Description (EAD) standards.

<stack>

<stack> (stacked text) – An inline table with a single column.	
Module	MEI.shared

Attributes	@align *(optional)* Specifies how the stacked text components should be aligned. Allowed values are: " **left**" *(Left justified.)*, " **right**" *(Right justified.)*, " **center**" *(Centered.)*, " **rightdigit**" *(Aligned on right-most digit.)* [stack] @delim *(optional)* Indicates the delimiter used to mark the portions of text that are to be stacked. Value of datatype **string**. [stack] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.rendLike
Contained by	**MEI.cmn** gliss octave reh **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict altId audience byline captureMode carrierForm classCode condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref

	MEI.shared actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.rendLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>`

<staff>

<staff> A group of equidistant horizontal lines on which notes are placed in order to represent pitch or a grouping element for individual 'strands' of notes, rests, etc. that may or may not actually be rendered on staff lines; that is, both diastematic and non-diastematic signs.	
Module	MEI.shared

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @def *(optional)* Provides a mechanism for linking the staff to a staffDef element. Value conforms to data.URI . [att.staff.log] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @metcon *(optional)* Indicates the relationship between the content of a staff or layer and the prevailing meter. Allowed values are: " c" *(Complete; i.e., conformant with the prevailing meter.)*, " i" *(Incomplete; i.e., not enough beats.)*, " o" *(Overfull; i.e., too many beats.)* [att.meterconformance] @n *(optional)* A non-negative integer value functioning as a "name". Value of datatype nonNegativeInteger. [staff] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.staffLike

Contained by	**MEI.cmn** measure ossia **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.shared** ending section staff
May contain	**MEI.cmn** ossia **MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.shared** annot div layer pb sb scoreDef staffDef **MEI.usersymbols** anchoredText curve line

Declaration	`<classes>`
	`<memberOf key=" att.commonPart" />`
	`<memberOf key=" att.declaring" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.staff.log" />`
	`<memberOf key=" att.staff.vis" />`
	`<memberOf key=" att.staff.ges" />`
	`<memberOf key=" att.staff.anl" />`
	`<memberOf key=" model.staffLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.appLike" />`
	`<rng:ref name=" model.divLike" />`
	`<rng:ref name=" model.milestoneLike.music" />`
	`<rng:ref name=" model.annotLike" />`
	`<rng:ref name=" model.graphicprimitiveLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`<rng:ref name=" model.staffPart" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The @def attribute may be used to create a connection with a staffDef element where logical and visual information about the staff is recorded. Alternatively, the @n attribute may be used as a reference to a staffDef element with the same value in its @n attribute. If neither @def nor @n attributes are present, then the encoding order of the staves is presumed to match the encoding order of the staff defintions.

<staffDef>

<staffDef> (staff definition) – Container for staff meta-information.	
Module	MEI.shared
Attributes	@beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " **acc**" *(Beam lines grow farther apart from left to right.)*, " **rit**" *(Beam lines grow closer together from left to right.)*, " **norm**" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis] @clef.color *(optional)* Describes the color of the clef. Value conforms to data.COLOR . [att.cleffing.vis] @clef.dis *(optional)* Records the amount of octave displacement to be applied to the clef. Value conforms to data.OCTAVE.DIS . [att.cleffing.log] @clef.dis.place *(optional)* Records the direction of octave displacement to be applied to the clef. Value conforms to data.PLACE . [att.cleffing.log] @clef.line *(optional)* Contains a default value for the position of the clef. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. Value conforms to data.CLEFLINE . [att.cleffing.log] @clef.shape *(optional)* Encodes a value for the clef symbol. Value conforms to data.CLEFSHAPE . [att.cleffing.log] @clef.visible *(optional)* Determines whether the clef is to be displayed. Value conforms to data.BOOLEAN . [att.cleffing.vis] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @dur.default *(optional)* Contains a default duration in those situations when the first note, rest, chord, etc. in a measure does not have a duration specified. Value conforms to data.DURATION . [att.duration.default] @dynam.dist *(optional)* Records the default distance from the staff for dynamic marks. Value conforms to data.MEASUREMENTREL . [att.distances] @grid.show *(optional)* Determines whether to display guitar chord grids. Value conforms to data.BOOLEAN . [att.staffDef.vis]

	@harm.dist *(optional)* Records the default distance from the staff of harmonic indications, such as guitar chord grids or functional labels. Value conforms to data.MEASUREMENTREL . [att.distances] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @key.accid *(optional)* Contains an accidental for the tonic key, if one is required, e.g., if key.pname equals 'c' and key.accid equals 's', then a tonic of C# is indicated. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.keySigDefault.log] @key.mode *(optional)* Indicates major, minor, or other tonality. Value conforms to data.MODE . [att.keySigDefault.log] @key.pname *(optional)* Holds the pitch name of the tonic key, e.g. 'c' for the key of C. Value conforms to data.PITCHNAME . [att.keySigDefault.log] @key.sig *(optional)* Indicates where the key lies in the circle of fifths. Value conforms to data.KEYSIGNATURE . [att.keySigDefault.log] @key.sig.mixed *(optional)* Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. One or more values from data.KEYSIGTOKEN , separated by spaces. [att.keySigDefault.log] @key.sig.show *(optional)* Indicates whether the key signature should be displayed. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @key.sig.showchange *(optional)* Determines whether cautionary accidentals should be displayed at a key change. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @label.abbr *(optional)* Provides a label for a group of staves on pages after the first page. Usually, this label takes an abbreviated form. Value of datatype **string**. [att.labels.addl] @layerscheme *(optional)* Indicates the number of layers and their stem directions. Value conforms to data.LAYERSCHEME . [att.staffDef.vis] @lines *(optional)* Indicates the number of staff lines. Value of datatype **positiveInteger**. [att.staffDef.vis] @lines.color *(optional)* Captures the colors of the staff lines. The value is structured; that is, it should have the same number of space-separated RGB values as the number of lines indicated by the lines attribute. A line can be made invisible by assigning it the same RGB value as the background, usually white. One or more values from data.COLOR , separated by spaces. [att.staffDef.vis]

	@lines.visible *(optional)* Records whether all staff lines are visible. Value conforms to data.BOOLEAN . [att.staffDef.vis] @lyric.align *(optional)* Describes the alignment of lyric syllables associated with a note or chord. Value conforms to data.MEASUREMENTREL . [att.lyricstyle] @lyric.fam *(optional)* Sets the font family default value for lyrics. Value conforms to data.FONTFAMILY . [att.lyricstyle] @lyric.name *(optional)* Sets the font name default value for lyrics. Value conforms to data.FONTNAME . [att.lyricstyle] @lyric.size *(optional)* Sets the default font size value for lyrics. Value conforms to data.FONTSIZE . [att.lyricstyle] @lyric.style *(optional)* Sets the default font style value for lyrics. Value conforms to data.FONTSTYLE . [att.lyricstyle] @lyric.weight *(optional)* Sets the default font weight value for lyrics. Value conforms to data.FONTWEIGHT . [att.lyricstyle] @mensur.color *(optional)* Records the color of the mensuration sign. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.mensural.vis] @mensur.dot *(optional)* Determines if a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensural.log] @mensur.form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " horizontal" , " vertical" [att.mensural.vis] @mensur.loc *(optional)* Holds the staff location of the mensuration sign. Value conforms to data.STAFFLOC . [att.mensural.vis] @mensur.orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensural.vis] @mensur.sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensural.log] @mensur.size *(optional)* Describes the relative size of the mensuration sign. Value conforms to data.SIZE . [att.mensural.vis] @mensur.slash *(optional)* Indicates the number lines added to the mensuration sign. For example, one slash is added for what we now call 'alla breve'. Value of datatype positiveInteger. [att.mensural.log] @meter.count *(optional)* Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3. Value of datatype a string matching the following regular expression: "\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*" . [att.meterSigDefault.log] @meter.rend *(optional)* Contains an indication of how the meter signature should be rendered. Allowed values are: " num" *(Show only the number of beats.)*, " denomsym" *(The lower number in the meter signature is replaced by a note symbol.)*, " norm" *(Meter signature rendered using traditional numeric values.)*, " invis" *(Meter signature not rendered.)* [att.meterSigDefault.vis]

	@meter.showchange *(optional)* Determines whether a new meter signature should be displayed when the meter signature changes. Value conforms to data.BOOLEAN . [att.meterSigDefault.vis] @meter.sym *(optional)* Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. Value conforms to data.METERSIGN . [att.meterSigDefault.vis] @meter.unit *(optional)* Contains the number indicating the beat unit, that is, the bottom number of the meter signature. Value of datatype **decimal**. [att.meterSigDefault.log] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @multi.number *(optional)* Indicates whether programmatically calculated counts of multiple measures of rest (mRest) and whole measure repeats (mRpt) in parts should be rendered. Value conforms to data.BOOLEAN . [att.multinummeasures] @n *(optional)* A non-negative integer value functioning as a "name". Value of datatype **nonNegativeInteger**. [staffDef] @notationsubtype *(optional)* Provides any sub-classification of the notation contained or described by the element, additional to that given by its notationtype attribute. Value of datatype **NMTOKEN**. [att.notationtype] @notationtype *(optional)* Contains classification of the notation contained or described by the element bearing this attribute. Value conforms to data.NOTATIONTYPE . [att.notationtype] @num.default *(optional)* Along with numbase.default, describes the default duration as a ratio. num.default is the first value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @numbase.default *(optional)* Along with num.default, describes the default duration as a ratio. numbase.default is the second value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @octave.default *(optional)* Contains a default octave specification for use when the first note, rest, chord, etc. in a measure does not have an octave value specified. Value conforms to data.OCTAVE . [att.octavedefault] @ontheline *(optional)* Determines the placement of notes on a 1-line staff. A value of 'true' places all notes on the line, while a value of 'false' places stems-up notes above the line and stems-down notes below the line. Value conforms to data.BOOLEAN . [att.onelinestaff] @pedal.style *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " **line**" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " **pedstar**" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , " **altpedstar**" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pianopedals]

	@ppq *(optional)* Indicates the number of pulses (sometimes referred to as ticks or divisions) per quarter note. Unlike MIDI, MEI permits different values for a score and individual staves. Value of datatype **positiveInteger**. [att.timebase] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @proport.num *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.num is for the first value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @proport.numbase *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.numbase is for the second value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @reh.enclose *(optional)* Describes the enclosing shape for rehearsal marks. Allowed values are: " **box**" *(Enclosed by box.)*, " **circle**" *(Enclosed by circle.)*, " **none**" *(No enclosing shape.)* [att.rehearsal] @scale *(optional)* Scale factor to be applied to the feature to make it the desired display size. Value conforms to data.PERCENT . [att.scalable] @slur.lform *(optional)* Value conforms to data.LINEFORM . [att.slurrend] @slur.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.slurrend] @spacing *(optional)* Records the absolute distance (as opposed to the relative distances recorded in <scoreDef> elements) between this staff and the preceding one in the same system. This value is meaningless for the first staff in a system since the spacing.system attribute indicates the spacing between systems. Value conforms to data.MEASUREMENTREL . [att.staffDef.vis] @tab.strings *(optional)* Provides a *written* pitch and octave for each open string or course of strings. One or more values conforming to the pattern " **[a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd|1qf|3qf|1qs|3qs)?([a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd|1qf|3qf|1qs|3qs)?)***". [att.staffDef.ges.tablature] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared] @text.dist *(optional)* Determines how far from the staff to render text elements. Value conforms to data.MEASUREMENTREL . [att.distances] @text.fam *(optional)* Provides a default value for the font family name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTFAMILY . [att.textstyle] @text.name *(optional)* Provides a default value for the font name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTNAME . [att.textstyle] @text.size *(optional)* Provides a default value for the font size of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSIZE . [att.textstyle]

	@text.style *(optional)* Provides a default value for the font style of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSTYLE . [att.textstyle] @text.weight *(optional)* Provides a default value for the font weight for text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTWEIGHT . [att.textstyle] @tie.lform *(optional)* Value conforms to data.LINEFORM . [att.tierend] @tie.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.tierend] @trans.diat *(optional)* Records the amount of diatonic pitch shift, e.g., C to C♯ = 0, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @trans.semi *(optional)* Records the amount of pitch shift in semitones, e.g., C to C♯ = 1, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.staffDefLike
Contained by	**MEI.cmn** measure **MEI.critapp** lem rdg **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** ending layer part score section staff staffDef staffGrp
May contain	**MEI.cmn** meterSig meterSigGrp **MEI.mensural** mensur proport **MEI.midi** instrDef **MEI.shared** clef clefGrp keySig label layerDef
Declaration	`<classes>` `<memberOf key=" att.commonPart" />`

```
  <memberOf key= " att.declaring" />
  <memberOf key= " att.staffDef.log" />
  <memberOf key= " att.staffDef.vis" />
  <memberOf key= " att.staffDef.ges" />
  <memberOf key= " att.staffDef.anl" />
  <memberOf key= " model.staffDefLike" />
</classes>
<content>
  <rng:zeroOrMore>
    <rng:ref name= " model.labelLike" />
  </rng:zeroOrMore>
  <rng:zeroOrMore>
    <rng:choice>
      <rng:ref name= " model.instrDefLike" />
      <rng:ref name= " model.layerDefLike" />
      <rng:ref name= " model.staffDefPart" />
    </rng:choice>
  </rng:zeroOrMore>
</content>
```

Constraints

A staffDef must have an n attribute.
The first occurrence of a staff must declare the number of staff lines.
Only one clef or clefGrp is permitted.

```
<sch:rule context= "mei:staffDef">
  <sch:let name= "thisstaff" value= "@n"/>
  <sch:assert test= "@n"> A staffDef must have an n attribute.
  </sch:assert>
  <sch:assert test= "@lines or preceding::mei:staffDef[@n=$thisstaff and
  @lines]"> The first occurrence of a staff must declare the number of
  staff lines. </sch:assert>
  <sch:assert test= "count(mei:clef) + count(mei:clefGrp) < 2"> Only one
  clef or clefGrp is permitted. </sch:assert>
</sch:rule>
```

Constraints

If a staffDef appears in a staff, it must bear the same @n as this staff.

```
<sch:rule context= "mei:staffDef[ancestor::mei:staff]">
  <sch:let name= "thisstaff" value= "@n"/>
  <sch:assert test= "ancestor::mei:staff/@n eq $thisstaff"> If a staffDef
  appears in a staff, it must bear the same @n as this staff.
  </sch:assert>
</sch:rule>
```

Constraints	The clef position must be less than or equal to the number of lines on the staff. `<sch:rule context= "mei:staffDef[@clef.line and @lines]"> <sch:assert test= "number(@clef.line) <= number(@lines)"> The clef position must be less than or equal to the number of lines on the staff. </sch:assert> </sch:rule>`
Constraints	The clef position must be less than or equal to the number of lines on the staff. `<sch:rule context= "mei:staffDef[@clef.line and not(@lines)]"> <sch:let name= "thisstaff" value= "@n"/> <sch:let name= "stafflines" value= "preceding::mei:staffDef[@n=$thisstaff and @lines][1]/@lines"/> <sch:assert test= "number(@clef.line) <= number($stafflines)"> The clef position must be less than or equal to the number of lines on the staff. </sch:assert> </sch:rule>`
Constraints	The tab.strings attribute must have the same number of values as there are staff lines. `<sch:rule context= "mei:staffDef[@tab.strings and @lines]"> <sch:let name= "countTokens" value= "count(tokenize(normalize-space(@tab.strings), '\s'))"/> <sch:assert test= "$countTokens = 1 or $countTokens = @lines"> The tab.strings attribute must have the same number of values as there are staff lines. </sch:assert> </sch:rule>`
Constraints	The tab.strings attribute must have the same number of values as there are staff lines. `<sch:rule context= "mei:staffDef[@tab.strings and not(@lines)]"> <sch:let name= "countTokens" value= "count(tokenize(normalize-space(@tab.strings), '\s'))"/> <sch:let name= "thisStaff" value= "@n"/> <sch:assert test= "$countTokens = 1 or $countTokens = preceding::mei:staffDef[@n=$thisStaff and @lines][1]/@lines"> The tab.strings attribute must have the same number of values as there are staff lines. </sch:assert> </sch:rule>`
Constraints	The lines.color attribute must have either 1) a single value or 2) the same number of values as there are staff lines.

	The lines.color attribute must have either 1) a single value or 2) the same number of values as there are staff lines. `<sch:rule context= "mei:staffDef[@lines.color and @lines]"> <sch:let name= "countTokens" value= "count(tokenize(normalize-space(@lines.color), '\s'))"/> <sch:assert test= "$countTokens = 1 or $countTokens = @lines"> The lines.color attribute must have either 1) a single value or 2) the same number of values as there are staff lines. </sch:assert> </sch:rule> <sch:rule context= "mei:staffDef[@lines.color and not(@lines)]"> <sch:let name= "countTokens" value= "count(tokenize(normalize-space(@lines.color), '\s'))"/> <sch:let name= "thisStaff" value= "@n"/> <sch:assert test= "$countTokens = 1 or $countTokens = preceding::mei:staffDef[@n=$thisStaff and @lines][1]/@lines"> The lines.color attribute must have either 1) a single value or 2) the same number of values as there are staff lines. </sch:assert> </sch:rule>`
Constraints	The value of ppq must be a factor of the value of ppq on an ancestor scoreDef. `<sch:rule context= "mei:staffDef[@ppq][ancestor::mei:scoreDef[@ppq]]"> <sch:let name= "staffPPQ" value= "@ppq"/> <sch:let name= "scorePPQ" value= "ancestor::mei:scoreDef[@ppq][1]/@ppq"/> <sch:assert test= "($scorePPQ mod $staffPPQ) = 0"> The value of ppq must be a factor of the value of ppq on an ancestor scoreDef. </sch:assert> </sch:rule>`
Constraints	The value of ppq must be a factor of the value of ppq on a preceding scoreDef. `<sch:rule context= "mei:staffDef[@ppq][preceding::mei:scoreDef[@ppq]]"> <sch:let name= "staffPPQ" value= "@ppq"/> <sch:let name= "scorePPQ" value= "preceding::mei:scoreDef[@ppq][1]/@ppq"/> <sch:assert test= "($scorePPQ mod $staffPPQ) = 0"> The value of ppq must be a factor of the value of ppq on a preceding scoreDef. </sch:assert> </sch:rule>`

<staffGrp>

<staffGrp> (staff group) – A group of bracketed or braced staves.	
Module	MEI.shared
Attributes	@barthru *(optional)* Indicates whether bar lines go across the space between staves (true) or are only drawn across the lines of each staff (false). Value conforms to data.BOOLEAN . [att.staffGrp.vis] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @label.abbr *(optional)* Provides a label for a group of staves on pages after the first page. Usually, this label takes an abbreviated form. Value of datatype **string**. [att.labels.addl] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @symbol *(optional)* Specifies the symbol used to group a set of staves. Allowed values are: " **brace**" *(Curved symbol, i.e., {.)*, " **bracket**" *(Square symbol, i.e., [, but with curved/angled top and bottom segments.)*, " **bracketsq**" *(Square symbol, i.e., [, with horizontal top and bottom segments.)*, " **line**" *(Line symbol, i.e., |, (wide) line without top and bottom curved/horizontal segments.)* , " **none**" *(Grouping symbol missing.)* [att.staffgroupingsym] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.staffGrpLike
Contained by	**MEI.critapp** lem rdg **MEI.neumes** syllable

	MEI.shared scoreDef staffGrp
May contain	**MEI.midi** instrDef **MEI.shared** grpSym label staffDef staffGrp
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.declaring" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.staffGrp.log" /> <memberOf key=" att.staffGrp.vis" /> <memberOf key=" att.staffGrp.ges" /> <memberOf key=" att.staffGrp.anl" /> <memberOf key=" model.staffGrpLike" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" grpSym" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" model.labelLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" model.instrDefLike" /> </rng:zeroOrMore> <rng:oneOrMore> <rng:choice> <rng:ref name=" model.staffGrpLike" /> <rng:ref name=" model.staffDefLike" /> </rng:choice> </rng:oneOrMore> <rng:zeroOrMore> <rng:ref name=" grpSym" /> </rng:zeroOrMore> </content>`
Remarks	System is the more proper name for this concept (Read, p. 37-38). Bracketed staff groups may contain other bracketed or braced staff groups or single staves. See Read, p. 35-38, examples p. 434, 438.
Constraints	Each staffDef must have a unique value for the n attribute. `<sch:rule context= "mei:staffGrp"> <sch:let name= "countstaves" value= "count(descendant::mei:staffDef)"/>`

	<sch:let name= "countuniqstaves" value= "count(distinct-values(descendant::mei:staffDef/@n))"/> <sch:assert test= "$countstaves eq $countuniqstaves"> Each staffDef must have a unique value for the n attribute. </sch:assert> </sch:rule>

<stdVals>

<stdVals> (standard values) – Specifies the format used when standardized date or number values are supplied.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.editorialDeclPart
Contained by	**MEI.header** correction editorialDecl interpretation normalization segmentation stdVals
May contain	**MEI.shared** p

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.datapointing" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.editorialDeclPart" />`
	`</classes>`
	`<content>`
	`<rng:oneOrMore>`
	`<rng:ref name=" model.pLike" />`
	`</rng:oneOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<street>

<street> full street address including any name or number identifying a building as well as the name of the street or route on which it is located.	
Module	MEI.namesdates
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]

Member of	model.addressPart
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor address addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.addressPart" /> </classes>`

	<content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<styleName>

<styleName> (style name) – A label for a characteristic style of writing or performance, such as 'bebop' or 'rock-n-roll'.	
Module	MEI.namesdates
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile]

	@isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-

	tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.nameLike.label
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes>` `<memberOf key=" att.bibl" />`

	<memberOf key=" att.common" /> <memberOf key=" att.edit" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.name" /> <memberOf key=" att.typed" /> <memberOf key=" model.nameLike.label" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Do not confuse this element with the periodName element. The name of the list from which a controlled value is taken may be recorded using the @authority attribute.

<subst>

<subst> (substitution) – Groups transcriptional elements when the combination is to be regarded as a single intervention in the text.	
Module	MEI.edittrans
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in

	the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype **positiveInteger**. [att.sequence] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.editLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add choice corr cpMark damage del expan orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**MEI.edittrans** add corr damage del gap handShift orig reg restore sic supplied unclear
Declaration	`<classes>` `<memberOf key=" att.common" />`

	<memberOf key=" att.edit" /> <memberOf key=" att.trans" /> <memberOf key=" model.editLike" /> </classes> <content> <rng:ref name=" model.transcriptionLike" /> <rng:oneOrMore> <rng:ref name=" model.transcriptionLike" /> </rng:oneOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<supplied>

<supplied> Contains material supplied by the transcriber or editor for any reason.	
Module	MEI.edittrans
Attributes	@agent *(optional)* Signifies the causative agent of damage, illegibility, or other loss of original text. Value of datatype string. [att.agentident] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @reason *(optional)* Holds a short phrase describing the reason for missing textual material (gap), why material is supplied (supplied), or why transcription is difficult (unclear). Value of datatype string. [att.reasonident] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility]

	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan

	MEI.cmnOrnaments mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics verse **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes>`
	`<memberOf key=" att.agentident" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.reasonident" />`
	`<memberOf key=" model.transcriptionLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.controleventLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.eventLike" />`
	`<rng:ref name=" model.eventLike.measureFilling" />`
	`<rng:ref name=" model.eventLike.neumes" />`
	`<rng:ref name=" model.fLike" />`
	`<rng:ref name=" model.graphicprimitiveLike" />`
	`<rng:ref name=" model.layerLike" />`
	`<rng:ref name=" model.lyricsLike" />`
	`<rng:ref name=" model.measureLike" />`
	`<rng:ref name=" model.midiLike" />`

	<rng:ref name=" model.noteModifierLike" /> <rng:ref name=" model.sectionLike" /> <rng:ref name=" model.staffLike" /> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.transcriptionLike" /> <rng:ref name=" model.verseLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	When the presumed loss of text arises from an identifiable cause, agent signifies the causative agent. When the presumed loss of text arises from action (partial deletion, etc.) assignable to an identifiable hand, the @hand attribute signifies the hand responsible for the action. The @reason attribute indicates why the text has to be supplied, e.g. 'overbinding', 'faded ink', 'lost folio', 'omitted in original', etc. The @source attribute contains the source of the supplied text. The editor(s) responsible for supplied material may be recorded in the @resp attribute. The value of resp must point to one or more identifiers declared in the document header. The @cert attribute signifies the degree of certainty ascribed to the supplied material.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<surface>

<surface> Defines a writing surface in terms of a rectangular coordinate space, optionally grouping one or more graphic representations of that space, and rectangular zones of interest within it.	
Module	MEI.facsimile
Attributes	@data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @lrx *(optional)* Indicates the lower-right corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @lry *(optional)* Indicates the lower-left corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common]

	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @ulx *(optional)* Indicates the upper-left corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @uly *(optional)* Indicates the upper-left corner y coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.facsimile** facsimile
May contain	**MEI.facsimile** zone **MEI.figtable** figDesc graphic
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.coordinated" />
 <memberOf key=" att.datapointing" />
 <memberOf key=" att.declaring" />
 <memberOf key=" att.startid" />
 <memberOf key=" att.typed" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" model.figDescLike" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:ref name=" model.graphicLike" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:ref name=" zone" />
 </rng:zeroOrMore>
</content>
```

Remarks	The @startid attribute may be used to hold a reference to the first feature occurring on this surface.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<syl>

<syl> (syllable) – Individual lyric syllable.	
Module	MEI.shared
Attributes	@con *(optional)* Describes the symbols typically used to indicate breaks between syllables and their functions. Allowed values are: " s" *(Space (word separator).)*, " d" *(Dash (syllable separator).)*, " u" *(Underscore (syllable extension).)*, " t" *(Tilde (syllable elision).)*, " c" *(Circumflex [angled line above] (syllable elision).)*, " v" *(Caron [angled line below] (syllable elision).)*, " i" *(Inverted breve [curved line above] (syllable elision).)*, " b" *(Breve [curved line below] (syllable elision).)* [att.syl.log] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @halign *(optional)* Records horizontal alignment. Value conforms to data.HORIZONTALALIGNMENT . [att.horizontalalign] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @wordpos *(optional)* Records the position of a syllable within a word. Allowed values are: " i" *((initial) first syllable.)*, " m" *((medial) neither first nor last syllable.)*, " t" *((terminal) last syllable.)* [att.syl.log] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]

Member of	model.sylLike
Contained by	**MEI.critapp** lem rdg **MEI.lyrics** verse **MEI.neumes** syllable **MEI.shared** note syl
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.syl.log" /> <memberOf key=" att.syl.vis" /> <memberOf key=" att.syl.ges" /> <memberOf key=" att.syl.anl" /> <memberOf key=" model.sylLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	Do not confuse this element with the syllable element. The @align attribute indicates the horizontal alignment of the syllable with respect to the note to which it is attached.

<syllable>

<syllable> Neume notation can be thought of as "neumed text". Therefore, the syllable element provides high-level organization in this repertoire.	
Module	MEI.neumes
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.syllableLike
Contained by	**MEI.critapp** lem rdg **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** layer
May contain	**MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal meterSig meterSigGrp octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.critapp** app **MEI.edittrans** add choice corr cpMark damage del gap handShift orig reg restore sic subst supplied unclear **MEI.fingering** fing fingGrp **MEI.harmony** harm **MEI.lyrics** lyrics verse **MEI.mensural** ligature mensur proport **MEI.midi** midi **MEI.neumes** ineume uneume **MEI.shared** accid annot artic barLine chord clef clefGrp custos dir div dot dynam keySig note ornam pad pb phrase rest sb scoreDef space staffDef staffGrp syl tempo **MEI.usersymbols** anchoredText curve line

Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" model.syllableLike" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:choice>
    <rng:ref name=" model.appLike" />
    <rng:ref name=" model.divLike" />
    <rng:ref name=" model.milestoneLike.music" />
    <rng:ref name=" model.scoreDefLike" />
    <rng:ref name=" model.staffDefLike" />
    <rng:ref name=" model.staffGrpLike" />
    <rng:ref name=" model.annotLike" />
    <rng:ref name=" model.graphicprimitiveLike" />
    <rng:ref name=" model.editLike" />
    <rng:ref name=" model.transcriptionLike" />
    <rng:ref name=" model.syllablePart" />
  </rng:choice>
 </rng:zeroOrMore>
</content>
```

<symName>

<symName> (symbol name) – Contains the name of a symbol, expressed following Unicode conventions.	
Module	MEI.usersymbols
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.usersymbols** symbolDef

May contain	**Text**
Declaration	`<classes> <memberOf key=" att.common" /> </classes> <content> <rng:text/> </content>`

<symProp>

<symProp> (symbol property) – Provides a name and value for some property of the parent symbol.	
Module	MEI.usersymbols
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.usersymbols** symbolDef
May contain	**MEI.usersymbols** propName propValue
Declaration	`<classes> <memberOf key=" att.common" /> </classes> <content> <rng:ref name=" propName" /> <rng:ref name=" propValue" /> </content>`

<symbol>

<symbol> A reference to a previously defined symbol.	
Module	MEI.usersymbols
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @scale *(optional)* Scale factor to be applied to the feature to make it the desired display size. Value conforms to data.PERCENT . [att.scalable] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.textphraseLike.limited

Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing **MEI.harmony** f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance soundChan specRepro sysReq term trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc sponsor stack syl tempo textLang title width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Empty**
Declaration	

```
<classes>
 <memberOf key=" att.altsym" />
 <memberOf key=" att.authorized" />
 <memberOf key=" att.color" />
 <memberOf key=" att.common" />
 <memberOf key=" att.common.anl" />
 <memberOf key=" att.extsym" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.scalable" />
 <memberOf key=" att.startid" />
 <memberOf key=" att.typed" />
 <memberOf key=" att.typography" />
 <memberOf key=" att.visualoffset" />
 <memberOf key=" att.xy" />
 <memberOf key=" model.textphraseLike.limited" />
</classes>
<content>
 <rng:empty/>
</content>
```

Remarks	The starting point, e.g. "hotspot", of the symbol may be identified in absolute output coordinate terms using the @x and @y attributes or relative to another element using the @startid attribute. Attributes in the att.visualoffset class may be used to record horizontal, vertical, or time offsets from the absolute coordinates or from the location of the referenced element. The @ref attribute must contain the id of a symbolDef element. The @scale attribute indicates that the printed output must be scaled by the specified percentage.
Constraints	In the symbolDef context, symbol must have either a startid attribute or x and y attributes. In the symbolDef context, symbol must have one of the following attributes: altsym, glyphname, or glyphnum. `<sch:rule context= "mei:symbol[ancestor::mei:symbolDef]"> <sch:assert test= "@startid or (@x and @y)"> In the symbolDef context, symbol must have either a startid attribute or x and y attributes. </sch:assert> <sch:assert test= "@altsym or @glyphname or @glyphnum"> In the symbolDef context, symbol must have one of the following attributes: altsym, glyphname, or glyphnum. </sch:assert> </sch:rule>`

<symbolDef>

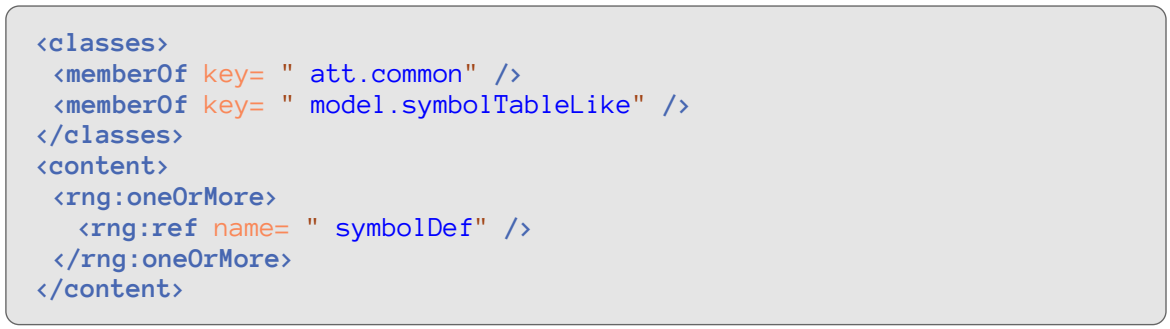
<symbolDef> (symbol definition) – Declaration of an individual symbol in a symbolTable.	
Module	MEI.usersymbols
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @lrx *(optional)* Indicates the lower-right corner x coordinate. Value of datatype **nonNegativeInteger**. [att.coordinated] @lry *(optional)* Indicates the lower-left corner x coordinate. Value of datatype **nonNegativeInteger**. [att.coordinated] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @ulx *(optional)* Indicates the upper-left corner x coordinate. Value of datatype **nonNegativeInteger**. [att.coordinated] @uly *(optional)* Indicates the upper-left corner y coordinate. Value of datatype **nonNegativeInteger**. [att.coordinated] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart]

	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.usersymbols** symbolTable
May contain	**MEI.figtable** graphic **MEI.shared** annot **MEI.usersymbols** anchoredText curve line mapping symName symProp
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.coordinated" />
</classes>
<content>
 <rng:optional>
   <rng:ref name=" symName" />
 </rng:optional>
 <rng:zeroOrMore>
   <rng:ref name=" symProp" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:ref name=" mapping" />
 </rng:zeroOrMore>
 <!-- Use either SVG or MEI elements to "draw" the symbol -->
 <rng:choice>
   <rng:optional>
     <rng:ref name=" svg_svg" />
   </rng:optional>
   <rng:zeroOrMore>
     <rng:choice>
        <rng:ref name=" model.graphicprimitiveLike" />
        <!-- With symbol no longer in model.graphicprimitiveLike, it
        must be added. -->
        <rng:ref name=" mei_symbol" />
        <rng:ref name=" graphic" />
     </rng:choice>
   </rng:zeroOrMore>
 </rng:choice>
 <rng:zeroOrMore>
   <rng:ref name=" model.annotLike" />
 </rng:zeroOrMore>
</content>
```

Remarks	Like a chord table, a symbolTable may be shared between MEI instances through the use of an external parsed entity containing the symbolTable to be shared.

<symbolTable>

<symbolTable> Contains a set of user-defined symbols.	
Module	MEI.usersymbols
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.symbolTableLike
Contained by	**MEI.shared** scoreDef **MEI.usersymbols** symbolTable
May contain	**MEI.usersymbols** symbolDef
Declaration	
Remarks	Like a chord table, a symbolTable may be shared between mei instances through the use of an external parsed entity containing the symbolTable to be shared.

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" model.symbolTableLike" />
</classes>
<content>
 <rng:oneOrMore>
  <rng:ref name=" symbolDef" />
 </rng:oneOrMore>
</content>
```

<sysReq>

<sysReq> (system requirements) – System requirements for using the electronic item.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** availability
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes>`


```
  <memberOf key= " att.common" />
  <memberOf key= " att.bibl" />
  <memberOf key= " att.lang" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:choice>
   <rng:text/>
   <rng:ref name= " model.textphraseLike.limited" />
  </rng:choice>
 </rng:zeroOrMore>
</content>
```

<table>

<table> Contains text displayed in tabular form.	
Module	MEI.figtable
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.tableLike
Contained by	**MEI.figtable** figDesc table td th **MEI.header** history **MEI.shared** annot div event p pgDesc pgFoot pgFoot2 pgHead pgHead2 titlePage **MEI.text** li quote
May contain	**MEI.figtable** tr **MEI.shared** caption
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.xy" /> <memberOf key=" model.tableLike" /> </classes> <content> <rng:optional> <rng:ref name=" model.captionLike" /> </rng:optional> <rng:oneOrMore> <rng:ref name=" tr" /> </rng:oneOrMore> <rng:optional> <rng:ref name=" model.captionLike" /> </rng:optional> </content>
Remarks	This element is modelled on elements in the Encoded Archival Description (EAD), Text Encoding Initiative (TEI), and HTML standards.

<td>

<td> (table data) – Designates a table cell that contains data as opposed to a cell that contains column or row heading information.	
Module	MEI.figtable

Attributes	@colspan *(optional)* The number of columns spanned by this cell. Value of datatype **positiveInteger**. [att.tabular] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @rowspan *(optional)* The number of rows spanned by this cell. Value of datatype **positiveInteger**. [att.tabular] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	
Contained by	**MEI.figtable** tr
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref

	MEI.shared address annot bibl biblList castList date eventList identifier lb name num p pb rend repository stack title **MEI.text** lg list quote **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.xy" /> <memberOf key=" att.tabular" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textcomponentLike" /> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The @colspan and @rowspan attributes record tabular display rendering information.This element is modelled on an element in the HTML standard.

<tempo>

<tempo> Text and symbols descriptive of tempo, mood, or style, e.g., "allarg.", "a tempo", "cantabile", "Moderato", "♩=60", "Moderato ♩=60").	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho]

	@endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @func *(optional)* Records the function of a tempo indication. Allowed values are: " continuous" *(Marks a gradual change of tempo, such as "accel." or "rit.")*, " instantaneous" *(Represents a static tempo instruction, such as a textual term like "Adagio", a metronome marking like "♩=70", or a combination of text and metronome indication.)* , " metricmod" *(Captures a change in pulse rate (tempo) and/or pulse grouping (subdivision) in an "equation" of the form [tempo before change] = [tempo after change].)* , " precedente" *(Indicates a change in pulse rate (tempo) and/or pulse grouping (subdivision) in an "equation" of the form [tempo after change] = [tempo before change]. The term "precedente" often appears following the "equation" to distinquish this kind of historical usage from the modern metric modulation form.)* [att.tempo.log] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @midi.bpm *(optional)* Captures the number of *quarter notes* per minute. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.MIDIBPM . [att.miditempo] @midi.mspb *(optional)* Records the number of microseconds per *quarter note*. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. At 120 quarter notes per minute, each quarter note will last 500,000 microseconds. Value conforms to data.MIDIMSPB . [att.miditempo] @mm *(optional)* Used to describe tempo in terms of beats (often the meter signature denominator) per minute, ala M.M. (Maezel's Metronome). Do not confuse this attribute with midi.bpm or midi.mspb. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.TEMPOVALUE . [att.mmtempo] @mm.dots *(optional)* Records the number of augmentation dots required by a dotted metronome unit. Value conforms to data.AUGMENTDOT . [att.mmtempo]

	@mm.unit *(optional)* Captures the metronomic unit. Value conforms to data.DURATION . [att.mmtempo] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed]

	@tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.controleventLike model.workIdent
Contained by	**MEI.cmn** bend gliss measure **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.frbr** expression **MEI.header** key mensuration meter work **MEI.lyrics** verse **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam incip layer ornam phrase tempo
May contain	**Text**

	MEI.edittrans abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** anchoredText curve line symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.tempo.log" /> <memberOf key=" att.tempo.vis" /> <memberOf key=" att.tempo.ges" /> <memberOf key=" att.tempo.anl" /> <memberOf key=" att.typed" /> <memberOf key=" model.controleventLike" /> <memberOf key=" model.workIdent" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> <rng:ref name=" model.graphicprimitiveLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Constraints	Only label, n, xml:base, xml:id, and xml:lang attributes allowed when this element occurs in the header. <sch:rule context="mei:tempo[ancestor::mei:meiHead]"> <sch:assert test="not(@*[name() != 'label' and name() != 'n' and name() != 'xml:base' and name() != 'xml:id' and name() != 'xml:lang'])"> › Only label, n, xml:base, xml:id, and xml:lang attributes allowed when this element occurs in the header. </sch:assert> </sch:rule>

Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real.
	
	`<sch:rule context= "mei:tempo[not(ancestor::mei:syllable) and not(ancestor::mei:work) and not(ancestor::mei:expression) and not(count(ancestor::mei:*) = 0)]" >`
	`<sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real">`
	`Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert>`
	`</sch:rule>`

<term>

<term> Keyword or phrase which describes a resource.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype string. [att.bibl] @classcode *(optional)* Contains a reference to the controlled vocabulary from which the term is drawn. The value must match the value of an ID attribute on a classCode element given elsewhere in the document. Value conforms to data.URI . [att.classcodeident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]

Member of	
Contained by	**MEI.header** term termList
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.header** term **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.classcodeident" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.typed" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" term" />`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The @classcode attribute may be used to link the term to a terminological source given in a classCode element. The term element may include other term elements in order to allow the creation of coordinated terms; i.e., terms created from a combination of other, independent terms.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<termList>

<termList> Collection of text phrases which describe a resource.

Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @classcode *(optional)* Contains a reference to the controlled vocabulary from which the term is drawn. The value must match the value of an ID attribute on a classCode element given elsewhere in the document. Value conforms to data.URI . [att.classcodeident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.header** classification
May contain	**MEI.header** term **MEI.shared** head label
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.classcodeident" />
 <memberOf key=" att.typed" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" model.headLike" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:optional>
     <rng:ref name=" model.labelLike" />
```

	<rng:optional> <rng:ref name=" term" /> </rng:zeroOrMore> </content>

<textLang>

<textLang> (text language) – Identifies the languages and writing systems within the work described by a bibliographic description, not the language of the description.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @mainLang *(optional)* (main language) supplies a code which identifies the chief language used in the bibliographic work. Value of datatype **language**. [textLang] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @otherLangs *(optional)* (other languages) one or more codes identifying any other languages used in the bibliographic work. One or more values of datatype **language**, separated by spaces. [textLang] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.biblPart

Contained by	**MEI.header** perfDuration **MEI.shared** bibl biblScope creation extent genre imprint physLoc recipient relatedItem series textLang
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" model.biblPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>`

<th>

<th> (table header) – Designates a table cell containing column or row heading information as opposed to one containing data.	
Module	MEI.figtable
Attributes	@colspan *(optional)* The number of columns spanned by this cell. Value of datatype **positiveInteger**. [att.tabular]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @rowspan *(optional)* The number of rows spanned by this cell. Value of datatype **positiveInteger**. [att.tabular] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	
Contained by	**MEI.figtable** tr
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig table **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl biblList castList date eventList identifier lb name num p pb rend repository stack title

	MEI.text lg list quote **MEI.usersymbols** symbol
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.xy" /> <memberOf key=" att.tabular" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textcomponentLike" /> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The @colspan and @rowspan attributes record tabular display rendering information.This element is modelled on an element in the HTML standard.

<tie>

<tie> An indication that two notes of the same pitch form a single note with their combined rhythmic values.	
Module	MEI.cmn
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color]

	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

	@x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**MEI.usersymbols** curve
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.tie.log" />
 <memberOf key=" att.tie.vis" />
 <memberOf key=" att.tie.ges" />
 <memberOf key=" att.tie.anl" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.controleventLike.cmn" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" curve" />
 </rng:zeroOrMore>
</content>
```

Remarks	Most often, a tie is rendered as a curved line connecting the two notes. See Read, p. 110-111, 122.

Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real.
	Must have one of the attributes: dur, dur.ges, endid, or tstamp2.
	
	`<sch:rule context= "mei:tie">`
	`<sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real">`
	`Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert>`
	`<sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert>`
	`</sch:rule>`

Constraints	The visual attributes of the tie (@bezier, @bulge, @curvedir, @lform, @lwidth, @ho, @startho, @endho, @to, @startto, @endto, @vo, @startvo, @endvo, @x, @y, @x2, and @y2) will be overridden by visual attributes of the contained curve elements. `<sch:rule context= "mei:tie[mei:curve[@bezier or @bulge or @curvedir or @lform or @lwidth or @ho or @startho or @endho or @to or @startto or @endto or @vo or @startvo or @endvo or @x or @y or @x2 or @y2]]" >` `<sch:assert role= "warning" test= "not(@bezier or @bulge or @curvedir or @lform or @lwidth or @ho or @startho or @endho or @to or @startto or @endto or @vo or @startvo or @endvo or @x or @y or @x2 or @y2)" > The visual attributes of the tie (@bezier, @bulge, @curvedir, @lform, @lwidth, @ho, @startho, @endho, @to, @startto, @endto, @vo, @startvo, @endvo, @x, @y, @x2, and @y2) will be overridden by visual attributes of the contained curve elements. </sch:assert>` `</sch:rule>`

<title>

<title> Title of a bibliographic entity.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized]

	@codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype NMTOKEN, separated by spaces. [att.canonical] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @level *(optional)* Indicates the bibliographic level for a title. Allowed values are: " a" *(Analyzed component, such as an article or chapter, within a larger bibliographic entity.)* , " m" *(Monograph.)*, " j" *(Journal.)*, " s" *(Series.)*, " u" *(Unpublished (including theses and dissertations unless published by a commercial press).)* [title] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype positiveInteger. [att.filing] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [title] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Allowed values are: " main" *(Main title.)*, " subordinate" *(Subtitle or title of part.)*, " abbreviated" *(Abbreviated form of title.)*, " alternative" *(Alternate title by which the item is also known.)*, " translated" *(Translated form of title.)*, " uniform" *(Collective title.)* [title] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.titleLike
Contained by	**MEI.cmn** gliss octave **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.figtable** figDesc td th **MEI.fingering** fing

	MEI.harmony f harm **MEI.header** accessRestrict audience byline captureMode carrierForm condition contentItem context dimensions exhibHist hand inscription language otherChar perfDuration physMedium plateNum playingSpeed price provenance seriesStmt soundChan specRepro sysReq term titleStmt trackConfig treatHist treatSched useRestrict watermark **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName region roleName settlement street styleName **MEI.ptrref** ref **MEI.shared** actor addrLine annot arranger author bibl biblScope caption composer date depth desc dir distributor dynam edition editor extent funder genre head height identifier imprint label librettist lyricist name num ornam p pgFoot pgFoot2 pgHead pgHead2 publisher pubPlace recipient rend repository role roleDesc series sponsor stack syl tempo textLang title titlePage width **MEI.text** l li quote **MEI.usersymbols** anchoredText line symbol
May contain	**Text** **MEI.edittrans** abbr add choice corr damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num pb rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.authorized" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.canonical" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.filing" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.titleLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`

	<rng:text/> <rng:ref name=" model.textphraseLike" /> <rng:ref name=" model.editLike" /> <rng:ref name=" model.transcriptionLike" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The @type attribute may be used to classify the title according to some convenient typology. Sample values include: main (main title), subordinate (subtitle, title of part), abbreviated (abbreviated form of title), alternative (alternate title by which the work is also known), translated (translated form of title), uniform (collective title). The @type attribute is provided for convenience in analysing titles and processing them according to their type; where such specialized processing is not necessary, there is no need for such analysis, and the entire title, including subtitles and any parallel titles, may be enclosed within a single title element. Title parts may be encoded in title sub-elements. The name of the list from which a controlled value is taken may be recorded using the @authority attribute. The number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name may be indicated in the @nonfiling attribute.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<titlePage>

<titlePage> Contains a transcription of the title page of a text.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang]

	@type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang]
Member of	model.frontPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent titlePage **MEI.text** back front
May contain	**MEI.figtable** fig table **MEI.header** byline titleStmt **MEI.shared** arranger author biblList castList composer date editor eventList funder imprint lb librettist lyricist p pb series sponsor title **MEI.text** lg list quote
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.lang" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.frontPart" />
</classes>
<content>
 <rng:oneOrMore>
  <rng:choice>
    <rng:ref name=" model.figureLike" />
    <rng:ref name=" model.milestoneLike.text" />
    <rng:ref name=" model.textcomponentLike" />
    <rng:ref name=" model.titlePagePart" />
    <rng:ref name=" titleStmt" />
```

	`</rng:choice>`
	`</rng:oneOrMore>`
	`</content>`

Remarks	This element may be used within the physDesc element when no other transcription is provided.This element is modelled on an element in Encoded Archival Description (EAD) standard.

<titleStmt>

<titleStmt> (title statement) – Container for title and responsibility meta-data.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.frbr** expression **MEI.header** fileDesc source work **MEI.shared** titlePage
May contain	**MEI.shared** arranger author composer editor funder librettist lyricist respStmt sponsor title

Declaration	`<classes>`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.common" />`

	`</classes>`
	`<content>`
	`<rng:oneOrMore>`
	`<rng:ref name=" model.titleLike" />`
	`</rng:oneOrMore>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.respLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<tr>

<tr> (table row) – A formatting element that contains one or more cells (intersection of a row and a column) in a <table>.	
Module	MEI.figtable
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-

	tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	
Contained by	**MEI.figtable** table
May contain	**MEI.figtable** td th
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.xy" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" th" /> <rng:ref name=" td" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	More precise rendition of the table and its cells can be specified in a style sheet.This element is modelled on an element in the HTML standard.

<trackConfig>

<trackConfig> (track configuration) – Number of physical/input tracks on a sound medium (e.g., eight track, twelve track).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized]

	@authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @num *(optional)* Records the track configuration in numeric form. Value of datatype **positiveInteger**. [trackConfig] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol
Declaration	`<classes>` `<memberOf key=" att.common" />`

	<memberOf key=" att.authorized" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The number of apparent playback channels can differ from the number of physical channels of the recording medium, i.e., 2-track monophonic recordings. In this example, the trackConfig element should record the fact that there are two physical tracks on the sound medium, while the soundChan element should be used to state that there is a single output channel. This element may be mapped to MARC field 344 subfield e or subfield f as appropriate.

<treatHist>

<treatHist> (treatment history) – A record of the treatment the item has undergone (e.g., de-acidification, restoration, etc.).	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" model.physDescPart" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike.limited" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Treatment history may also comprise details of the treatment process (e.g., chemical solutions used, techniques applied, etc.), the date the treatment was applied, etc.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<treatSched>

<treatSched> (treatment scheduled) – Scheduled treatment, e.g. de-acidification, restoration, etc., for an item.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<trill>

<trill> Rapid alternation of a note with another (usually at the interval of a second above).	
Module	MEI.cmnOrnaments
Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When

	dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho]

	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed]

	@synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.ornamentLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.critapp** lem rdg

	MEI.edittrans abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.trill.log" />`
	`<memberOf key=" att.trill.vis" />`
	`<memberOf key=" att.trill.ges" />`
	`<memberOf key=" att.trill.anl" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" model.ornamentLike.cmn" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

Remarks	The interval between the main and auxiliary notes is usually understood to be diatonic unless altered by an accidental. The starting note of the trill; i.e., the written one or the ornamenting one, and the speed of alternation depends on performance practice. The starting point of the trill may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify a starting point attribute.

Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real.
	`<sch:rule context= "mei:trill">`
	`<sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real">`
	`Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert>`
	`</sch:rule>`

<trkName>

<trkName> (track name) – MIDI track/sequence name.	
Module	MEI.midi

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	

Contained by	**MEI.midi** midi
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common.anl" /> <memberOf key=" att.common" /> <memberOf key=" att.lang" /> <memberOf key=" att.midi.event" /> </classes> <content> <rng:text/> </content>

<tuplet>

<tuplet> A group of notes with "irregular" (sometimes called "irrational") rhythmic values, for example, three notes in the time normally occupied by two or nine in the time of five.	
Module	MEI.cmn
Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith] @bracket.place *(optional)* Used to state where a tuplet bracket will be placed in relation to the note heads. Value conforms to data.PLACE . [att.tuplet.vis] @bracket.visible *(optional)* States whether a bracket should be rendered with a tuplet. Value conforms to data.BOOLEAN . [att.tuplet.vis] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When

	dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @dur.visible *(optional)* Determines if the tuplet duration is visible. Value conforms to data.BOOLEAN . [att.tuplet.vis] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @num.format *(optional)* Controls how the num:numbase ratio is to be displayed. Allowed values are: " **count**" *(Only the num attribute is displayed, e.g., '7'.)*, " **ratio**" *(Both the num and numbase attributes are displayed, e.g., '7:4'.)* [att.tuplet.vis] @num.place *(optional)* States where the tuplet number will be placed in relation to the note heads. Value conforms to data.PLACE . [att.numberplacement] @num.visible *(optional)* Determines if the tuplet number is visible. Value conforms to data.BOOLEAN . [att.numberplacement] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.eventLike.cmn
Contained by	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** ineume syllable uneume **MEI.shared** barLine chord clef clefGrp custos layer note pad rest space
May contain	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt meterSig meterSigGrp tuplet **MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.mensural** ligature mensur proport **MEI.shared** barLine chord clef clefGrp custos keySig note pad rest space
Declaration	`<classes>` `<memberOf key=" att.common" />`

	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.tuplet.log" />`
	`<memberOf key=" att.tuplet.vis" />`
	`<memberOf key=" att.tuplet.ges" />`
	`<memberOf key=" att.tuplet.anl" />`
	`<memberOf key=" model.eventLike.cmn" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.eventLike" />`
	`<rng:ref name=" model.appLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	The beam sub-element is allowed so that custom beaming may be indicated, e.g., a septuplet may be divided into a group of three plus a group of four notes. See Read, p. 187-215. The tuplet element may also used for bowed tremolo (Read, p. 394) and double, triple, or flutter tonguing (Read, p. 348-349); that is, for repetition of the same pitch. In the case of irrational durations, such as such as two quarter notes in the time of five 8th notes in a measure of 5/8 time, decimal values may be used in the @dur.ges attribute. For example, the @dur.ges attribute would take the value "2.5" if the @midi.div attribute's value was "1". The @num and @numbase attributes may be used for explicit labelling of a tuplet, such as, '3' with an 8th-note triplet, '3:2' over a quarter-note triplet, etc. The rendering of the ratio, however, is dependent on the @num.format attribute found in the att.vis.tuplet attribute class.

Constraints	A tuplet without a copyof attribute must have at least 2 note, rest, or chord descendants.
	`<sch:rule context="mei:tuplet[not(@copyof)]">`
	`<sch:assert test="count(descendant::*[local-name()='note' or local-name()='rest' or local-name()='chord']) > 1" > A tuplet without a copyof attribute must have at least 2 note, rest, or chord descendants.`
	`</sch:assert>`
	`</sch:rule>`

<tupletSpan>

<tupletSpan> (tuplet span) – Alternative element for encoding tuplets, especially useful for tuplets that extend across bar lines.

Module	MEI.cmn
Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith] @bracket.place *(optional)* Used to state where a tuplet bracket will be placed in relation to the note heads. Value conforms to data.PLACE . [att.tuplet.vis] @bracket.visible *(optional)* States whether a bracket should be rendered with a tuplet. Value conforms to data.BOOLEAN . [att.tuplet.vis] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @dur.visible *(optional)* Determines if the tuplet duration is visible. Value conforms to data.BOOLEAN . [att.tuplet.vis] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart]

	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @num.format *(optional)* Controls how the num:numbase ratio is to be displayed. Allowed values are: " **count**" *(Only the num attribute is displayed, e.g., '7'.)*, " **ratio**" *(Both the num and numbase attributes are displayed, e.g., '7:4'.)* [att.tuplet.vis] @num.place *(optional)* States where the tuplet number will be placed in relation to the note heads. Value conforms to data.PLACE . [att.numberplacement] @num.visible *(optional)* Determines if the tuplet number is visible. Value conforms to data.BOOLEAN . [att.numberplacement] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed]

	@tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.controleventLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**
Declaration	

```
<classes>
 <memberOf key=" att.common" />
 <memberOf key=" att.facsimile" />
 <memberOf key=" att.tupletSpan.log" />
 <memberOf key=" att.tupletSpan.vis" />
 <memberOf key=" att.tupletSpan.ges" />
 <memberOf key=" att.tupletSpan.anl" />
 <memberOf key=" att.typed" />
 <memberOf key=" model.controleventLike.cmn" />
</classes>
<content>
 <rng:empty/>
</content>
```

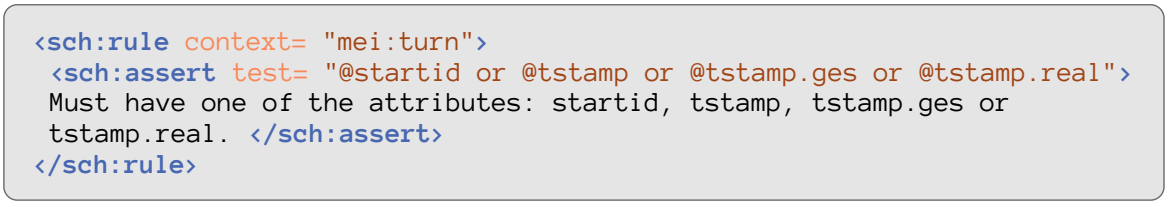
Remarks	The starting point of the tuplet may be indicated by either a @startid, @tstamp, @tstamp.ges, or @tstamp.real attribute, while the ending point may be recorded by either a @dur, @dur.ges, @endid, or @tstamp2 attribute. It is a semantic error not to specify one starting and one ending type of attribute.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. Must have one of the attributes: dur, dur.ges, endid, or tstamp2. `<sch:rule context= "mei:tupletSpan"> <sch:assert test= "@startid or @tstamp or @tstamp.ges or @tstamp.real"> Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. </sch:assert> <sch:assert test= "@dur or @dur.ges or @endid or @tstamp2"> Must have one of the attributes: dur, dur.ges, endid, or tstamp2. </sch:assert> </sch:rule>`

<turn>

<turn> An ornament consisting of four notes — the upper neighbor of the written note, the written note, the lower neighbor, and the written note.	
Module	MEI.cmnOrnaments
Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @delayed *(optional)* When the delayed attribute is set to 'true', the turn begins on the second half of the beat. See Read, p. 246. Value conforms to data.BOOLEAN . [att.turn.log] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of*

	this pointer.) , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Indicates the style of the turn. Allowed values are: " inv" *(Inverted turn, e.g., begins on the note below the written note.)*, " norm" *("normal" turn, e.g., begins on the note above the written note.)* [att.turn.log] @glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.ornamentLike.cmn
Contained by	**MEI.cmn** arpeg beamSpan bend breath fermata gliss hairpin harpPedal measure octave pedal reh slur tie tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.critapp** lem rdg **MEI.edittrans** abbr add corr cpMark damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature **MEI.neumes** syllable **MEI.shared** dir dynam layer ornam phrase tempo
May contain	**Empty**
Declaration	
Remarks	See Read, p. 246-247. Whether the turn is accented or unaccented may be inferred from the timestamp — accented turns occur directly on the affected beat, unaccented ones do not.
Constraints	Must have one of the attributes: startid, tstamp, tstamp.ges or tstamp.real. 

<unclear>

<unclear> Contains material that cannot be transcribed with certainty because it is illegible or inaudible in the source.	
Module	MEI.edittrans
Attributes	@agent *(optional)* Signifies the causative agent of damage, illegibility, or other loss of original text. Value of datatype **string**. [att.agentident] @cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype **NMTOKEN**. [att.evidence] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @reason *(optional)* Holds a short phrase describing the reason for missing textual material (gap), why material is supplied (supplied), or why transcription is difficult (unclear). Value of datatype **string**. [att.reasonident] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

	@xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.choicePart model.transcriptionLike
Contained by	**MEI.cmn** beam measure tuplet **MEI.critapp** lem rdg **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** td th **MEI.fingering** fing fingGrp **MEI.harmony** f fb harm **MEI.header** contentItem inscription **MEI.namesdates** addName bloc corpName country district famName foreName genName geogFeat geogName nameLink periodName persName postBox postCode region roleName settlement street styleName **MEI.neumes** ineume syllable uneume **MEI.shared** addrLine annot caption chord desc dir dynam ending head identifier label layer name note num ornam p part pgFoot pgFoot2 pgHead pgHead2 rend rest score section staff syl tempo title **MEI.text** l li quote **MEI.usersymbols** anchoredText
May contain	**Text** **MEI.cmn** arpeg beam beamSpan beatRpt bend breath bTrem fermata fTrem gliss hairpin halfmRpt harpPedal measure meterSig meterSigGrp mRest mRpt mRpt2 mSpace multiRest multiRpt octave pedal reh slur tie tuplet tupletSpan **MEI.cmnOrnaments** mordent trill turn **MEI.edittrans** abbr add choice corr cpMark damage del expan gap handShift orig reg restore sic subst supplied unclear **MEI.figtable** fig **MEI.fingering** fing fingGrp **MEI.harmony** f harm **MEI.lyrics** lyrics **MEI.mensural** ligature mensur proport **MEI.midi** midi

	MEI.namesdates bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.neumes** ineume uneume **MEI.ptrref** ptr ref **MEI.shared** accid address annot artic barLine bibl chord clef clefGrp custos date dir dot dynam identifier keySig layer lb name note num ornam pad pb phrase rend repository rest section space stack staff tempo title **MEI.usersymbols** anchoredText curve line symbol

Declaration	`<classes>`
	`<memberOf key=" att.agentident" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.edit" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.handident" />`
	`<memberOf key=" att.lang" />`
	`<memberOf key=" att.reasonident" />`
	`<memberOf key=" model.choicePart" />`
	`<memberOf key=" model.transcriptionLike" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:text/>`
	`<rng:ref name=" model.textphraseLike" />`
	`<rng:ref name=" model.eventLike" />`
	`<rng:ref name=" model.eventLike.neumes" />`
	`<rng:ref name=" model.controleventLike" />`
	`<rng:ref name=" model.lyricsLike" />`
	`<rng:ref name=" model.midiLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`<rng:ref name=" model.eventLike.measureFilling" />`
	`<rng:ref name=" model.noteModifierLike" />`
	`<rng:ref name=" model.sectionLike" />`
	`<rng:ref name=" model.measureLike" />`
	`<rng:ref name=" model.staffLike" />`
	`<rng:ref name=" model.layerLike" />`
	`<rng:ref name=" model.graphicprimitiveLike" />`
	`<rng:ref name=" model.fLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	Where the difficulty in transcription arises from an identifiable cause, the @agent attribute signifies the causative agent. The @cert attribute signifies the degree of certainty ascribed to the transcription of the text contained within the unclear element. Where the difficulty in transcription arises from action (partial deletion, etc.) assignable to an identifiable hand, the @hand attribute signifies the hand responsible for the action. The @reason attribute indicates why the material is difficult to transcribe. The @resp attribute indicates the individual responsible for the transcription of the word, phrase, or passage contained with the unclear element. The value of @resp must point to one or more identifiers declared in the document header.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<uneume>

<uneume> (uninterrupted neume) – A graphically-uninterrupted neume sign.	
Module	MEI.neumes
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @deg *(optional)* Captures relative scale degree information using Humdrum **deg syntax -- an optional indicator of melodic approach (^ = ascending approach, v = descending approach), a scale degree value (1 = tonic ... 7 = leading tone), and an optional indication of chromatic alteration. The amount of chromatic alternation is not indicated. Value conforms to data.SCALEDEGREE . [att.harmonicfunction] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography]

	@fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Provides a subclass or functional label for the neume. Value conforms to data.UNEUMEFORM . [att.uneume.log] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @intm *(optional)* Encodes the melodic interval from the previous pitch. The value may be a general directional indication (u, d, s), an indication of diatonic interval direction, quality, and size, or a precise numeric value in half steps. Value conforms to data.INTERVAL.MELODIC . [att.intervalmelodic] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @mfunc *(optional)* Describes melodic function using Humdrum **embel syntax. Value conforms to data.MELODICFUNCTION . [att.melodicfunction] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @name *(optional)* Records the name of the neume. Value conforms to data.UNEUMENAME . [att.uneume.log] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @psolfa *(optional)* Contains sol-fa designation, e.g., do, re, mi, etc., in either a fixed or movable Do system. Value of datatype **NMTOKEN**. [att.solfa] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize]

	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype **NMTOKEN**. [att.typed] @syl *(optional)* Holds an associated sung text syllable. Value of datatype **string**. [att.syltext] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype **NMTOKEN**. [att.typed] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Member of	model.eventLike.neumes
Contained by	**MEI.critapp** lem rdg **MEI.edittrans** abbr add corr damage del expan orig reg restore sic supplied unclear **MEI.mensural** ligature

	MEI.neumes ineume syllable uneume **MEI.shared** layer
May contain	**MEI.cmn** beam beatRpt bTrem fTrem halfmRpt meterSig meterSigGrp tuplet **MEI.critapp** app **MEI.edittrans** add choice corr damage del gap handShift orig reg restore sic subst supplied unclear **MEI.lyrics** verse **MEI.mensural** ligature mensur proport **MEI.shared** barLine chord clef clefGrp custos keySig note pad rest space

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.facsimile" />`
	`<memberOf key=" att.typed" />`
	`<memberOf key=" att.uneume.log" />`
	`<memberOf key=" att.uneume.vis" />`
	`<memberOf key=" att.uneume.ges" />`
	`<memberOf key=" att.uneume.anl" />`
	`<memberOf key=" model.eventLike.neumes" />`
	`</classes>`
	`<content>`
	`<rng:zeroOrMore>`
	`<rng:choice>`
	`<rng:ref name=" model.eventLike" />`
	`<rng:ref name=" macro.neumeModifierLike" />`
	`<rng:ref name=" model.appLike" />`
	`<rng:ref name=" model.editLike" />`
	`<rng:ref name=" model.transcriptionLike" />`
	`<rng:ref name=" model.verseLike" />`
	`</rng:choice>`
	`</rng:zeroOrMore>`
	`</content>`

Remarks	While ineume is allowed as a sub-element of uneume as part of the model.eventLike.neume class, it is unlikely that an uninterrupted neume containing an interrupted neume is a meaningful construct.

<unpub>

<unpub> (unpublished) – Used to explicitly indicate that a bibliographic resource is unpublished.

Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** pubStmt
May contain	**Text**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:text/> </content>
Remarks	A short phrase indicating the nature of or the reason for the unpublished status may be given as the element's content.

<useRestrict>

<useRestrict> (usage restrictions) – Container for information about the conditions that affect use of a bibliographic item after access has been granted.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	
Contained by	**MEI.header** availability
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.bibl" /> <memberOf key=" att.lang" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	useRestrict may indicate limitations imposed by an owner, repository, or legal statute (for example, copyright law) regarding the reproduction, publication, or quotation of the item. It may also indicate the absence of restrictions, such as when rights have been ceded to the public domain. Do not confuse this element with the accessRestrict element, which holds information about conditions affecting the availability of the material.This element is modelled on an element in the Encoded Archival Description (EAD) standard.

<vel>

<vel> (velocity) – MIDI Note-on/off velocity.	
Module	MEI.midi
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @form *(required)* Indicates whether this is note-on or note-off velocity data. Allowed values are: " on" , " off" [vel] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@num *(required)* MIDI number in the range set by data.MIDIVALUE. Value conforms to data.MIDIVALUE . [att.midinumber] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	
Contained by	**MEI.midi** midi
May contain	**Empty**

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.midi.event" />`
	`<memberOf key=" att.midinumber" />`
	`</classes>`
	`<content>`
	`<rng:empty/>`
	`</content>`

<verse>

<verse> Lyric verse.	
Module	MEI.lyrics
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @refrain *(optional)* Used to indicate a common, usually centered, refrain. Value conforms to data.BOOLEAN . [att.verse.log] @rhythm *(optional)* Used to specify a rhythm for the lyric syllables that differs from that of the notes on the staff, e.g. '4,4,4,4' when the rhythm of the notes is '4.,8,4.,8'. Value of datatype string. [att.verse.log]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype language. [att.lang] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Member of	model.verseLike
Contained by	**MEI.critapp** lem rdg **MEI.edittrans** supplied **MEI.lyrics** lyrics verse **MEI.neumes** ineume syllable uneume **MEI.shared** note
May contain	**MEI.critapp** app

	MEI.shared dir dynam lb space syl tempo
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.facsimile" /> <memberOf key=" att.lang" /> <memberOf key=" att.verse.log" /> <memberOf key=" att.verse.vis" /> <memberOf key=" att.verse.ges" /> <memberOf key=" att.verse.anl" /> <memberOf key=" model.verseLike" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:ref name=" dir" /> <rng:ref name=" dynam" /> <rng:ref name=" tempo" /> <rng:ref name=" space" /> </rng:choice> </rng:zeroOrMore> <rng:oneOrMore> <rng:choice> <rng:ref name=" model.sylLike" /> <rng:ref name=" model.appLike" /> </rng:choice> </rng:oneOrMore> <rng:zeroOrMore> <rng:ref name=" model.lbLike" /> </rng:zeroOrMore> </content>
Remarks	The lb element is allowed here in order to facilitate karaoke applications. The @func attribute on lb may be used to distinguish true line endings from those of line groups for these applications.

<watermark>

<watermark> Contains a description of a watermark or similar device.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]

	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.physDescPart
Contained by	**MEI.header** captureMode carrierForm condition dimensions exhibHist fileChar fingerprint handList inscription perfDuration physDesc physMedium plateNum playingSpeed scoreFormat soundChan specRepro trackConfig treatHist treatSched watermark **MEI.shared** extent
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.facsimile" />`

	<memberOf key=" att.lang" /> <memberOf key=" model.physDescPart" /> </classes> <content> <rng:zeroOrMore> <rng:choice> <rng:text/> <rng:ref name=" model.textphraseLike.limited" /> </rng:choice> </rng:zeroOrMore> </content>
Remarks	The @facs attribute may be used to record the location of the watermark in a facsimile image.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

<when>

<when> Indicates a point in time either absolutely (using the absolute attribute), or relative to another when element (using the since, interval and inttype attributes).	
Module	MEI.performance
Attributes	@absolute *(optional)* Provides an absolute value for the time point. Value is plain text. [when] @abstype *(optional)* Specifies the kind of values used in the absolute attribute. Value conforms to data.BETYPE . [when] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @interval *(optional)* Specifies the time interval between this time point and the one designated by the since attribute. This attribute can only be interpreted meaningfully in conjunction with the inttype attribute. Value must either conform to **a decimal number no smaller than 1** or **time**. [when] @inttype *(optional)* Specifies the kind of values used in the interval attribute. Value conforms to data.BETYPE . [when] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @since *(optional)* Identifies the reference point for determining the time of the current when element, which is obtained by adding the interval to the time of the reference point. The value should be the ID of another when element within the same parent element. If the since attribute is omitted and the absolute attribute is not specified, then the reference point is

	understood to be the immediately preceding when element. Value conforms to data.URI . [when] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.performance** clip recording
May contain	**Empty**
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.datapointing" /> </classes> <content> <rng:empty/> </content>
Remarks	The @data attribute may be used to reference one or more features that occur at this point in time.This element is modelled on an element in the Text Encoding Initiative (TEI) standard.
Constraints	@since should be present when @interval is used. The value in @since should correspond to the @xml:id attribute of a when element. @inttype should be present when @interval is used. When @interval contains an integer value, @inttype cannot be 'time'. When @interval contains a time value, @inttype must be 'time'. <sch:rule context= "mei:when[@interval]"> <sch:assert role= "warning" test= "@since"> @since should be present when @interval is used. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(@since, '\s+') satisfies substring($i,2)=//mei:when/@xml:id"> The value in @since should correspond to the @xml:id attribute of a when element. </sch:assert> <sch:assert role= "warning" test= "@inttype"> @inttype should be present when @interval is used. </sch:assert> </sch:rule> <sch:rule context= "mei:when[matches(@interval, '^[0-9]+$')]">

	<sch:assert test= "not(@inttype eq 'time')"> When @interval contains an integer value, @inttype cannot be 'time'. </sch:assert> </sch:rule> <sch:rule context= "mei:when[matches(@interval, ':')]"> <sch:assert test= "@inttype eq 'time'"> When @interval contains a time value, @inttype must be 'time'. </sch:assert> </sch:rule>
Constraints	When @absolute is present, @abstype should be present or @betype should be present on an ancestor. <sch:rule context= "mei:when[@absolute]"> <sch:assert role= "warning" test= "@abstype or ancestor::mei:*[@betype]"> When @absolute is present, @abstype should be present or @betype should be present on an ancestor. </sch:assert> </sch:rule>
Constraints	@since attribute should have content. The value in @since should correspond to the @xml:id attribute of a when element. <sch:rule context= "@since"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @since attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:when/@xml:id"> The value in @since should correspond to the @xml:id attribute of a when element. </sch:assert> </sch:rule>

<width>

<width> Description of the horizontal size of an object.	
Module	MEI.shared
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart]

	@n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @quantity *(optional)* Numeric value capturing a measurement or count. Can only be interpreted in combination with the unit or currency attribute. Value of datatype **a decimal number no smaller than 0** . [att.quantity] @translit *(optional)* Specifies the transliteration technique used. Value of datatype **NMTOKEN**. [att.lang] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " **byte**" *(Byte.)*, " **char**" *(Character.)*, " **cm**" *(Centimeter.)*, " **in**" *(Inch.)*, " **issue**" *(Serial issue.)*, " **mm**" *(Millimeter.)*, " **page**" *(Page.)*, " **pc**" *(Pica.)*, " **pt**" *(Point.)*, " **px**" *(Pixel.)*, " **record**" *(Record.)*, " **vol**" *(Serial volume.)*, " **vu**" *(MEI virtual unit.)* [att.measurement] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Member of	model.dimLike
Contained by	**MEI.header** dimensions **MEI.shared** depth height width
May contain	**Text** **MEI.edittrans** abbr expan **MEI.figtable** fig **MEI.namesdates** bloc corpName country district geogFeat geogName periodName persName postBox postCode region settlement street styleName **MEI.ptrref** ptr ref **MEI.shared** address annot bibl date identifier lb name num rend repository stack title **MEI.usersymbols** symbol

Declaration	`<classes>`
	`<memberOf key=" att.common" />`
	`<memberOf key=" att.bibl" />`
	`<memberOf key=" att.lang" />`


```
  <memberOf key= " att.quantity" />
  <memberOf key= " att.measurement" />
  <memberOf key= " model.dimLike" />
</classes>
<content>
 <rng:zeroOrMore>
  <rng:choice>
   <rng:text/>
   <rng:ref name= " model.textphraseLike.limited" />
  </rng:choice>
 </rng:zeroOrMore>
</content>
```

<work>

<work> Provides a detailed description of a work, specifically its history, language use, and high-level musical attributes: key, tempo, meter, medium of performance, and intended duration.	
Module	MEI.header
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl] @data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]
Member of	model.workLike
Contained by	**MEI.frbr** componentGrp **MEI.header** work workDesc
May contain	**MEI.frbr** componentGrp expressionList relationList

	MEI.header audience classification contents context extMeta history key langUsage mensuration meter notesStmt otherChar perfDuration perfMedium titleStmt **MEI.shared** biblList creation identifier incip tempo
Declaration	

```
<classes>
 <memberOf key=" att.datapointing" />
 <memberOf key=" att.common" />
 <memberOf key=" att.bibl" />
 <memberOf key=" model.workLike" />
</classes>
<content>
 <rng:zeroOrMore>
   <rng:ref name=" model.identifierLike" />
 </rng:zeroOrMore>
 <rng:optional>
   <rng:ref name=" titleStmt" />
 </rng:optional>
 <rng:zeroOrMore>
   <rng:ref name=" model.workIdent" />
 </rng:zeroOrMore>
 <rng:zeroOrMore>
   <rng:ref name=" otherChar" />
 </rng:zeroOrMore>
 <rng:optional>
   <rng:ref name=" creation" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" history" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" langUsage" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" perfMedium" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" perfDuration" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" audience" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" contents" />
 </rng:optional>
 <rng:optional>
   <rng:ref name=" context" />
 </rng:optional>
 <rng:zeroOrMore>
```

	<rng:ref name=" biblList" /> </rng:zeroOrMore> <rng:optional> <rng:ref name=" notesStmt" /> </rng:optional> <rng:optional> <rng:ref name=" classification" /> </rng:optional> <rng:optional> <rng:ref name=" expressionList" /> </rng:optional> <rng:optional> <rng:ref name=" componentGrp" /> </rng:optional> <rng:optional> <rng:ref name=" relationList" /> </rng:optional> <rng:zeroOrMore> <rng:ref name=" extMeta" /> </rng:zeroOrMore> </content>
Remarks	The perfDuration element captures the *intended duration* of the work.

<workDesc>

<workDesc> (work description) – Grouping mechanism for information describing non-bibliographic aspects of a text.	
Module	MEI.header
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	model.headerPart

Contained by	**MEI.header** encodingDesc meiHead workDesc
May contain	**MEI.header** work
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" model.headerPart" /> </classes> <content> <rng:oneOrMore> <rng:ref name=" work" /> </rng:oneOrMore> </content>

<zone>

<zone> Defines an area of interest within a surface or graphic file.	
Module	MEI.facsimile
Attributes	@data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing] @label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @lrx *(optional)* Indicates the lower-right corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @lry *(optional)* Indicates the lower-left corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed] @ulx *(optional)* Indicates the upper-left corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @uly *(optional)* Indicates the upper-left corner y coordinate. Value of datatype nonNegativeInteger. [att.coordinated]

	@xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]
Member of	
Contained by	**MEI.facsimile** surface **MEI.figtable** graphic
May contain	**MEI.figtable** figDesc graphic
Declaration	<classes> <memberOf key=" att.common" /> <memberOf key=" att.coordinated" /> <memberOf key=" att.datapointing" /> <memberOf key=" att.typed" /> </classes> <content> <rng:zeroOrMore> <rng:ref name=" model.figDescLike" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" model.graphicLike" /> </rng:zeroOrMore> </content>
Remarks	This element is modelled on an element in the Text Encoding Initiative (TEI) standard.

Model Classes

model.addressLike

model.addressLike Groups elements used to represent a postal address.	
Module	MEI.shared
Available in	model.textphraseLike.limited, model.pubStmtPart, model.eventPart eventList
Members	address (direct member of model.addressLike)
Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> <memberOf key=" model.pubStmtPart" /> <memberOf key=" model.eventPart" /> </classes>

model.addressPart

model.addressPart Groups elements used as part of a physical address.	
Module	MEI.namesdates
Available in	model.textphraseLike.limited address
Members	postBox, postCode, street (direct members of model.addressPart) bloc, country, district, geogFeat, region, settlement (via model.geogNamePart)
Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> </classes>

model.annotLike

model.annotLike Groups annotation-like elements.	
Module	MEI.shared
Available in	model.textphraseLike.limited ending, layer, lem, measure, notesStmt, part, perfMedium, pgDesc, rdg, score, section, staff, syllable, symbolDef
Members	annot (direct member of model.annotLike)
Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> </classes>

model.appLike

model.appLike Groups elements that contain a critical apparatus entry.	
Module	MEI.critapp
Available in	beam, ending, ineume, layer, lem, measure, note, part, pgFoot, pgFoot2, pgHead, pgHead2, rdg, rest, score, section, staff, syllable, tuplet, uneume, verse
Members	app (direct member of model.appLike)

model.backLike

model.backLike Groups elements that may contain back matter.	
Module	MEI.text
Available in	model.musicPart
Members	back (direct member of model.backLike)
Declaration	<classes> <memberOf key=" model.musicPart" />

	`</classes>`

model.biblLike

model.biblLike Groups elements containing a bibliographic description.	
Module	MEI.shared
Available in	model.textphraseLike.limited biblList, relatedItem
Members	bibl (direct member of model.biblLike)

Declaration	`<classes>`
	`<memberOf key=" model.textphraseLike.limited" />`
	`</classes>`

model.biblPart

model.biblPart Groups elements that may appear as part of a bibliographic description.	
Module	MEI.shared
Available in	bibl
Members	biblScope, creation, extent, genre, imprint, perfDuration, physLoc, recipient, relatedItem, series, textLang (direct members of model.biblPart) edition, editionStmt (via model.editionLike) respStmt, titleStmt (via model.respLike) arranger, author, byline, composer, editor, funder, librettist, lyricist, sponsor (via model.respLikePart)

model.captionLike

model.captionLike Groups elements that contain the text of a caption or other text displayed along with a figure.

Module	MEI.shared
Available in	fig, table
Members	caption (direct member of model.captionLike)

model.choicePart

model.choicePart Groups elements that may appear as part of the content of a choice element.	
Module	MEI.edittrans
Available in	choice
Members	corr, orig, reg, sic, unclear (direct members of model.choicePart) abbr, add, addName, addrLine, anchoredText, annot, beam, bloc, caption, choice, chord, contentItem, corpName, corr, country, cpMark, damage, del, desc, dir, district, dynam, ending, expan, f, famName, fb, fing, fingGrp, foreName, genName, geogFeat, geogName, harm, head, identifier, ineume, inscription, l, label, layer, lem, li, measure, name, nameLink, note, num, orig, ornam, part, periodName, persName, pgFoot, pgFoot2, pgHead, pgHead2, postBox, postCode, rdg, reg, region, rend, rest, restore, roleName, score, section, settlement, sic, staff, street, styleName, subst, supplied, syl, syllable, td, tempo, th, title, tuplet, unclear, uneume (via model.editLike) abbr, expan (via model.editorialLike)

model.chordPart

model.chordPart Groups elements that may appear as part of the content of a chord element.	
Module	MEI.shared
Available in	chord
Members	artic, note (direct members of model.chordPart)

model.chordTableLike

model.chordTableLike Groups elements that group playable chord definitions.	
Module	MEI.harmony
Available in	scoreDef

Members	chordTable (direct member of model.chordTableLike)

model.controleventLike

model.controleventLike Groups elements, such as dynamics, ties, phrase marks, pedal marks, etc., which depend upon other events, such as notes or rests, for their existence.	
Module	MEI.shared
Available in	model.measurePart, model.layerPart.mensural, model.syllablePart, model.rdgPart.critapp abbr, add, corr, damage, del, expan, orig, reg, restore, sic, supplied, unclear
Members	bend, dir, dynam, gliss, ornam, phrase, tempo (direct members of model.controleventLike) arpeg, beamSpan, breath, cpMark, fermata, hairpin, harpPedal, octave, pedal, reh, slur, tie, tupletSpan (via model.controleventLike.cmn) mordent, trill, turn (via model.ornamentLike.cmn) model.controleventLike.harmony (no elements directly inheriting from this class) harm (via model.harmLike) fing, fingGrp (via model.fingeringLike)

Declaration	`<classes>`
	`<memberOf key=" model.measurePart" />`
	`<memberOf key=" model.layerPart.mensural" />`
	`<memberOf key=" model.syllablePart" />`
	`<memberOf key=" model.rdgPart.critapp" />`
	`</classes>`

model.controleventLike.cmn

model.controleventLike.cmn Groups control events that appear in CMN.	
Module	MEI.cmn
Available in	model.controleventLike
Members	arpeg, beamSpan, breath, cpMark, fermata, hairpin, harpPedal, octave, pedal, reh, slur, tie, tupletSpan (direct members of model.controleventLike.cmn) mordent, trill, turn (via model.ornamentLike.cmn)

Declaration	`<classes> <memberOf key=" model.controleventLike" /> </classes>`

model.controleventLike.harmony

model.controleventLike.harmony Groups elements that function as control events; that is, those events that modify or otherwise depend on the existence of notated events.	
Module	MEI.harmony
Available in	model.controleventLike
Members	harm (via model.harmLike)
Declaration	`<classes> <memberOf key=" model.controleventLike" /> </classes>`

model.dateLike

model.dateLike Groups elements containing date expressions.	
Module	MEI.shared
Available in	model.textphraseLike.limited, model.pubStmtPart, model.eventPart, model.titlePagePart change, eventList
Members	date (direct member of model.dateLike)
Declaration	`<classes> <memberOf key=" model.textphraseLike.limited" /> <memberOf key=" model.pubStmtPart" /> <memberOf key=" model.eventPart" /> <memberOf key=" model.titlePagePart" /> </classes>`

model.descLike

model.descLike Groups elements which provide a description of their parent entity.	
Module	MEI.shared
Available in	
Members	desc (direct member of model.descLike)

model.dimLike

model.dimLike Groups elements which describe a measurement forming part of the physical dimensions of an object.	
Module	MEI.shared
Available in	dimensions
Members	depth, height, width (direct members of model.dimLike)

model.divLike

model.divLike Groups elements used to represent generic structural divisions of text.	
Module	MEI.text
Available in	back, div, ending, front, history, layer, lem, measure, part, rdg, score, section, staff, syllable
Members	div (direct member of model.divLike)

model.editLike

model.editLike Groups elements for editorial interventions that may be useful both in transcribing and in authoring.	
Module	MEI.edittrans
Available in	model.paracontentPart, model.choicePart abbr, add, addName, addrLine, anchoredText, annot, beam, bloc, caption, chord, contentItem, corpName, corr, country, cpMark, damage, del, desc, dir, district, dynam, ending, expan, f, famName, fb, fing, fingGrp, foreName, genName, geogFeat, geogName, harm, head, identifier,

	ineume, inscription, l, label, layer, lem, li, measure, name, nameLink, note, num, orig, ornam, part, periodName, persName, pgFoot, pgFoot2, pgHead, pgHead2, postBox, postCode, rdg, reg, region, rend, rest, restore, roleName, score, section, settlement, sic, staff, street, styleName, supplied, syl, syllable, td, tempo, th, title, tuplet, unclear, uneume
Members	choice, subst (direct members of model.editLike)
Declaration	<classes> <memberOf key=" model.paracontentPart" /> <memberOf key=" model.choicePart" /> </classes>

model.editionLike

model.editionLike Groups elements containing bibliographic edition information.	
Module	MEI.shared
Available in	model.biblPart editionStmt
Members	edition (direct member of model.editionLike)
Declaration	<classes> <memberOf key=" model.biblPart" /> <memberOf key=" titlePagePart" /> </classes>

model.editorialDeclPart

model.editorialDeclPart Groups elements that may appear as part of a description of the editorial process applied to the encoding of notation.	
Module	MEI.header
Available in	editorialDecl
Members	correction, interpretation, normalization, segmentation, stdVals (direct members of model.editorialDeclPart)

model.editorialLike

model.editorialLike Groups editorial intervention elements.	
Module	MEI.shared
Available in	model.textphraseLike.limited, model.choicePart
Members	abbr, expan (direct members of model.editorialLike)
Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> <memberOf key=" model.choicePart" /> </classes>

model.encodingPart

model.encodingPart Groups elements that may appear as part of information regarding the encoding process.	
Module	MEI.header
Available in	
Members	appInfo, editorialDecl, projectDesc, samplingDecl (direct members of model.encodingPart)

model.endingLike

model.endingLike Groups elements that represent alternative endings.	
Module	MEI.shared
Available in	model.scorePart, model.sectionPart
Members	ending (direct member of model.endingLike)
Declaration	<classes> <memberOf key=" model.scorePart" /> <memberOf key=" model.sectionPart" /> </classes>

model.eventLike

model.eventLike Groups event elements that occur in all notational repertoires.	
Module	MEI.shared
Available in	model.layerPart, model.syllablePart, model.rdgPart.critapp abbr, add, beam, corr, damage, del, expan, ineume, orig, reg, restore, sic, supplied, tuplet, unclear, uneume
Members	barLine, chord, clef, clefGrp, custos, note, pad, rest, space (direct members of model.eventLike) beam, beatRpt, bTrem, fTrem, halfmRpt, tuplet (via model.eventLike.cmn) ligature, mensur, proport (via model.eventLike.mensural) keySig, scoreDef (via model.keySigLike) meterSig, meterSigGrp, scoreDef (via model.meterSigLike)

Declaration	`<classes>`
	`<memberOf key=" model.layerPart" />`
	`<memberOf key=" model.syllablePart" />`
	`<memberOf key=" model.rdgPart.critapp" />`
	`</classes>`

model.eventLike.cmn

model.eventLike.cmn Groups events that appear in CMN.	
Module	MEI.cmn
Available in	model.eventLike
Members	beam, beatRpt, bTrem, fTrem, halfmRpt, tuplet (direct members of model.eventLike.cmn)

Declaration	`<classes>`
	`<memberOf key=" model.eventLike" />`
	`</classes>`

model.eventLike.measureFilling

model.eventLike.measureFilling Groups events that appear in CMN and that completely fill a measure.

Module	MEI.cmn
Available in	model.layerPart.cmn, model.rdgPart.critapp abbr, add, corr, damage, del, expan, orig, reg, restore, sic, supplied, unclear
Members	mRest, mRpt, mRpt2, mSpace, multiRest, multiRpt (direct members of model.eventLike.measureFilling)

Declaration	`<classes>`
	`<memberOf key=" model.layerPart.cmn" />`
	`<memberOf key=" model.rdgPart.critapp" />`
	`</classes>`

model.eventLike.mensural

model.eventLike.mensural Groups event elements that occur in the mensural repertoire.	
Module	MEI.mensural
Available in	model.eventLike
Members	ligature, mensur, proport (direct members of model.eventLike.mensural)

Declaration	`<classes>`
	`<memberOf key=" model.eventLike" />`
	`</classes>`

model.eventLike.neumes

model.eventLike.neumes Groups event elements that occur in the neume repertoire.	
Module	MEI.neumes
Available in	model.layerPart.neumes, model.syllablePart, model.rdgPart.critapp abbr, add, corr, damage, del, expan, ineume, orig, reg, restore, sic, supplied, unclear
Members	ineume, uneume (direct members of model.eventLike.neumes)

Declaration	

```
<classes>
 <memberOf key=" model.layerPart.neumes" />
 <memberOf key=" model.syllablePart" />
 <memberOf key=" model.rdgPart.critapp" />
</classes>
```

model.eventPart

model.eventPart Groups elements that may be used to provide structured description of an event.	
Module	MEI.header
Available in	event
Members	desc, name (direct members of model.eventPart) address, eventList (via model.addressLike) change, date, eventList (via model.dateLike) corpName, eventList, persName (via model.nameLike.agent) eventList, geogName (via model.nameLike.geogName)

model.expressionLike

model.expressionLike Collects expressionlike elements.	
Module	MEI.frbr
Available in	componentGrp, expressionList
Members	expression (direct member of model.expressionLike)

model.fLike

model.fLike Groups elements that represent single figured bass elements.	
Module	MEI.harmony
Available in	abbr, add, corr, damage, del, expan, fb, orig, reg, restore, sic, supplied, unclear
Members	f (direct member of model.fLike)

model.figDescLike

model.figDescLike Groups elements that provide a brief prose description of the appearance or content of a graphic figure.	
Module	MEI.figtable
Available in	surface, zone
Members	figDesc (direct member of model.figDescLike)

model.figbassLike

model.figbassLike Groups elements that record figured bass.	
Module	MEI.harmony
Available in	harm
Members	fb (direct member of model.figbassLike)

model.figureLike

model.figureLike Groups elements representing or containing graphic information such as an illustration or figure.	
Module	MEI.figtable
Available in	model.textphraseLike.limited titlePage
Members	fig (direct member of model.figureLike)
Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> </classes>

model.fingeringLike

model.fingeringLike Groups elements that capture performance instructions regarding the use of the fingers of the hand (or a subset of them).	
Module	MEI.fingering
Available in	model.controleventLike fingGrp
Members	fing, fingGrp (direct members of model.fingeringLike)

Declaration	`<classes>`
	`<memberOf key=" model.controleventLike" />`
	`</classes>`

model.frontLike

model.frontLike Groups elements that may contain front matter.	
Module	MEI.text
Available in	model.musicPart
Members	front (direct member of model.frontLike)

Declaration	`<classes>`
	`<memberOf key=" model.musicPart" />`
	`</classes>`

model.frontPart

model.frontPart Groups elements that may appear as part of front matter.	
Module	MEI.header
Available in	model.physDescPart back, front

Members	titlePage (direct member of model.frontPart)

Declaration	`<classes>`
	`  <memberOf key=" model.physDescPart" />`
	`</classes>`

model.geogNamePart

model.geogNamePart Groups elements which form part of a geographic name.	
Module	MEI.namesdates
Available in	model.addressPart
Members	bloc, country, district, geogFeat, region, settlement (direct members of model.geogNamePart)

Declaration	`<classes>`
	`  <memberOf key=" model.addressPart" />`
	`</classes>`

model.graphicLike

model.graphicLike Groups elements that indicate the location of an inline graphic, illustration, or figure.	
Module	MEI.figtable
Available in	fig, incip, surface, zone
Members	graphic (direct member of model.graphicLike)

model.graphicprimitiveLike

model.graphicprimitiveLike Groups elements that function as drawing primitives.	
Module	MEI.usersymbols
Available in	abbr, add, corr, damage, del, dir, ending, expan, harm, layer, lem, measure, orig, ornam, part, pgDesc, rdg, reg, restore, score, section, sic, staff, supplied, syllable, symbolDef, tempo, unclear

Members	anchoredText, curve, line (direct members of model.graphicprimitiveLike)

model.harmLike

model.harmLike Groups elements that record harmony.	
Module	MEI.harmony
Available in	model.controleventLike.harmony
Members	harm (direct member of model.harmLike)

Declaration	`<classes>`
	`<memberOf key= " model.controleventLike.harmony" />`
	`</classes>`

model.headLike

model.headLike Groups elements used to provide a heading at the start of a text division.	
Module	MEI.shared
Available in	annot, appInfo, biblList, castList, classification, componentGrp, contents, div, editorialDecl, event, eventList, expressionList, handList, history, incip, itemList, langUsage, lg, list, notesStmt, perfMedium, perfResList, projectDesc, relationList, samplingDecl, sourceDesc, termList
Members	head (direct member of model.headLike)

model.headerPart

model.headerPart Groups elements that may appear as part of the MEI header.	
Module	MEI.header
Available in	
Members	encodingDesc, workDesc (direct members of model.headerPart)

model.identifierLike

model.identifierLike Groups identifier-like elements.	
Module	MEI.shared
Available in	model.textphraseLike.limited, model.pubStmtPart expression, item, physLoc, series, seriesStmt, source, work
Members	identifier (direct member of model.identifierLike)

Declaration	`<classes>`
	`<memberOf key=" model.textphraseLike.limited" />`
	`<memberOf key=" model.pubStmtPart" />`
	`</classes>`

model.imprintPart

model.imprintPart Groups elements that may appear as part of a bibliographic imprint.	
Module	MEI.shared
Available in	bibl, imprint
Members	distributor, publisher, pubPlace (direct members of model.imprintPart)

model.incipLike

model.incipLike Groups elements used to represent a textual or musical incipit.	
Module	MEI.shared
Available in	model.workIdent
Members	incip (direct member of model.incipLike)

Declaration	`<classes>`
	`<memberOf key=" model.workIdent" />`
	`</classes>`

model.instrDefLike

model.instrDefLike Groups elements used to declare a MIDI instrument.	
Module	MEI.shared
Available in	instrGrp, layerDef, staffDef, staffGrp
Members	instrDef (direct member of model.instrDefLike)

model.itemLike

model.itemLike Collects itemLike elements.	
Module	MEI.frbr
Available in	componentGrp, itemList
Members	item (direct member of model.itemLike)

model.keyAccidLike

model.keyAccidLike Groups elements that represent accidentals in a key signature.	
Module	MEI.shared
Available in	keySig
Members	keyAccid (direct member of model.keyAccidLike)

model.keySigLike

model.keySigLike Groups elements that have the same function as a key signature.	
Module	MEI.shared
Available in	model.eventLike, model.staffDefPart scoreDef
Members	keySig (direct member of model.keySigLike)

Declaration	

```
<classes>
 <memberOf key=" model.eventLike" />
 <memberOf key=" model.staffDefPart" />
</classes>
```

model.lLike

model.lLike Groups elements representing metrical components such as verse lines.	
Module	MEI.text
Available in	lg
Members	l (direct member of model.lLike)

model.labelLike

model.labelLike Groups elements used to assign a label to other parts of a document.	
Module	MEI.shared
Available in	biblList, contents, grpSym, handList, layerDef, list, staffDef, staffGrp, termList
Members	label (direct member of model.labelLike)

model.layerDefLike

model.layerDefLike Groups elements that permit declaration of layer properties.	
Module	MEI.shared
Available in	staffDef
Members	layerDef (direct member of model.layerDefLike)

model.layerLike

model.layerLike Groups elements that function as notational layers within a staff.

Module	MEI.shared
Available in	model.staffPart, model.rdgPart.critapp abbr, add, corr, damage, del, expan, orig, ossia, reg, restore, sic, supplied, unclear
Members	layer (direct member of model.layerLike)
Declaration	<classes> <memberOf key=" model.staffPart" /> <memberOf key=" model.rdgPart.critapp" /> </classes>

model.layerPart

model.layerPart Groups notated events that may appear at the layer level in all repertoires.	
Module	MEI.shared
Available in	layer, ligature
Members	abbr, add, barLine, beam, chord, clef, clefGrp, corr, custos, damage, del, expan, ineume, note, orig, pad, reg, rest, restore, sic, space, supplied, tuplet, unclear, uneume (via model.eventLike) beam, beatRpt, bTrem, fTrem, halfmRpt, tuplet (via model.eventLike.cmn) ligature, mensur, proport (via model.eventLike.mensural) keySig, scoreDef (via model.keySigLike) meterSig, meterSigGrp, scoreDef (via model.meterSigLike) model.layerPart.cmn (no elements directly inheriting from this class) abbr, add, corr, damage, del, expan, mRest, mRpt, mRpt2, mSpace, multiRest, multiRpt, orig, reg, restore, sic, supplied, unclear (via model.eventLike.measureFilling) model.layerPart.mensuralAndNeumes (no elements directly inheriting from this class) model.layerPart.mensural (no elements directly inheriting from this class) abbr, add, bend, corr, damage, del, dir, dynam, expan, gliss, orig, ornam, phrase, reg, restore, sic, supplied, tempo, unclear (via model.controleventLike) arpeg, beamSpan, breath, cpMark, fermata, hairpin, harpPedal, octave, pedal, reh, slur, tie, tupletSpan (via model.controleventLike.cmn) mordent, trill, turn (via model.ornamentLike.cmn) model.controleventLike.harmony (no elements directly inheriting from this class) harm (via model.harmLike) fing, fingGrp (via model.fingeringLike) abbr, add, corr, damage, del, expan, lyrics, orig, reg, restore, sic, supplied, unclear (via model.lyricsLike)

	abbr, accid, add, artic, corr, damage, del, dot, expan, note, orig, reg, restore, sic, supplied, unclear (via model.noteModifierLike) model.layerPart.neumes (no elements directly inheriting from this class) abbr, add, corr, damage, del, expan, ineume, orig, reg, restore, sic, supplied, unclear, uneume (via model.eventLike.neumes) syllable (via model.syllableLike) abbr, add, corr, damage, del, expan, midi, orig, reg, restore, sic, supplied, unclear (via model.midiLike) scoreDef, syllable (via model.scoreDefLike) measure, staffDef, staffGrp, syllable (via model.staffDefLike)

model.layerPart.cmn

model.layerPart.cmn Groups notated events that may appear at the layer level in CMN.	
Module	MEI.cmn
Available in	model.layerPart
Members	abbr, add, corr, damage, del, expan, mRest, mRpt, mRpt2, mSpace, multiRest, multiRpt, orig, reg, restore, sic, supplied, unclear (via model.eventLike.measureFilling)

Declaration	`<classes>`
	`<memberOf key= " model.layerPart" />`
	`</classes>`

model.layerPart.mensural

model.layerPart.mensural Groups notated events that may appear at the layer level in the mensural repertoire.	
Module	MEI.mensural
Available in	model.layerPart.mensuralAndNeumes
Members	abbr, add, bend, corr, damage, del, dir, dynam, expan, gliss, orig, ornam, phrase, reg, restore, sic, supplied, tempo, unclear (via model.controleventLike) arpeg, beamSpan, breath, cpMark, fermata, hairpin, harpPedal, octave, pedal, reh, slur, tie, tupletSpan (via model.controleventLike.cmn) mordent, trill, turn (via model.ornamentLike.cmn) model.controleventLike.harmony (no elements directly inheriting from this class) harm (via model.harmLike)

	fing, fingGrp (via model.fingeringLike) abbr, add, corr, damage, del, expan, lyrics, orig, reg, restore, sic, supplied, unclear (via model.lyricsLike) abbr, accid, add, artic, corr, damage, del, dot, expan, note, orig, reg, restore, sic, supplied, unclear (via model.noteModifierLike)

Declaration	`<classes>`
	`<memberOf key=" model.layerPart.mensuralAndNeumes" />`
	`</classes>`

model.layerPart.mensuralAndNeumes

model.layerPart.mensuralAndNeumes Groups notated events that may appear at the layer level in the mensural and neume repertoires.	
Module	MEI.shared
Available in	model.layerPart
Members	model.layerPart.mensural (no elements directly inheriting from this class) abbr, add, bend, corr, damage, del, dir, dynam, expan, gliss, orig, ornam, phrase, reg, restore, sic, supplied, tempo, unclear (via model.controleventLike) arpeg, beamSpan, breath, cpMark, fermata, hairpin, harpPedal, octave, pedal, reh, slur, tie, tupletSpan (via model.controleventLike.cmn) mordent, trill, turn (via model.ornamentLike.cmn) model.controleventLike.harmony (no elements directly inheriting from this class) harm (via model.harmLike) fing, fingGrp (via model.fingeringLike) abbr, add, corr, damage, del, expan, lyrics, orig, reg, restore, sic, supplied, unclear (via model.lyricsLike) abbr, accid, add, artic, corr, damage, del, dot, expan, note, orig, reg, restore, sic, supplied, unclear (via model.noteModifierLike) model.layerPart.neumes (no elements directly inheriting from this class) abbr, add, corr, damage, del, expan, ineume, orig, reg, restore, sic, supplied, unclear, uneume (via model.eventLike.neumes) syllable (via model.syllableLike) abbr, add, corr, damage, del, expan, midi, orig, reg, restore, sic, supplied, unclear (via model.midiLike) scoreDef, syllable (via model.scoreDefLike) measure, staffDef, staffGrp, syllable (via model.staffDefLike)

Declaration	`<classes>`
	`<memberOf key=" model.layerPart" />`
	`</classes>`

model.layerPart.neumes

model.layerPart.neumes Groups notated events that may appear at the layer level in the neume repertoire.	
Module	MEI.neumes
Available in	model.layerPart.mensuralAndNeumes
Members	abbr, add, corr, damage, del, expan, ineume, orig, reg, restore, sic, supplied, unclear, uneume (via model.eventLike.neumes) syllable (via model.syllableLike)

Declaration	`<classes>`
	`<memberOf key=" model.layerPart.mensuralAndNeumes" />`
	`</classes>`

model.lbLike

model.lbLike Groups elements that function like line breaks.	
Module	MEI.shared
Available in	model.milestoneLike.text, model.textphraseLike.limited altId, classCode, reh, verse
Members	lb (direct member of model.lbLike)

Declaration	`<classes>`
	`<memberOf key=" model.milestoneLike.text" />`
	`<memberOf key=" model.textphraseLike.limited" />`
	`</classes>`

model.lgLike

model.lgLike Groups elements that have a line-grouping function.	
Module	MEI.text
Available in	model.paracontentPart, model.textcomponentLike incipText, lg
Members	lg (direct member of model.lgLike)
Declaration	<classes> <memberOf key=" model.paracontentPart" /> <memberOf key=" model.textcomponentLike" /> </classes>

model.listLike

model.listLike Groups list-like elements.	
Module	MEI.text
Available in	model.paracontentPart, model.textcomponentLike
Members	biblList, castList, eventList, list (direct members of model.listLike)
Declaration	<classes> <memberOf key=" model.paracontentPart" /> <memberOf key=" model.textcomponentLike" /> </classes>

model.locrefLike

model.locrefLike Groups elements used for purposes of location and reference.	
Module	MEI.ptrref
Available in	model.textphraseLike.limited application, pgDesc, series

Members	ptr, ref (direct members of model.locrefLike)
Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> </classes>

model.lyricsLike

model.lyricsLike Groups elements that represent sung text.	
Module	MEI.lyrics
Available in	model.measurePart, model.layerPart.mensural, model.syllablePart, model.rdgPart.critapp abbr, add, corr, damage, del, expan, orig, reg, restore, sic, supplied, unclear
Members	lyrics (direct member of model.lyricsLike)
Declaration	<classes> <memberOf key=" model.measurePart" /> <memberOf key=" model.layerPart.mensural" /> <memberOf key=" model.syllablePart" /> <memberOf key=" model.rdgPart.critapp" /> </classes>

model.manifestationLike

model.manifestationLike Collects manifestationLike elements.	
Module	MEI.frbr
Available in	componentGrp
Members	source (direct member of model.manifestationLike)

model.mdivLike

model.mdivLike Groups elements used to represent generic structural divisions of music notation.

Module	MEI.shared
Available in	body, mdiv
Members	mdiv (direct member of model.mdivLike)

model.measureLike

model.measureLike Groups measure-like elements.	
Module	MEI.cmn
Available in	model.sectionPart.cmn abbr, add, corr, damage, del, expan, orig, reg, restore, sic, supplied, unclear
Members	measure (direct member of model.measureLike)

Declaration	`<classes>`
	`  <memberOf key= " model.sectionPart.cmn" />`
	`</classes>`

model.measurePart

model.measurePart Groups elements that may appear as part of a measure.	
Module	MEI.cmn
Available in	measure
Members	abbr, add, bend, corr, damage, del, dir, dynam, expan, gliss, orig, ornam, phrase, reg, restore, sic, supplied, tempo, unclear (via model.controleventLike) arpeg, beamSpan, breath, cpMark, fermata, hairpin, harpPedal, octave, pedal, reh, slur, tie, tupletSpan (via model.controleventLike.cmn) mordent, trill, turn (via model.ornamentLike.cmn) model.controleventLike.harmony (no elements directly inheriting from this class) harm (via model.harmLike) fing, fingGrp (via model.fingeringLike) abbr, add, corr, damage, del, expan, lyrics, orig, reg, restore, sic, supplied, unclear (via model.lyricsLike) abbr, add, corr, damage, del, expan, midi, orig, reg, restore, sic, supplied, unclear (via model.midiLike)

	ossia (via model.ossiaLike) abbr, add, corr, damage, del, expan, orig, ossia, reg, restore, sic, staff, supplied, unclear (via model.staffLike)

model.measurementLike

model.measurementLike Groups elements that represent a measurement.	
Module	MEI.shared
Available in	model.textphraseLike.limited
Members	num (via model.numLike)
Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> </classes>

model.meterSigLike

model.meterSigLike Groups elements that represent a meter signature.	
Module	MEI.shared
Available in	model.eventLike, model.staffDefPart scoreDef
Members	meterSig, meterSigGrp (direct members of model.meterSigLike)
Declaration	<classes> <memberOf key=" model.eventLike" /> <memberOf key=" model.staffDefPart" /> </classes>

model.midiLike

model.midiLike Groups elements which group MIDI-like elements.

Module	MEI.midi
Available in	model.layerPart.mensuralAndNeumes, model.measurePart, model.syllablePart, model.rdgPart.critapp abbr, add, corr, damage, del, expan, orig, reg, restore, sic, supplied, unclear
Members	midi (direct member of model.midiLike)
Declaration	<classes> <memberOf key=" model.layerPart.mensuralAndNeumes" /> <memberOf key=" model.measurePart" /> <memberOf key=" model.syllablePart" /> <memberOf key=" model.rdgPart.critapp" /> </classes>

model.milestoneLike.music

model.milestoneLike.music Groups milestone-style elements found in music notation.	
Module	MEI.shared
Available in	ending, layer, lem, measure, part, rdg, score, section, staff, syllable
Members	sb (direct member of model.milestoneLike.music) pb (via model.pbLike)

model.milestoneLike.text

model.milestoneLike.text Groups milestone-style elements found in text.	
Module	MEI.shared
Available in	back, div, front, titlePage
Members	altId, classCode, lb, reh, verse (via model.lbLike) pb (via model.pbLike)

model.nameLike

model.nameLike Groups elements that contain names.

Module	MEI.shared
Available in	model.textphraseLike.limited creation, respStmt
Members	name (direct member of model.nameLike) corpName, eventList, persName (via model.nameLike.agent) model.nameLike.place (no elements directly inheriting from this class) eventList, geogName (via model.nameLike.geogName) physLoc, repository (via model.repositoryLike)

Declaration	`<classes>`
	`<memberOf key=" model.textphraseLike.limited" />`
	`</classes>`

model.nameLike.agent

model.nameLike.agent Groups elements which contain names of individuals or corporate bodies.	
Module	MEI.namesdates
Available in	model.eventPart, model.nameLike eventList
Members	corpName, persName (direct members of model.nameLike.agent)

Declaration	`<classes>`
	`<memberOf key=" model.eventPart" />`
	`<memberOf key=" model.nameLike" />`
	`</classes>`

model.nameLike.geogName

model.nameLike.geogName Groups geographic name elements.	
Module	MEI.namesdates
Available in	model.eventPart, model.nameLike.place eventList

Members	geogName (direct member of model.nameLike.geogName)
Declaration	<classes> <memberOf key=" model.eventPart" /> <memberOf key=" model.nameLike.place" /> </classes>

model.nameLike.label

model.nameLike.label Groups elements that serve as stylistic labels.	
Module	MEI.namesdates
Available in	model.textphraseLike.limited
Members	periodName, styleName (direct members of model.nameLike.label)
Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> </classes>

model.nameLike.place

model.nameLike.place Groups place name elements.	
Module	MEI.namesdates
Available in	model.nameLike
Members	eventList, geogName (via model.nameLike.geogName) physLoc, repository (via model.repositoryLike)
Declaration	<classes> <memberOf key=" model.nameLike" /> </classes>

model.noteModifierLike

model.noteModifierLike Groups elements that modify note-like features.	
Module	MEI.shared
Available in	model.layerPart.mensural, model.syllablePart, model.rdgPart.critapp abbr, add, corr, damage, del, expan, note, orig, reg, restore, sic, supplied, unclear
Members	accid, artic, dot (direct members of model.noteModifierLike)

Declaration	`<classes>`
	`<memberOf key=" model.layerPart.mensural" />`
	`<memberOf key=" model.syllablePart" />`
	`<memberOf key=" model.rdgPart.critapp" />`
	`</classes>`

model.numLike

model.numLike Groups elements that denote a number or a quantity.	
Module	MEI.shared
Available in	model.measurementLike
Members	num (direct member of model.numLike)

Declaration	`<classes>`
	`<memberOf key=" model.measurementLike" />`
	`</classes>`

model.ornamentLike.cmn

model.ornamentLike.cmn Groups CMN ornament elements.	
Module	MEI.cmnOrnaments
Available in	model.controleventLike.cmn

Members	mordent, trill, turn (direct members of model.ornamentLike.cmn)
Declaration	<classes> <memberOf key=" model.controleventLike.cmn" /> </classes>

model.ossiaLike

model.ossiaLike Groups elements that function like ossia.	
Module	MEI.cmn
Available in	model.measurePart, model.staffPart
Members	ossia (direct member of model.ossiaLike)
Declaration	<classes> <memberOf key=" model.measurePart" /> <memberOf key=" model.staffPart" /> </classes>

model.pLike

model.pLike Groups paragraph-like elements.	
Module	MEI.shared
Available in	model.textcomponentLike application, changeDesc, contents, correction, editorialDecl, event, incipText, interpretation, normalization, physDesc, projectDesc, samplingDecl, segmentation, series, stdVals
Members	p (direct member of model.pLike)
Declaration	<classes> <memberOf key=" model.textcomponentLike" /> </classes>

model.paracontentPart

model.paracontentPart Groups elements which may appear as part of the paragraph content model. A paragraph may contain inline elements and all the other block-level elements except lg and itself.	
Module	MEI.shared
Available in	p, quote
Members	abbr, add, addName, addrLine, anchoredText, annot, beam, bloc, caption, choice, chord, contentItem, corpName, corr, country, cpMark, damage, del, desc, dir, district, dynam, ending, expan, f, famName, fb, fing, fingGrp, foreName, genName, geogFeat, geogName, harm, head, identifier, ineume, inscription, l, label, layer, lem, li, measure, name, nameLink, note, num, orig, ornam, part, periodName, persName, pgFoot, pgFoot2, pgHead, pgHead2, postBox, postCode, rdg, reg, region, rend, rest, restore, roleName, score, section, settlement, sic, staff, street, styleName, subst, supplied, syl, syllable, td, tempo, th, title, tuplet, unclear, uneume (via model.editLike) incipText, lg (via model.lgLike) biblList, castList, eventList, list (via model.listLike) quote (via model.quoteLike) event, table (via model.tableLike) abbr, add, addName, addrLine, annot, bibl, bloc, caption, contentItem, corpName, corr, country, damage, date, del, district, expan, famName, foreName, genName, geogFeat, geogName, head, identifier, imprint, l, li, name, nameLink, num, orig, periodName, persName, ref, reg, region, rend, restore, roleName, settlement, sic, street, styleName, supplied, td, th, title, unclear (via model.textphraseLike) pb (via model.pbLike) accessRestrict, actor, anchoredText, arranger, audience, author, biblScope, byline, captureMode, carrierForm, composer, condition, context, cpMark, depth, desc, dimensions, dir, distributor, dynam, edition, editor, exhibHist, extent, f, figDesc, fing, funder, genre, gliss, hand, harm, height, inscription, label, language, librettist, line, lyricist, octave, ornam, otherChar, perfDuration, pgFoot, pgFoot2, pgHead, pgHead2, physMedium, plateNum, playingSpeed, price, provenance, publisher, pubPlace, recipient, repository, role, roleDesc, soundChan, specRepro, sponsor, stack, syl, symbol, sysReq, tempo, term, textLang, trackConfig, treatHist, treatSched, useRestrict, watermark, width (via model.textphraseLike.limited) address, eventList (via model.addressLike) address, postBox, postCode, street (via model.addressPart) bloc, country, district, geogFeat, region, settlement (via model.geogNamePart) annot, ending, layer, lem, measure, notesStmt, part, perfMedium, pgDesc, rdg, score, section, staff, syllable, symbolDef (via model.annotLike) bibl, biblList, relatedItem (via model.biblLike) change, date, eventList (via model.dateLike) abbr, expan (via model.editorialLike) fig, titlePage (via model.figureLike)

	expression, identifier, item, physLoc, series, seriesStmt, source, work (via model.identifierLike) altId, classCode, lb, reh, verse (via model.lbLike) application, pgDesc, ptr, ref, series (via model.locrefLike) model.measurementLike (no elements directly inheriting from this class) num (via model.numLike) creation, name, respStmt (via model.nameLike) corpName, eventList, persName (via model.nameLike.agent) model.nameLike.place (no elements directly inheriting from this class) eventList, geogName (via model.nameLike.geogName) physLoc, repository (via model.repositoryLike) periodName, styleName (via model.nameLike.label) altId, classCode, reh, rend, stack (via model.rendLike) series, seriesStmt, title, titleStmt (via model.titleLike) abbr, add, addName, addrLine, anchoredText, annot, beam, bloc, caption, chord, contentItem, corpName, corr, country, cpMark, damage, del, desc, dir, district, dynam, ending, expan, f, famName, fb, fing, fingGrp, foreName, gap, genName, geogFeat, geogName, handShift, harm, head, identifier, ineume, inscription, l, label, layer, lem, li, measure, name, nameLink, note, num, orig, ornam, part, periodName, persName, pgFoot, pgFoot2, pgHead, pgHead2, postBox, postCode, rdg, reg, region, rend, rest, restore, roleName, score, section, settlement, sic, staff, street, styleName, subst, supplied, syl, syllable, td, tempo, th, title, tuplet, unclear, uneume (via model.transcriptionLike)

model.partLike

model.partLike Groups elements that represent a separate performer part.	
Module	MEI.shared
Available in	parts
Members	part (direct member of model.partLike)

model.partsLike

model.partsLike Groups elements that group separate performer parts.	
Module	MEI.shared
Available in	mdiv
Members	parts (direct member of model.partsLike)

model.pbLike

model.pbLike Groups pagebreak-like elements.	
Module	MEI.shared
Available in	model.milestoneLike.music, model.milestoneLike.text, model.textphraseLike
Members	pb (direct member of model.pbLike)

Declaration	`<classes>`
	`<memberOf key=" model.milestoneLike.music" />`
	`<memberOf key=" model.milestoneLike.text" />`
	`<memberOf key=" model.textphraseLike" />`
	`</classes>`

model.persNamePart

model.persNamePart Groups elements which form part of a personal name.	
Module	MEI.namesdates
Available in	persName
Members	addName, famName, foreName, genName, nameLink, roleName (direct members of model.persNamePart)

model.physDescPart

model.physDescPart Groups elements that may appear as part of the physical description of a bibliographic item.	
Module	MEI.header
Available in	physDesc
Members	captureMode, carrierForm, condition, dimensions, exhibHist, extent, fileChar, fingerprint, handList, inscription, perfDuration, physMedium, plateNum, playingSpeed, scoreFormat, soundChan, specRepro, trackConfig, treatHist, treatSched, watermark (direct members of model.physDescPart) back, front, titlePage (via model.frontPart)

model.pubStmtPart

model.pubStmtPart Groups elements that may appear as part of the publication statement for a bibliographic item.	
Module	MEI.header
Available in	pubStmt
Members	availability, distributor, publisher, pubPlace, respStmt (direct members of model.pubStmtPart) address, eventList (via model.addressLike) change, date, eventList (via model.dateLike) expression, identifier, item, physLoc, series, seriesStmt, source, work (via model.identifierLike)

model.quoteLike

model.quoteLike Groups elements used to directly contain quotations.	
Module	MEI.text
Available in	model.paracontentPart, model.textcomponentLike
Members	quote (direct member of model.quoteLike)
Declaration	<classes> <memberOf key=" model.paracontentPart" /> <memberOf key=" model.textcomponentLike" /> </classes>

model.rdgPart.critapp

model.rdgPart.critapp Groups elements that may appear as part of a musical variant.	
Module	MEI.critapp
Available in	lem, rdg
Members	abbr, add, bend, corr, damage, del, dir, dynam, expan, gliss, orig, ornam, phrase, reg, restore, sic, supplied, tempo, unclear (via model.controleventLike) arpeg, beamSpan, breath, cpMark, fermata, hairpin, harpPedal, octave, pedal, reh, slur, tie, tupletSpan (via model.controleventLike.cmn)

	mordent, trill, turn (via model.ornamentLike.cmn) model.controleventLike.harmony (no elements directly inheriting from this class) harm (via model.harmLike) fing, fingGrp (via model.fingeringLike) abbr, add, barLine, beam, chord, clef, clefGrp, corr, custos, damage, del, expan, ineume, note, orig, pad, reg, rest, restore, sic, space, supplied, tuplet, unclear, uneume (via model.eventLike) beam, beatRpt, bTrem, fTrem, halfmRpt, tuplet (via model.eventLike.cmn) ligature, mensur, proport (via model.eventLike.mensural) keySig, scoreDef (via model.keySigLike) meterSig, meterSigGrp, scoreDef (via model.meterSigLike) abbr, add, corr, damage, del, expan, mRest, mRpt, mRpt2, mSpace, multiRest, multiRpt, orig, reg, restore, sic, supplied, unclear (via model.eventLike.measureFilling) abbr, add, corr, damage, del, expan, ineume, orig, reg, restore, sic, supplied, unclear, uneume (via model.eventLike.neumes) abbr, add, corr, damage, del, expan, layer, orig, ossia, reg, restore, sic, supplied, unclear (via model.layerLike) abbr, add, corr, damage, del, expan, lyrics, orig, reg, restore, sic, supplied, unclear (via model.lyricsLike) abbr, add, corr, damage, del, expan, midi, orig, reg, restore, sic, supplied, unclear (via model.midiLike) abbr, accid, add, artic, corr, damage, del, dot, expan, note, orig, reg, restore, sic, supplied, unclear (via model.noteModifierLike) syllable (via model.syllableLike) note, syl, verse (via model.sylLike) ineume, lyrics, note, supplied, uneume, verse (via model.verseLike)

model.rdgPart.text

model.rdgPart.text Groups elements that may appear as part of a textual variant.	
Module	MEI.text
Available in	
Members	annot, div, figDesc, history, li, pgDesc, pgFoot, pgFoot2, pgHead, pgHead2, td, th, titlePage (via model.textcomponentLike) incipText, lg (via model.lgLike) biblList, castList, eventList, list (via model.listLike) application, changeDesc, contents, correction, editorialDecl, event, incipText, interpretation, normalization, p, physDesc, projectDesc, samplingDecl, segmentation, series, stdVals (via model.pLike) quote (via model.quoteLike) event, table (via model.tableLike)

	accessRestrict, actor, anchoredText, arranger, audience, author, biblScope, byline, captureMode, carrierForm, composer, condition, context, cpMark, depth, desc, dimensions, dir, distributor, dynam, edition, editor, exhibHist, extent, f, figDesc, fing, funder, genre, gliss, hand, harm, height, inscription, label, language, librettist, line, lyricist, octave, ornam, otherChar, perfDuration, pgFoot, pgFoot2, pgHead, pgHead2, physMedium, plateNum, playingSpeed, price, provenance, publisher, pubPlace, recipient, repository, role, roleDesc, soundChan, specRepro, sponsor, stack, syl, symbol, sysReq, tempo, term, textLang, trackConfig, treatHist, treatSched, useRestrict, watermark, width (via model.textphraseLike.limited) address, eventList (via model.addressLike) address, postBox, postCode, street (via model.addressPart) bloc, country, district, geogFeat, region, settlement (via model.geogNamePart) annot, ending, layer, lem, measure, notesStmt, part, perfMedium, pgDesc, rdg, score, section, staff, syllable, symbolDef (via model.annotLike) bibl, biblList, relatedItem (via model.biblLike) change, date, eventList (via model.dateLike) abbr, expan (via model.editorialLike) fig, titlePage (via model.figureLike) expression, identifier, item, physLoc, series, seriesStmt, source, work (via model.identifierLike) altId, classCode, lb, reh, verse (via model.lbLike) application, pgDesc, ptr, ref, series (via model.locrefLike) model.measurementLike (no elements directly inheriting from this class) num (via model.numLike) creation, name, respStmt (via model.nameLike) corpName, eventList, persName (via model.nameLike.agent) model.nameLike.place (no elements directly inheriting from this class) eventList, geogName (via model.nameLike.geogName) physLoc, repository (via model.repositoryLike) periodName, styleName (via model.nameLike.label) altId, classCode, reh, rend, stack (via model.rendLike) series, seriesStmt, title, titleStmt (via model.titleLike)

model.relationLike

model.relationLike Collects relationLike elements.	
Module	MEI.frbr
Available in	relationList
Members	relation (direct member of model.relationLike)

model.rendLike

model.rendLike Groups elements that mark typographical features.	
Module	MEI.shared
Available in	model.textphraseLike.limited altId, classCode, reh
Members	rend, stack (direct members of model.rendLike)

Declaration	`<classes>`
	`<memberOf key=" model.textphraseLike.limited" />`
	`</classes>`

model.repositoryLike

model.repositoryLike Groups elements that denote a corporate entity that holds a bibliographic item.	
Module	MEI.shared
Available in	model.nameLike.place physLoc
Members	repository (direct member of model.repositoryLike)

Declaration	`<classes>`
	`<memberOf key=" model.nameLike.place" />`
	`</classes>`

model.resourceLike

model.resourceLike Groups non-text components that represent the same content as the musical text.	
Module	MEI.shared
Available in	music
Members	facsimile, performance (direct members of model.resourceLike)

model.respLike

model.respLike Groups elements that are used to indicate intellectual or other significant responsibility, for example within a bibliographic citation.	
Module	MEI.shared
Available in	model.biblPart titleStmt
Members	respStmt (direct member of model.respLike) arranger, author, byline, composer, editor, funder, librettist, lyricist, sponsor (via model.respLikePart)
Declaration	<classes> <memberOf key=" model.biblPart" /> </classes>

model.respLikePart

model.respLikePart Groups elements that delineate particular responsibilities as opposed to the respStmt element that provides for generic statements of responsibility.	
Module	MEI.shared
Available in	model.respLike, model.titlePagePart byline
Members	arranger, author, composer, editor, funder, librettist, lyricist, sponsor (direct members of model.respLikePart)
Declaration	<classes> <memberOf key=" model.respLike" /> <memberOf key=" model.titlePagePart" /> </classes>

model.scoreDefLike

model.scoreDefLike Groups elements that provide score meta-information.	
Module	MEI.shared
Available in	model.scorePart, model.sectionPart, model.staffPart.mensuralAndNeumes, model.layerPart.mensuralAndNeumes syllable
Members	scoreDef (direct member of model.scoreDefLike)

Declaration	`<classes>`
	`<memberOf key=" model.scorePart" />`
	`<memberOf key=" model.sectionPart" />`
	`<memberOf key=" model.staffPart.mensuralAndNeumes" />`
	`<memberOf key=" model.layerPart.mensuralAndNeumes" />`
	`</classes>`

model.scoreLike

model.scoreLike Groups elements that represent a score.	
Module	MEI.shared
Available in	incip, mdiv
Members	score (direct member of model.scoreLike)

model.scorePart

model.scorePart Groups elements that may appear as part of a score.	
Module	MEI.shared
Available in	part, score
Members	ending (via model.endingLike) scoreDef, syllable (via model.scoreDefLike) model.scorePart.mensuralAndNeumes (no elements directly inheriting from this class)

	abbr, add, corr, damage, del, expan, orig, reg, restore, section, sic, supplied, unclear (via model.sectionLike) measure, staffDef, staffGrp, syllable (via model.staffDefLike)

model.scorePart.mensural

model.scorePart.mensural Groups elements that may appear as part of a score in the mensural repertoire.	
Module	MEI.mensural
Available in	
Members	

model.scorePart.mensuralAndNeumes

model.scorePart.mensuralAndNeumes Groups elements that may appear as part of a score in the mensural and neumes repertoires.	
Module	MEI.shared
Available in	model.scorePart
Members	
Declaration	<classes> <memberOf key=" model.scorePart" /> </classes>

model.scorePart.neumes

model.scorePart.neumes Groups elements that may appear as part of a score in the mensural repertoire.	
Module	MEI.neumes
Available in	
Members	

model.sectionLike

model.sectionLike Groups elements that represent a segment of music notation.	
Module	MEI.shared
Available in	model.scorePart, model.sectionPart abbr, add, corr, damage, del, expan, orig, reg, restore, sic, supplied, unclear
Members	section (direct member of model.sectionLike)

Declaration	`<classes>`
	`<memberOf key=" model.scorePart" />`
	`<memberOf key=" model.sectionPart" />`
	`</classes>`

model.sectionPart

model.sectionPart Groups elements that may appear as part of a section.	
Module	MEI.shared
Available in	ending, lem, rdg, section
Members	ending (via model.endingLike) scoreDef, syllable (via model.scoreDefLike) abbr, add, corr, damage, del, expan, orig, reg, restore, section, sic, supplied, unclear (via model.sectionLike) model.sectionPart.cmn (no elements directly inheriting from this class) abbr, add, corr, damage, del, expan, measure, orig, reg, restore, sic, supplied, unclear (via model.measureLike) model.sectionPart.mensuralAndNeumes (no elements directly inheriting from this class) model.sectionPart.mensural (no elements directly inheriting from this class) model.sectionPart.neumes (no elements directly inheriting from this class) abbr, add, corr, damage, del, expan, orig, ossia, reg, restore, sic, staff, supplied, unclear (via model.staffLike) measure, staffDef, staffGrp, syllable (via model.staffDefLike)

model.sectionPart.cmn

model.sectionPart.cmn Groups elements that may appear as part of a section.	
Module	MEI.cmn
Available in	model.sectionPart
Members	abbr, add, corr, damage, del, expan, measure, orig, reg, restore, sic, supplied, unclear (via model.measureLike)
Declaration	`<classes> <memberOf key=" model.sectionPart" /> </classes>`

model.sectionPart.mensural

model.sectionPart.mensural Groups elements that may appear as part of a section in the mensural repertoire.	
Module	MEI.mensural
Available in	model.sectionPart.mensuralAndNeumes
Members	
Declaration	`<classes> <memberOf key=" model.sectionPart.mensuralAndNeumes" /> </classes>`

model.sectionPart.mensuralAndNeumes

model.sectionPart.mensuralAndNeumes Groups elements that may appear as part of a section in the neume repertoire.	
Module	MEI.shared
Available in	model.sectionPart
Members	model.sectionPart.mensural (no elements directly inheriting from this class)

	model.sectionPart.neumes (no elements directly inheriting from this class) abbr, add, corr, damage, del, expan, orig, ossia, reg, restore, sic, staff, supplied, unclear (via model.staffLike)

Declaration	`<classes>`
	`<memberOf key=" model.sectionPart" />`
	`</classes>`

model.sectionPart.neumes

model.sectionPart.neumes Groups elements that may appear as part of a section in the neume repertoire.	
Module	MEI.neumes
Available in	model.sectionPart.mensuralAndNeumes
Members	

Declaration	`<classes>`
	`<memberOf key=" model.sectionPart.mensuralAndNeumes" />`
	`</classes>`

model.staffDefLike

model.staffDefLike Groups elements that permit declaration of staff properties.	
Module	MEI.shared
Available in	model.scorePart, model.sectionPart, model.staffPart.mensuralAndNeumes, model.layerPart.mensuralAndNeumes measure, staffGrp, syllable
Members	staffDef (direct member of model.staffDefLike)

Declaration	`<classes>`
	`<memberOf key=" model.scorePart" />`
	`<memberOf key=" model.sectionPart" />`

	<classes> <memberOf key=" model.staffPart.mensuralAndNeumes" /> <memberOf key=" model.layerPart.mensuralAndNeumes" /> </classes>

model.staffDefPart

model.staffDefPart Groups elements that may appear more than once in the declaration of staff features.	
Module	MEI.shared
Available in	staffDef
Members	clef, clefGrp (direct members of model.staffDefPart) keySig, scoreDef (via model.keySigLike) meterSig, meterSigGrp, scoreDef (via model.meterSigLike) mensur, proport (via model.staffDefPart.mensural)

model.staffDefPart.mensural

model.staffDefPart.mensural Groups elements that may appear more than once in the declaration of staff features.	
Module	MEI.mensural
Available in	model.staffDefPart
Members	mensur, proport (direct members of model.staffDefPart.mensural)
Declaration	<classes> <memberOf key=" model.staffDefPart" /> </classes>

model.staffGrpLike

model.staffGrpLike Groups elements that permit declaration of staff group properties.	
Module	MEI.shared

Available in	lem, rdg, scoreDef, staffGrp, syllable
Members	staffGrp (direct member of model.staffGrpLike)

model.staffLike

model.staffLike Groups elements that function like staves.	
Module	MEI.shared
Available in	model.sectionPart.mensuralAndNeumes, model.measurePart abbr, add, corr, damage, del, expan, orig, ossia, reg, restore, sic, supplied, unclear
Members	staff (direct member of model.staffLike)

Declaration	`<classes>`
	`<memberOf key=" model.sectionPart.mensuralAndNeumes" />`
	`<memberOf key=" model.measurePart" />`
	`</classes>`

model.staffPart

model.staffPart Groups elements that are components of a staff.	
Module	MEI.shared
Available in	staff
Members	abbr, add, corr, damage, del, expan, layer, orig, ossia, reg, restore, sic, supplied, unclear (via model.layerLike) ossia (via model.ossiaLike) model.staffPart.mensuralAndNeumes (no elements directly inheriting from this class) scoreDef, syllable (via model.scoreDefLike) measure, staffDef, staffGrp, syllable (via model.staffDefLike) model.staffPart.mensural (no elements directly inheriting from this class) model.staffPart.neumes (no elements directly inheriting from this class)

model.staffPart.mensural

model.staffPart.mensural Groups elements that are components of a staff in the mensural repertoire.

Module	MEI.mensural
Available in	model.staffPart.mensuralAndNeumes
Members	
Declaration	<classes> <memberOf key=" model.staffPart.mensuralAndNeumes" /> </classes>

model.staffPart.mensuralAndNeumes

model.staffPart.mensuralAndNeumes Groups elements that are components of a staff in the mensural and neume repertoires.	
Module	MEI.shared
Available in	model.staffPart
Members	scoreDef, syllable (via model.scoreDefLike) measure, staffDef, staffGrp, syllable (via model.staffDefLike) model.staffPart.mensural (no elements directly inheriting from this class) model.staffPart.neumes (no elements directly inheriting from this class)
Declaration	<classes> <memberOf key=" model.staffPart" /> </classes>

model.staffPart.neumes

model.staffPart.neumes Groups elements that are components of a staff in the neume repertoire.	
Module	MEI.neumes
Available in	model.staffPart.mensuralAndNeumes
Members	

Declaration	

```
<classes>
 <memberOf key=" model.staffPart.mensuralAndNeumes" />
</classes>
```

model.startLike.corpus

model.startLike.corpus Groups elements that may be document elements when the corpus module is invoked.	
Module	MEI.corpus
Available in	
Members	meiCorpus (direct member of model.startLike.corpus)

model.startLike.header

model.startLike.header Groups elements that may be document elements when the header module is invoked.	
Module	MEI.header
Available in	
Members	meiHead (direct member of model.startLike.header)

model.sylLike

model.sylLike Groups elements that contain a lyric syllable.	
Module	MEI.lyrics
Available in	model.syllablePart, model.rdgPart.critapp note, verse
Members	syl (direct member of model.sylLike)
Declaration	

```
<classes>
 <memberOf key=" model.syllablePart" />
 <memberOf key=" model.rdgPart.critapp" />
```

	`</classes>`

model.syllableLike

model.syllableLike Groups elements that accommodate neumed text.	
Module	MEI.neumes
Available in	model.layerPart.neumes, model.rdgPart.critapp
Members	syllable (direct member of model.syllableLike)

Declaration	`<classes>`
	`<memberOf key=" model.layerPart.neumes" />`
	`<memberOf key=" model.rdgPart.critapp" />`
	`</classes>`

model.syllablePart

model.syllablePart Groups elements that may appear as part of content of a syllable.	
Module	MEI.neumes
Available in	syllable
Members	abbr, add, bend, corr, damage, del, dir, dynam, expan, gliss, orig, ornam, phrase, reg, restore, sic, supplied, tempo, unclear (via model.controleventLike) arpeg, beamSpan, breath, cpMark, fermata, hairpin, harpPedal, octave, pedal, reh, slur, tie, tupletSpan (via model.controleventLike.cmn) mordent, trill, turn (via model.ornamentLike.cmn) model.controleventLike.harmony (no elements directly inheriting from this class) harm (via model.harmLike) fing, fingGrp (via model.fingeringLike) abbr, add, barLine, beam, chord, clef, clefGrp, corr, custos, damage, del, expan, ineume, note, orig, pad, reg, rest, restore, sic, space, supplied, tuplet, unclear, uneume (via model.eventLike) beam, beatRpt, bTrem, fTrem, halfmRpt, tuplet (via model.eventLike.cmn) ligature, mensur, proport (via model.eventLike.mensural) keySig, scoreDef (via model.keySigLike)

	meterSig, meterSigGrp, scoreDef (via model.meterSigLike) abbr, add, corr, damage, del, expan, ineume, orig, reg, restore, sic, supplied, unclear, uneume (via model.eventLike.neumes) abbr, add, corr, damage, del, expan, lyrics, orig, reg, restore, sic, supplied, unclear (via model.lyricsLike) abbr, add, corr, damage, del, expan, midi, orig, reg, restore, sic, supplied, unclear (via model.midiLike) abbr, accid, add, artic, corr, damage, del, dot, expan, note, orig, reg, restore, sic, supplied, unclear (via model.noteModifierLike) note, syl, verse (via model.sylLike) ineume, lyrics, note, supplied, uneume, verse (via model.verseLike)

model.symbolTableLike

model.symbolTableLike Groups elements that group symbol definitions.	
Module	MEI.usersymbols
Available in	scoreDef
Members	symbolTable (direct member of model.symbolTableLike)

model.tableLike

model.tableLike Groups table-like elements.	
Module	MEI.figtable
Available in	model.paracontentPart, model.textcomponentLike event
Members	table (direct member of model.tableLike)

Declaration	`<classes>`
	`<memberOf key=" model.paracontentPart" />`
	`<memberOf key=" model.textcomponentLike" />`
	`</classes>`

model.textcomponentLike

model.textcomponentLike Groups block-level text elements.	
Module	MEI.shared
Available in	model.rdgPart.text annot, div, figDesc, history, li, pgDesc, pgFoot, pgFoot2, pgHead, pgHead2, td, th, titlePage
Members	incipText, lg (via model.lgLike) biblList, castList, eventList, list (via model.listLike) application, changeDesc, contents, correction, editorialDecl, event, incipText, interpretation, normalization, p, physDesc, projectDesc, samplingDecl, segmentation, series, stdVals (via model.pLike) quote (via model.quoteLike) event, table (via model.tableLike)

Declaration	`<classes>`
	`<memberOf key=" model.rdgPart.text" />`
	`</classes>`

model.textphraseLike

model.textphraseLike Phrase-level text elements.	
Module	MEI.shared
Available in	model.paracontentPart abbr, add, addName, addrLine, annot, bibl, bloc, caption, contentItem, corpName, corr, country, damage, date, del, district, expan, famName, foreName, genName, geogFeat, geogName, head, identifier, imprint, l, li, name, nameLink, num, orig, periodName, persName, ref, reg, region, rend, restore, roleName, settlement, sic, street, styleName, supplied, td, th, title, unclear
Members	pb (via model.pbLike) accessRestrict, actor, anchoredText, arranger, audience, author, biblScope, byline, captureMode, carrierForm, composer, condition, context, cpMark, depth, desc, dimensions, dir, distributor, dynam, edition, editor, exhibHist, extent, f, figDesc, fing, funder, genre, gliss, hand, harm, height, inscription, label, language, librettist, line, lyricist, octave, ornam, otherChar, perfDuration, pgFoot, pgFoot2, pgHead, pgHead2, physMedium, plateNum, playingSpeed, price, provenance, publisher, pubPlace, recipient, repository, role, roleDesc, soundChan, specRepro, sponsor, stack, syl, symbol, sysReq, tempo, term, textLang, trackConfig, treatHist, treatSched, useRestrict, watermark, width (via model.textphraseLike.limited)

	address, eventList (via model.addressLike) address, postBox, postCode, street (via model.addressPart) bloc, country, district, geogFeat, region, settlement (via model.geogNamePart) annot, ending, layer, lem, measure, notesStmt, part, perfMedium, pgDesc, rdg, score, section, staff, syllable, symbolDef (via model.annotLike) bibl, biblList, relatedItem (via model.biblLike) change, date, eventList (via model.dateLike) abbr, expan (via model.editorialLike) fig, titlePage (via model.figureLike) expression, identifier, item, physLoc, series, seriesStmt, source, work (via model.identifierLike) altId, classCode, lb, reh, verse (via model.lbLike) application, pgDesc, ptr, ref, series (via model.locrefLike) model.measurementLike (no elements directly inheriting from this class) num (via model.numLike) creation, name, respStmt (via model.nameLike) corpName, eventList, persName (via model.nameLike.agent) model.nameLike.place (no elements directly inheriting from this class) eventList, geogName (via model.nameLike.geogName) physLoc, repository (via model.repositoryLike) periodName, styleName (via model.nameLike.label) altId, classCode, reh, rend, stack (via model.rendLike) series, seriesStmt, title, titleStmt (via model.titleLike)

Declaration	`<classes>`
	`<memberOf key=" model.paracontentPart" />`
	`</classes>`

model.textphraseLike.limited

model.textphraseLike.limited Groups textual elements that occur as part of the representation of the score, as opposed to the textual matter which accompanies it. This class is equivalent to the model.textphraseLike class without the pb element.	
Module	MEI.shared
Available in	model.rdgPart.text, model.textphraseLike accessRestrict, actor, anchoredText, arranger, audience, author, biblScope, byline, captureMode, carrierForm, composer, condition, context, cpMark, depth, desc, dimensions, dir, distributor, dynam, edition, editor, exhibHist, extent, f, figDesc, fing, funder, genre, gliss, hand, harm, height, inscription, label, language, librettist, line, lyricist, octave, ornam, otherChar, perfDuration, pgFoot, pgFoot2, pgHead, pgHead2, physMedium, plateNum, playingSpeed, price, provenance, publisher,

	pubPlace, recipient, repository, role, roleDesc, soundChan, specRepro, sponsor, stack, syl, sysReq, tempo, term, textLang, trackConfig, treatHist, treatSched, useRestrict, watermark, width
Members	symbol (direct member of model.textphraseLike.limited) address, eventList (via model.addressLike) address, postBox, postCode, street (via model.addressPart) bloc, country, district, geogFeat, region, settlement (via model.geogNamePart) annot, ending, layer, lem, measure, notesStmt, part, perfMedium, pgDesc, rdg, score, section, staff, syllable, symbolDef (via model.annotLike) bibl, biblList, relatedItem (via model.biblLike) change, date, eventList (via model.dateLike) abbr, expan (via model.editorialLike) fig, titlePage (via model.figureLike) expression, identifier, item, physLoc, series, seriesStmt, source, work (via model.identifierLike) altId, classCode, lb, reh, verse (via model.lbLike) application, pgDesc, ptr, ref, series (via model.locrefLike) model.measurementLike (no elements directly inheriting from this class) num (via model.numLike) creation, name, respStmt (via model.nameLike) corpName, eventList, persName (via model.nameLike.agent) model.nameLike.place (no elements directly inheriting from this class) eventList, geogName (via model.nameLike.geogName) physLoc, repository (via model.repositoryLike) periodName, styleName (via model.nameLike.label) altId, classCode, reh, rend, stack (via model.rendLike) series, seriesStmt, title, titleStmt (via model.titleLike)
Declaration	<classes> <memberOf key=" model.rdgPart.text" /> <memberOf key=" model.textphraseLike" /> </classes>

model.titleLike

model.titleLike Groups elements that denote names of a bibliographic item.	
Module	MEI.shared
Available in	model.textphraseLike.limited, model.titlePagePart series, seriesStmt, titleStmt
Members	title (direct member of model.titleLike)

Declaration	<classes> <memberOf key=" model.textphraseLike.limited" /> <memberOf key=" model.titlePagePart" /> </classes>

model.titlePagePart

model.titlePagePart Groups elements that may appear as part of a title page transcription.	
Module	MEI.shared
Available in	titlePage
Members	byline, imprint, series (direct members of model.titlePagePart) change, date, eventList (via model.dateLike) arranger, author, byline, composer, editor, funder, librettist, lyricist, sponsor (via model.respLikePart) series, seriesStmt, title, titleStmt (via model.titleLike)

model.transcriptionLike

model.transcriptionLike Groups elements used for editorial transcription of pre-existing source materials.	
Module	MEI.edittrans
Available in	model.paracontentPart abbr, add, addName, addrLine, anchoredText, annot, beam, bloc, caption, chord, contentItem, corpName, corr, country, cpMark, damage, del, desc, dir, district, dynam, ending, expan, f, famName, fb, fing, fingGrp, foreName, genName, geogFeat, geogName, harm, head, identifier, ineume, inscription, l, label, layer, lem, li, measure, name, nameLink, note, num, orig, ornam, part, periodName, persName, pgFoot, pgFoot2, pgHead, pgHead2, postBox, postCode, rdg, reg, region, rend, rest, restore, roleName, score, section, settlement, sic, staff, street, styleName, subst, supplied, syl, syllable, td, tempo, th, title, tuplet, unclear, uneume
Members	add, corr, damage, del, gap, handShift, orig, reg, restore, sic, supplied, unclear (direct members of model.transcriptionLike)
Declaration	<classes>

	`<memberOf key=" model.paracontentPart" /> </classes>`

model.verseLike

model.verseLike Groups elements that contain a lyric verse.	
Module	MEI.lyrics
Available in	model.syllablePart, model.rdgPart.critapp ineume, lyrics, note, supplied, uneume
Members	verse (direct member of model.verseLike)
Declaration	`<classes> <memberOf key=" model.syllablePart" /> <memberOf key=" model.rdgPart.critapp" /> </classes>`

model.workIdent

model.workIdent Groups elements that assist in the identification of a work.	
Module	MEI.header
Available in	expression, work
Members	key, mensuration, meter, tempo (direct members of model.workIdent) incip (via model.incipLike)

model.workLike

model.workLike Collects worklike elements.	
Module	MEI.header
Available in	componentGrp

Members	work (direct member of model.workLike)

Attribute Classes

att.accid.anl

att.accid.anl Analytical domain attributes.	
Module	MEI.shared
Members	accid (direct member of att.accid.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.accid.ges

att.accid.ges Gestural domain attributes.	
Module	MEI.shared
Members	accid (direct member of att.accid.ges)

Attributes	@accid.ges *(optional)* Records the performed pitch inflection. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.accidental.performed]
Declaration	<classes> <memberOf key= " att.accidental.performed" /> </classes>

att.accid.log

att.accid.log Logical domain attributes.	
Module	MEI.shared
Members	accid (direct member of att.accid.log)
Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @func *(optional)* Records the function of an accidental. Allowed values are: " caution" *(Cautionary accidental.)*, " edit" *(Editorial accidental.)* [att.accid.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed]

	@tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.accidental" /> <memberOf key=" att.controlevent" /> </classes> <attDef ident= "func" usage= "opt"> <desc>Records the function of an accidental. </desc> <valList type= "closed"> <valItem ident= "caution"> <desc>Cautionary accidental. </desc> </valItem> <valItem ident= "edit"> <desc>Editorial accidental. </desc> </valItem> </valList> </attDef>

att.accid.vis

att.accid.vis Visual domain attributes.	
Module	MEI.shared
Members	accid (direct member of att.accid.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography]

	@fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.enclosingchars" />`
	`<memberOf key=" att.extsym" />`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.staffloc" />`
	`<memberOf key=" att.typography" />`

	<memberOf key=" att.visualoffset.ho" /> <memberOf key=" att.visualoffset.vo" /> <memberOf key=" att.xy" /> <memberOf key=" att.accid.vis.mensural" /> </classes>

att.accid.vis.mensural

att.accid.vis.mensural Visual domain attributes.	
Module	MEI.mensural
Members	accid (via att.accid.vis)
Attributes	@oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched]
Declaration	<classes> <memberOf key=" att.staffloc.pitched" /> </classes>

att.accidental

att.accidental Attributes for capturing momentary pitch inflection.	
Module	MEI.shared
Members	accid (via att.accid.log) keyAccid (via att.keyAccid.log) key, keySig (via att.keySig.log) note (via att.note.log)
Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental]

Declaration	`<attDef ident= "accid" usage= "opt">`
	`<desc>Captures a written accidental. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.ACCIDENTAL.EXPLICIT" />`
	`</datatype>`
	`</attDef>`

att.accidental.performed

att.accidental.performed Attributes for capturing momentary pitch inflection in the gestural domain.	
Module	MEI.shared
Members	chordMember (direct member of att.accidental.performed) accid (via att.accid.ges) note (via att.note.ges)
Attributes	@accid.ges *(optional)* Records the performed pitch inflection. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.accidental.performed]

Declaration	`<attDef ident= "accid.ges" usage= "opt">`
	`<desc>Records the performed pitch inflection. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.ACCIDENTAL.IMPLICIT" />`
	`</datatype>`
	`<constraintSpec ident= "check_accid_duplication" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "@accid.ges">`
	`<sch:assert role= "warning" test= "not(. eq ../@accid)"> The value of @accid.ges should not duplicate the value of @accid. </sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	The value of @accid.ges should not duplicate the value of @accid. `<sch:rule context= "@accid.ges">`

	<sch:assert role= "warning" test= "not(. eq ../@accid)"> The value of @accid.ges should not duplicate the value of @accid. </sch:assert> </sch:rule>

att.agentident

att.agentident Attributes for the identification of a causative agent.	
Module	MEI.edittrans
Members	damage, supplied, unclear (direct members of att.agentident)
Attributes	@agent *(optional)* Signifies the causative agent of damage, illegibility, or other loss of original text. Value of datatype **string**. [att.agentident]
Declaration	<attDef ident= "agent" usage= "opt"> <desc>Signifies the causative agent of damage, illegibility, or other loss of original text. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "string"/> </datatype> </attDef>

att.alignment

att.alignment Temporal alignment attributes.	
Module	MEI.performance
Members	anchoredText, cc, chan, chanPr, cue, curve, fb, hex, marker, metaText, noteOff, noteOn, port, prog, seqNum, symbol, trkName, vel (via att.common.anl) accid (via att.accid.anl) annot (via att.annot.anl) arpeg (via att.arpeg.anl) artic (via att.artic.anl) barLine (via att.barLine.anl) beam (via att.beam.anl) beamSpan (via att.beamSpan.anl) beatRpt (via att.beatRpt.anl)

	bend (via att.bend.anl) breath (via att.breath.anl) bTrem (via att.bTrem.anl) chord (via att.chord.anl) clef (via att.clef.anl) clefGrp (via att.clefGrp.anl) cpMark (via att.cpMark.anl) custos (via att.custos.anl) dir (via att.dir.anl) dot (via att.dot.anl) dynam (via att.dynam.anl) ending (via att.ending.anl) f (via att.f.anl) fermata (via att.fermata.anl) fing (via att.fing.anl) fingGrp (via att.fingGrp.anl) fTrem (via att.fTrem.anl) gliss (via att.gliss.anl) grpSym (via att.grpSym.anl) hairpin (via att.hairpin.anl) halfmRpt (via att.halfmRpt.anl) harm (via att.harm.anl) harpPedal (via att.harpPedal.anl) ineume (via att.ineume.anl) keyAccid (via att.keyAccid.anl) keySig (via att.keySig.anl) layer (via att.layer.anl) ligature (via att.ligature.anl) lyrics (via att.lyrics.anl) measure (via att.measure.anl) mensur (via att.mensur.anl) meterSig (via att.meterSig.anl) meterSigGrp (via att.meterSigGrp.anl) midi (via att.midi.anl) mordent (via att.mordent.anl) mRest (via att.mRest.anl) mRpt (via att.mRpt.anl) mRpt2 (via att.mRpt2.anl) mSpace (via att.mSpace.anl) multiRest (via att.multiRest.anl) multiRpt (via att.multiRpt.anl) note (via att.note.anl) octave (via att.octave.anl) ornam (via att.ornam.anl)

	ossia (via att.ossia.anl) part (via att.part.anl) parts (via att.parts.anl) pb (via att.pb.anl) pedal (via att.pedal.anl) phrase (via att.phrase.anl) proport (via att.proport.anl) lem, rdg (via att.rdg.anl) reh (via att.reh.anl) rest (via att.rest.anl) sb (via att.sb.anl) score (via att.score.anl) section (via att.section.anl) slur (via att.slur.anl) space (via att.space.anl) staff (via att.staff.anl) syl (via att.syl.anl) tempo (via att.tempo.anl) tie (via att.tie.anl) trill (via att.trill.anl) tuplet (via att.tuplet.anl) tupletSpan (via att.tupletSpan.anl) turn (via att.turn.anl) uneume (via att.uneume.anl) verse (via att.verse.anl)
Attributes	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<attDef ident= "when" usage= "opt">`
	`<desc>Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a`
	`<gi scheme= "MEI"> when </gi>`
	`element elsewhere in the document. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.URI" />`
	`</datatype>`
	`</attDef>`

Constraints	@when attribute should have content. A value in @when should correspond to the @xml:id attribute of a when element.

	<sch:rule context= "@when"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @when attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:when/@xml:id"> A value in @when should correspond to the @xml:id attribute of a when element. </sch:assert> </sch:rule>

att.altsym

att.altsym Attributes supplying pointers to user-defined symbols.	
Module	MEI.usersymbols
Members	symbol (direct member of att.altsym) accid (via att.accid.vis) arpeg (via att.arpeg.vis) artic (via att.artic.vis) beatRpt (via att.beatRpt.vis) breath (via att.breath.vis) chord (via att.chord.vis) clef (via att.clef.vis) cpMark (via att.cpMark.vis) custos (via att.custos.vis) dot (via att.dot.vis) f (via att.f.vis) fermata (via att.fermata.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) gliss (via att.gliss.vis) grpSym (via att.grpSym.vis) halfmRpt (via att.halfmRpt.vis) harpPedal (via att.harpPedal.vis) ineume (via att.ineume.vis) keyAccid (via att.keyAccid.vis) mensur (via att.mensur.vis) meterSig (via att.meterSig.vis) mordent (via att.mordent.vis) mRest (via att.mRest.vis) mRpt (via att.mRpt.vis) mRpt2 (via att.mRpt2.vis) mSpace (via att.mSpace.vis)

	multiRest (via att.multiRest.vis) multiRpt (via att.multiRpt.vis) note (via att.note.vis) pedal (via att.pedal.vis) proport (via att.proport.vis) rest (via att.rest.vis) sb (via att.sb.vis) trill (via att.trill.vis) turn (via att.turn.vis) uneume (via att.uneume.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym]

Declaration	`<attDef ident= "altsym" usage= "opt">`
	`<desc>Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.URI" />`
	`</datatype>`
	`<constraintSpec ident= "check_altsymTarget" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "@altsym">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @altsym attribute should have content. </sch:assert>`
	`<sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:symbolDef/@xml:id"> The value in @altsym should correspond to the @xml:id attribute of a symbolDef element. </sch:assert>`
	`<sch:assert test= "not(substring(., 2) eq ancestor::mei:symbolDef/@xml:id)"> The value in @altsym must not correspond to the @xml:id attribute of a symbolDef ancestor. </sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	@altsym attribute should have content. The value in @altsym should correspond to the @xml:id attribute of a symbolDef element. The value in @altsym must not correspond to the @xml:id attribute of a symbolDef ancestor. `<sch:rule context= "@altsym">`

	<sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @altsym attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:symbolDef/@xml:id"> The value in @altsym should correspond to the @xml:id attribute of a symbolDef element. </sch:assert> <sch:assert test= "not(substring(., 2) eq ancestor::mei:symbolDef/@xml:id)"> The value in @altsym must not correspond to the @xml:id attribute of a symbolDef ancestor. </sch:assert> </sch:rule>

att.annot.anl

att.annot.anl Analytical domain attributes.	
Module	MEI.shared
Members	annot (direct member of att.annot.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" />

	`</classes>`

att.annot.ges

att.annot.ges Gestural domain attributes.	
Module	MEI.shared
Members	annot (direct member of att.annot.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]

Declaration	`<classes>`
	`<memberOf key= " att.duration.performed" />`
	`</classes>`

att.annot.log

att.annot.log Logical domain attributes for annot. Values for the type attribute can be taken from any convenient typology of annotation suitable to the work in hand; e.g. annotation, gloss, citation, digression, preliminary, temporary, etc.	
Module	MEI.shared
Members	annot (direct member of att.annot.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive]

	@endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.layerident" /> <memberOf key=" att.staffident" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp.musical" /> <memberOf key=" att.timestamp2.musical" /> <memberOf key=" att.timestamp.performed" /> </classes>

att.annot.vis

att.annot.vis Visual domain attributes.	
Module	MEI.shared
Members	annot (direct member of att.annot.vis)
Attributes	

att.arpeg.anl

att.arpeg.anl Analytical domain attributes.	
Module	MEI.cmn
Members	arpeg (direct member of att.arpeg.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.arpeg.ges

att.arpeg.ges Gestural domain attributes.	
Module	MEI.cmn
Members	arpeg (direct member of att.arpeg.ges)
Attributes	

att.arpeg.log

att.arpeg.log Logical domain attributes.	
Module	MEI.cmn
Members	arpeg (direct member of att.arpeg.log)
Attributes	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @order *(optional)* Describes the direction in which an arpeggio is to be performed. Allowed values are: " up" *(Lowest to highest pitch.)*, " down" *(Highest to lowest pitch.)*, " nonarp" *(Non-arpeggiated style (usually rendered with a preceding bracket instead of a wavy line).)* [att.arpeg.log] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`<memberOf key=" att.controlevent" />`
	`<memberOf key=" att.startid" />`
	`</classes>`


```
<attDef ident= "order" usage= "opt">
 <desc>Describes the direction in which an arpeggio is to be performed.
 </desc>
 <valList type= "closed">
   <valItem ident= "up">
     <desc>Lowest to highest pitch. </desc>
   </valItem>
   <valItem ident= "down">
     <desc>Highest to lowest pitch. </desc>
   </valItem>
   <valItem ident= "nonarp">
     <desc>Non-arpeggiated style (usually rendered with a preceding
     bracket instead of a wavy line). </desc>
   </valItem>
 </valList>
</attDef>
```

att.arpeg.vis

att.arpeg.vis Visual domain attributes.	
Module	MEI.cmn
Members	arpeg (direct member of att.arpeg.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @arrow *(optional)* Indicates if an arrowhead is to be drawn as part of the arpeggiation symbol. Value conforms to data.BOOLEAN . [att.arpeg.vis] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography]

	@glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.extsym" />`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.xy" />`
	`</classes>`
	
	`<attDef ident= "arrow" usage= "opt">`
	`<desc>Indicates if an arrowhead is to be drawn as part of the arpeggiation symbol. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`

att.artic.anl

att.artic.anl Analytical domain attributes.

Module	MEI.shared
Members	artic (direct member of att.artic.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.artic.ges

att.artic.ges Gestural domain attributes.	
Module	MEI.shared
Members	artic (direct member of att.artic.ges)
Attributes	@artic.ges *(optional)* Records performed articulation that differs from the written value. One or more values from data.ARTICULATION , separated by spaces. [att.articulation.performed]
Declaration	`<classes>` `<memberOf key=" att.articulation.performed" />`

	`</classes>`

att.artic.log

att.artic.log Logical domain attributes.	
Module	MEI.shared
Members	artic (direct member of att.artic.log)
Attributes	@artic *(optional)* Encodes the written articulation(s). Articulations are normally encoded in order from the note head outward; that is, away from the stem. See additional notes at att.vis.note. Only articulations should be encoded in the artic attribute; for example, fingerings should be encoded using the <fingering> element. One or more values from data.ARTICULATION , separated by spaces. [att.articulation] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	

```
<classes>
 <memberOf key=" att.articulation" />
 <memberOf key=" att.controlevent" />
</classes>
```

att.artic.vis

att.artic.vis Visual domain attributes.	
Module	MEI.shared
Members	artic (direct member of att.artic.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho]

	@loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	

```
<classes>
 <memberOf key=" att.altsym" />
 <memberOf key=" att.color" />
 <memberOf key=" att.enclosingchars" />
 <memberOf key=" att.extsym" />
 <memberOf key=" att.placement" />
 <memberOf key=" att.staffloc" />
 <memberOf key=" att.typography" />
 <memberOf key=" att.visualoffset" />
 <memberOf key=" att.xy" />
</classes>
```

att.articulation

att.articulation Attributes for capturing the written signs that describe the method of performance.	
Module	MEI.shared
Members	artic (via att.artic.log) chord (via att.chord.log) note (via att.note.log)
Attributes	@artic *(optional)* Encodes the written articulation(s). Articulations are normally encoded in order from the note head outward; that is, away from the stem. See additional notes at att.vis.note.

	Only articulations should be encoded in the artic attribute; for example, fingerings should be encoded using the <fingering> element. One or more values from data.ARTICULATION , separated by spaces. [att.articulation]
Declaration	<attDef ident= "artic" usage= "opt"> <desc>Encodes the written articulation(s). Articulations are normally encoded in order from the note head outward; that is, away from the stem. See additional notes at att.vis.note. Only articulations should be encoded in the artic attribute; for example, fingerings should be encoded using the <fingering> element. </desc> <datatype maxOccurs= "unbounded" minOccurs= "1"> <rng:ref name= " data.ARTICULATION" /> </datatype> </attDef>

att.articulation.performed

att.articulation.performed Attributes describing the method of performance.	
Module	MEI.shared
Members	artic (via att.artic.ges) chord (via att.chord.ges) note (via att.note.ges)
Attributes	@artic.ges *(optional)* Records performed articulation that differs from the written value. One or more values from data.ARTICULATION , separated by spaces. [att.articulation.performed]
Declaration	<attDef ident= "artic.ges" usage= "opt"> <desc>Records performed articulation that differs from the written value. </desc> <datatype maxOccurs= "unbounded" minOccurs= "1"> <rng:ref name= " data.ARTICULATION" /> </datatype> </attDef>

att.augmentdots

att.augmentdots Attributes that record the number of dots of augmentation.

Module	MEI.shared
Members	annot (via att.annot.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) bTrem (via att.bTrem.log) chord (via att.chord.log) dir (via att.dir.log) dynam (via att.dynam.log) f (via att.f.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) fTrem (via att.fTrem.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) mSpace (via att.mSpace.log) note (via att.note.log) octave (via att.octave.log) phrase (via att.phrase.log) rest (via att.rest.log) slur (via att.slur.log) space (via att.space.log) trill (via att.trill.log) tuplet (via att.tuplet.log) tupletSpan (via att.tupletSpan.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots]

Declaration	`<attDef ident= "dots" usage= "opt">`
	`<desc>Records the number of augmentation dots required by a dotted duration. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.AUGMENTDOT" />`
	`</datatype>`
	`<constraintSpec ident= "dots_attribute_requires_dur" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "mei:*[@dots]">`
	`<sch:assert test= "@dur"> An element with a dots attribute must also have a dur attribute. </sch:assert>`
	`</sch:rule>`

	`</constraint> </constraintSpec> </attDef>`
Constraints	An element with a dots attribute must also have a dur attribute. `<sch:rule context= "mei:*[@dots]"> <sch:assert test= "@dur"> An element with a dots attribute must also have a dur attribute. </sch:assert> </sch:rule>`

att.authorized

att.authorized Attributes that describe the source of a controlled value.	
Module	MEI.shared
Members	audience, captureMode, carrierForm, classCode, context, fingerprint, genre, identifier, language, perfMedium, perfRes, perfResList, physMedium, reg, resp, scoreFormat, soundChan, specRepro, symbol, title, trackConfig (direct members of att.authorized) addName, bloc, corpName, country, district, famName, foreName, genName, geogFeat, geogName, name, nameLink, periodName, persName, region, repository, roleName, settlement, styleName (via att.name)
Attributes	@authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized]
Declaration	`<attDef ident= "authority" usage= "opt"> <desc>A name or label associated with the controlled vocabulary from which the value is taken. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "string"/> </datatype> </attDef>` `<attDef ident= "authURI" usage= "opt">`

	<desc>The web-accessible location of the controlled vocabulary from which the value is taken. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> </attDef>

att.bTrem.anl

att.bTrem.anl Analytical domain attributes.	
Module	MEI.cmn
Members	bTrem (direct member of att.bTrem.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" /> </classes>

att.bTrem.ges

att.bTrem.ges Gestural domain attributes.	
Module	MEI.cmn
Members	bTrem (direct member of att.bTrem.ges)
Attributes	@measperf *(optional)* The performed duration of an individual note in a measured tremolo. Value conforms to data.DURATION.cmn . [att.tremmeasured]
Declaration	`<classes> <memberOf key=" att.tremmeasured" /> </classes>`

att.bTrem.log

att.bTrem.log Logical domain attributes.	
Module	MEI.cmn
Members	bTrem (direct member of att.bTrem.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @form *(optional)* Indicates whether the tremolo is measured or unmeasured. Allowed values are: " meas" *(Measured tremolo.)*, " unmeas" *(Unmeasured tremolo.)* [att.bTrem.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @num *(optional)* Records a number or count accompanying a notational feature. Value of datatype **positiveInteger**. [att.numbered] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical]

	@tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.event" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.musical" /> <memberOf key=" att.numbered" /> </classes> <attDef ident="form" usage="opt"> <desc>Indicates whether the tremolo is measured or unmeasured. </desc> <valList type="closed"> <valItem ident="meas"> <desc>Measured tremolo. </desc> </valItem> <valItem ident="unmeas"> <desc>Unmeasured tremolo. </desc> </valItem> </valList> </attDef>

att.bTrem.vis

att.bTrem.vis Visual domain attributes.	
Module	MEI.cmn
Members	bTrem (direct member of att.bTrem.vis)
Attributes	@num.place *(optional)* States where the tuplet number will be placed in relation to the note heads. Value conforms to data.PLACE . [att.numberplacement] @num.visible *(optional)* Determines if the tuplet number is visible. Value conforms to data.BOOLEAN . [att.numberplacement]
Declaration	<classes> <memberOf key=" att.numberplacement" />

	`</classes>`

att.barLine.anl

att.barLine.anl Analytical domain attributes.	
Module	MEI.shared
Members	barLine (direct member of att.barLine.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.barLine.ges

att.barLine.ges Gestural domain attributes.	
Module	MEI.shared

Members	barLine (direct member of att.barLine.ges)
Attributes	@tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical]
Declaration	`<classes> <memberOf key= " att.timestamp.musical" /> </classes>`

att.barLine.log

att.barLine.log Logical domain attributes.	
Module	MEI.shared
Members	barLine (direct member of att.barLine.log)
Attributes	@control *(optional)* Indicates whether or not a bar line is "controlling"; that is, if it indicates a point of alignment across all the parts. Bar lines within a score are usually controlling; that is, they "line up". Bar lines within parts may or may not be controlling. When applied to <measure>, this attribute indicates the nature of the right barline but not the left. Value conforms to data.BOOLEAN . [att.meterconformance.bar] @form *(optional)* Records the appearance and usually the function of the bar line. Value conforms to data.BARRENDITION . [att.barLine.log] @metcon *(optional)* Indicates the relationship between the content of a measure and the prevailing meter. Value conforms to data.BOOLEAN . [att.meterconformance.bar]
Declaration	`<classes> <memberOf key= " att.meterconformance.bar" /> </classes>` `<attDef ident= "form" usage= "opt"> <desc>Records the appearance and usually the function of the bar line. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BARRENDITION" /> </datatype> </attDef>`

att.barLine.vis

att.barLine.vis Visual domain attributes.	
Module	MEI.shared
Members	barLine (direct member of att.barLine.vis)
Attributes	@barplace *(optional)* Records the location of a bar line. Value conforms to data.BARPLACE . [att.barplacement] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @taktplace *(optional)* If takt bar lines are to be used, then the taktplace attribute may be used to denote the staff location of the shortened bar line. The location may include staff lines, spaces, and the spaces directly above and below the staff. The value ranges between 0 (just below the staff) to 2 * number of staff lines (directly above the staff). For example, on a 5-line staff the lines would be numbered 1,3,5,7, and 9 while the spaces would be numbered 0,2,4,6,8,10. For example, a value of '9' puts the bar line through the top line of a 5-line staff. Value conforms to data.STAFFLOC . [att.barplacement] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " byte" *(Byte.)*, " char" *(Character.)*, " cm" *(Centimeter.)*, " in" *(Inch.)*, " issue" *(Serial issue.)*, " mm" *(Millimeter.)*, " page" *(Page.)*, " pc" *(Pica.)*, " pt" *(Point.)*, " px" *(Pixel.)*, " record" *(Record.)*, " vol" *(Serial volume.)*, " vu" *(MEI virtual unit.)* [att.measurement] @width *(optional)* Measurement of the horizontal dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.width]
Declaration	`<classes> <memberOf key=" att.barplacement" /> <memberOf key=" att.color" /> <memberOf key=" att.measurement" /> <memberOf key=" att.width" /> </classes>`

att.barplacement

att.barplacement Attributes that capture the placement of bar lines.	
Module	MEI.shared
Members	barLine (via att.barLine.vis) measure (via att.measure.vis)

	scoreDef (via att.scoreDef.vis)
Attributes	@barplace *(optional)* Records the location of a bar line. Value conforms to data.BARPLACE . [att.barplacement] @taktplace *(optional)* If takt bar lines are to be used, then the taktplace attribute may be used to denote the staff location of the shortened bar line. The location may include staff lines, spaces, and the spaces directly above and below the staff. The value ranges between 0 (just below the staff) to 2 * number of staff lines (directly above the staff). For example, on a 5-line staff the lines would be numbered 1,3,5,7, and 9 while the spaces would be numbered 0,2,4,6,8,10. For example, a value of '9' puts the bar line through the top line of a 5-line staff. Value conforms to data.STAFFLOC . [att.barplacement]
Declaration	`<attDef ident= "barplace" usage= "opt">` `<desc>Records the location of a bar line. </desc>` `<datatype maxOccurs= "1" minOccurs= "1">` `<rng:ref name= " data.BARPLACE" />` `</datatype>` `</attDef>` `<attDef ident= "taktplace" usage= "opt">` `<desc>If takt bar lines are to be used, then the taktplace attribute may be used to denote the staff location of the shortened bar line. The location may include staff lines, spaces, and the spaces directly above and below the staff. The value ranges between 0 (just below the staff) to 2 * number of staff lines (directly above the staff). For example, on a 5-line staff the lines would be numbered 1,3,5,7, and 9 while the spaces would be numbered 0,2,4,6,8,10. For example, a value of '9' puts the bar line through the top line of a 5-line staff. </desc>` `<datatype maxOccurs= "1" minOccurs= "1">` `<rng:ref name= " data.STAFFLOC" />` `</datatype>` `</attDef>`

att.beam.anl

att.beam.anl Analytical domain attributes.	
Module	MEI.cmn
Members	beam (direct member of att.beam.anl)

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.beam.ges

att.beam.ges Gestural domain attributes.	
Module	MEI.cmn
Members	beam (direct member of att.beam.ges)
Attributes	

att.beam.log

att.beam.log Logical domain attributes.	
Module	MEI.cmn
Members	beam (direct member of att.beam.log)

Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`  <memberOf key=" att.event" />`
	`  <memberOf key=" att.beamedwith" />`
	`</classes>`

att.beam.vis

att.beam.vis Visual domain attributes.	
Module	MEI.cmn
Members	beam (direct member of att.beam.vis) beamSpan (via att.beamSpan.vis)
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @form *(optional)* Captures whether a beam is "feathered" and in which direction. Allowed values are: " **acc**" *((accelerando) indicates that the secondary beams get progressively closer together toward the end of the beam.)* , " **mixed**" *((mixed acc and rit) for beams that are "feathered" in both directions.)*, " **rit**" *((ritardando) means that the secondary beams become progressively more distant toward the end of the beam.)* , " **norm**" *((normal) indicates that the secondary beams are equidistant along the course of the beam.)* [att.beamrend] @slope *(optional)* Records the slope of the beam. Value of datatype **decimal**. [att.beamrend]

Declaration	<classes> <memberOf key=" att.color" /> <memberOf key=" att.beamrend" /> </classes>

att.beamSpan.anl

att.beamSpan.anl Analytical domain attributes.	
Module	MEI.cmn
Members	beamSpan (direct member of att.beamSpan.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.beamSpan.ges

att.beamSpan.ges Gestural domain attributes.

Module	MEI.cmn
Members	beamSpan (direct member of att.beamSpan.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	`<classes> <memberOf key= " att.duration.performed" /> </classes>`

att.beamSpan.log

att.beamSpan.log Logical domain attributes.	
Module	MEI.cmn
Members	beamSpan (direct member of att.beamSpan.log)
Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval]

	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]

Declaration	`<classes>`
	`<memberOf key=" att.controlevent" />`
	`<memberOf key=" att.augmentdots" />`
	`<memberOf key=" att.beamedwith" />`
	`<memberOf key=" att.duration.additive" />`
	`<memberOf key=" att.startendid" />`
	`<memberOf key=" att.timestamp2.musical" />`
	`</classes>`

att.beamSpan.vis

att.beamSpan.vis Visual domain attributes.	
Module	MEI.cmn
Members	beamSpan (direct member of att.beamSpan.vis)
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color]

	@form *(optional)* Captures whether a beam is "feathered" and in which direction. Allowed values are: " acc" *((accelerando) indicates that the secondary beams get progressively closer together toward the end of the beam.)* , " mixed" *((mixed acc and rit) for beams that are "feathered" in both directions.)*, " rit" *((ritardando) means that the secondary beams become progressively more distant toward the end of the beam.)* , " norm" *((normal) indicates that the secondary beams are equidistant along the course of the beam.)* [att.beamrend] @slope *(optional)* Records the slope of the beam. Value of datatype **decimal**. [att.beamrend]
Declaration	<classes> <memberOf key=" att.beam.vis" /> </classes>

att.beamed

att.beamed Attributes that indicate whether an event lies under a beam.	
Module	MEI.cmn
Members	att.chord.log.cmn (no elements directly inheriting from this class) chord (via att.chord.log) att.note.log.cmn (no elements directly inheriting from this class) note (via att.note.log) att.rest.log.cmn (no elements directly inheriting from this class) rest (via att.rest.log) att.space.log.cmn (no elements directly inheriting from this class) space (via att.space.log)
Attributes	@beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed]
Declaration	<attDef ident="beam" usage="opt"> <desc>Indicates that this event is "under a beam". </desc> <datatype maxOccurs="unbounded" minOccurs="1"> <rng:ref name=" data.BEAM" /> </datatype> </attDef>

att.beamedwith

att.beamedwith Attributes indicating cross-staff beaming.	
Module	MEI.cmn
Members	beam (via att.beam.log) beamSpan (via att.beamSpan.log) tuplet (via att.tuplet.log) tupletSpan (via att.tupletSpan.log)
Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith]

Declaration	`<attDef ident= "beam.with" usage= "opt">`
	`<desc>In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.OTHERSTAFF" />`
	`</datatype>`
	`</attDef>`

att.beaming.log

att.beaming.log Used by layerDef, staffDef, and scoreDef to provide default values for attributes in the logical domain related to beaming.	
Module	MEI.cmn
Members	att.layerDef.log.cmn (no elements directly inheriting from this class) layerDef (via att.layerDef.log) att.scoreDef.log.cmn (no elements directly inheriting from this class) scoreDef (via att.scoreDef.log) att.staffDef.log.cmn (no elements directly inheriting from this class) staffDef (via att.staffDef.log)
Attributes	@beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log]

Declaration	`<attDef ident= "beam.group" usage= "opt">`
	`<desc>Provides an example of how automated beaming (including secondary beams) is to be performed. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string"/>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "beam.rests" usage= "opt">`
	`<desc>Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`

Remarks	The @beam.group attribute can be used to set a default beaming pattern to be used when no beaming is indicated at the event level. @beam.group must contain a comma-separated list of time values that add up to a measure, e.g., in 4/4 time '4,4,4,4' indicates each quarter note worth of shorter notes would be beamed together. Parentheses can be used to indicate sub-groupings of secondary beams. For example, '(4.,4.,4.)' in 9/8 meter indicates one outer beam per measure with secondary beams broken at each dotted quarter duration, while a measure of 16th notes in 4/4 with @beam.group equal to '(4,4),(4,4)' will result in a primary beam covering all the notes and secondary beams for each group of 4 notes. This beaming "directive" can be overridden by using beam elements. If neither beam elements or the @beam.group attribute is used, then no beaming is rendered. Beaming can be explicitly 'turned off' by setting @beam.group to an empty string.

att.beaming.vis

att.beaming.vis Used by layerDef, staffDef, and scoreDef to provide default values for attributes in the visual domain related to beaming.	
Module	MEI.shared
Members	layerDef (via att.layerDef.vis) att.scoreDef.vis.cmn (no elements directly inheriting from this class) scoreDef (via att.scoreDef.vis) att.staffDef.vis.cmn (no elements directly inheriting from this class) staffDef (via att.staffDef.vis)

Attributes	@beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " acc" *(Beam lines grow farther apart from left to right.)*, " rit" *(Beam lines grow closer together from left to right.)*, " norm" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis]
Declaration	<attDef ident= "beam.color" usage= "opt"> <desc>Color of beams, including those associated with tuplets. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.COLOR" /> </datatype> </attDef> <attDef ident= "beam.rend" usage= "opt"> <desc>Encodes whether a beam is "feathered" and in which direction. </desc> <valList type= "closed"> <valItem ident= "acc"> <desc>Beam lines grow farther apart from left to right. </desc> </valItem> <valItem ident= "rit"> <desc>Beam lines grow closer together from left to right. </desc> </valItem> <valItem ident= "norm"> <desc>Beam lines are equally-spaced over the entire length of the beam. </desc> </valItem> </valList> </attDef> <attDef ident= "beam.slope" usage= "opt"> <desc>Captures beam slope. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "decimal"/> </datatype> </attDef>

att.beamrend

att.beamrend Attributes that record the visual rendition of beams.

Module	MEI.cmn
Members	beam (via att.beam.vis) beamSpan (via att.beamSpan.vis)
Attributes	@form *(optional)* Captures whether a beam is "feathered" and in which direction. Allowed values are: " acc" *((accelerando) indicates that the secondary beams get progressively closer together toward the end of the beam.)* , " mixed" *((mixed acc and rit) for beams that are "feathered" in both directions.)*, " rit" *((ritardando) means that the secondary beams become progressively more distant toward the end of the beam.)* , " norm" *((normal) indicates that the secondary beams are equidistant along the course of the beam.)* [att.beamrend] @slope *(optional)* Records the slope of the beam. Value of datatype **decimal**. [att.beamrend]

Declaration	`<attDef ident= "form" usage= "opt">`
	`<desc>Captures whether a beam is "feathered" and in which direction.`
	`</desc>`
	`<valList type= "closed">`
	`<valItem ident= "acc">`
	`<desc>(accelerando) indicates that the secondary beams get progressively closer together toward the end of the beam. </desc>`
	`</valItem>`
	`<valItem ident= "mixed">`
	`<desc>(mixed acc and rit) for beams that are "feathered" in both directions. </desc>`
	`</valItem>`
	`<valItem ident= "rit">`
	`<desc>(ritardando) means that the secondary beams become progressively more distant toward the end of the beam. </desc>`
	`</valItem>`
	`<valItem ident= "norm">`
	`<desc>(normal) indicates that the secondary beams are equidistant along the course of the beam. </desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`
	
	`<attDef ident= "slope" usage= "opt">`
	`<desc>Records the slope of the beam. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "decimal"/>`
	`</datatype>`
	`</attDef>`

att.beamsecondary

att.beamsecondary Attributes that capture information about secondary beaming.	
Module	MEI.cmn
Members	att.chord.vis.cmn (no elements directly inheriting from this class) chord (via att.chord.vis) att.note.vis.cmn (no elements directly inheriting from this class) note (via att.note.vis)
Attributes	@breaksec *(optional)* Presence of this attribute indicates that the secondary beam should be broken following this note/chord. The value of the attribute records the number of beams which should remain unbroken. Value of datatype **positiveInteger**. [att.beamsecondary]

Declaration	`<attDef ident= "breaksec" usage= "opt">`
	`<desc>Presence of this attribute indicates that the secondary beam should be broken following this note/chord. The value of the attribute records the number of beams which should remain unbroken. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "positiveInteger"/>`
	`</datatype>`
	`</attDef>`

att.beatRpt.anl

att.beatRpt.anl Analytical domain attributes.	
Module	MEI.cmn
Members	beatRpt (direct member of att.beatRpt.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key= " att.common.anl" /> </classes>`

att.beatRpt.ges

att.beatRpt.ges Gestural domain attributes.	
Module	MEI.cmn
Members	beatRpt (direct member of att.beatRpt.ges)
Attributes	

att.beatRpt.log

att.beatRpt.log Logical domain attributes.	
Module	MEI.cmn
Members	beatRpt (direct member of att.beatRpt.log)
Attributes	@beatDef *(optional)* Indicates the performed duration represented by the beatRpt symbol. Value conforms to data.DURATION.gestural . [att.beatRpt.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

	@tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.event" /> </classes> <attDef ident= "beatDef" usage= "opt"> <desc>Indicates the performed duration represented by the beatRpt symbol. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name=" data.DURATION.gestural" /> </datatype> </attDef>

att.beatRpt.vis

att.beatRpt.vis Visual domain attributes.	
Module	MEI.cmn
Members	beatRpt (direct member of att.beatRpt.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography]

	@fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(required)* Indicates the number of slashes required to render the appropriate beat repeat symbol. When a single beat is repeated, consisting of a single note or chord, it is indicated by a single thick, slanting slash; therefore, the value '1' should be used. The following values should be used when the beat is divided into even notes: 4ths or 8ths=1, 16ths=2, 32nds=3, 64ths=4, 128ths=5. When the beat is comprised of mixed duration values, the symbol is always rendered as 2 slashes and 2 dots. Value conforms to data.BEATRPT.REND . [att.beatRpt.vis] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.expandable" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> </classes> <attDef ident="form" usage="req"> <desc>Indicates the number of slashes required to render the appropriate beat repeat symbol. When a single beat is repeated, consisting of a single note or chord, it is indicated by a single thick, slanting slash; therefore, the value '1' should be used. The following values should be used when the beat is divided into even notes: 4ths or 8ths=1, 16ths=2, 32nds=3, 64ths=4, 128ths=5. When the beat is comprised of mixed duration values, the symbol is always rendered as 2 slashes and 2 dots. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.BEATRPT.REND" /> </datatype> </attDef>

att.bend.anl

att.bend.anl Analytical domain attributes.	
Module	MEI.cmn
Members	bend (direct member of att.bend.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.bend.ges

att.bend.ges Gestural domain attributes.	
Module	MEI.cmn
Members	bend (direct member of att.bend.ges)
Attributes	@amount *(optional)* Records the amount of detuning. The decimal values should be rendered as a fraction (or an integer plus a fraction) along with the bend symbol. Value conforms to data.BEND.AMOUNT . [att.bend.ges]

Declaration	

```
<attDef ident= "amount" usage= "opt">
 <desc>Records the amount of detuning. The decimal values should be
 rendered as a fraction (or an integer plus a fraction) along with the
 bend symbol. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.BEND.AMOUNT" />
 </datatype>
</attDef>
```

att.bend.log

att.bend.log Logical domain attributes.	
Module	MEI.cmn
Members	bend (direct member of att.bend.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident]

	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.bend.vis

att.bend.vis Visual domain attributes. If the bulge or bezier attributes are present, the bend should be rendered as a curve. Otherwise, it should be rendered using lines. The ho and vo attributes describe the visual offset of the entire rendered bend. The endho, endvo and startho, startvo attribute pairs may be used to encode start and end points relative to their programmatic placement. For exact placement of the endpoints of the bend, use the x and y attributes.	
Module	MEI.cmn
Members	bend (direct member of att.bend.vis)
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the

	line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]

Declaration	`<classes> <memberOf key=" att.color" /> <memberOf key=" att.visualoffset" /> <memberOf key=" att.visualoffset2" /> <memberOf key=" att.xy" /> <memberOf key=" att.xy2" /> <memberOf key=" att.curvature" /> <memberOf key=" att.curverend" /> </classes>`

att.bibl

att.bibl Bibliographic attributes.	
Module	MEI.shared
Members	accessRestrict, addName, altId, annot, arranger, audience, author, availability, avFile, bibl, biblList, biblScope, bloc, byline, captureMode, carrierForm, castItem, castList, change, changeDesc, classCode, classification, composer, condition, contentItem, contents, context, corpName, correction, country, creation, date, depth, dimensions, distributor, district, edition, editionStmt, editor, editorialDecl, encodingDesc, event, eventList, exhibHist, expression, extent, famName, fileChar, fileDesc, fingerprint, foreName, funder, genName, genre, geogFeat, geogName, hand, handList, height, history, identifier, imprint, incip, incipCode, incipText, inscription, interpretation, item, key, language, langUsage, librettist, lyricist, meiHead, mensuration, meter, name, normalization, nameLink, notesStmt, otherChar, perfDuration, perfMedium, perfRes, perfResList, periodName, persName, physDesc, physLoc, physMedium, plateNum, playingSpeed, price, projectDesc, provenance, publisher, pubPlace, pubStmt, recipient, region, relatedItem, relation, repository, resp, respStmt, revisionDesc, roleName, samplingDecl, scoreFormat, segmentation, series, seriesStmt, settlement, soundChan, source, specRepro, sponsor, stdVals, styleName, sysReq, tempo, term, termList, textLang, title, titlePage, titleStmt, trackConfig, treatHist, treatSched, unpub, useRestrict, watermark, width, work (direct members of att.bibl)
Attributes	@analog *(optional)* Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. Value of datatype **string**. [att.bibl]
Declaration	`<attDef ident= "analog" usage= "opt"> <desc>Contains a reference to a field or element in another descriptive encoding system to which this MEI element is comparable. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "string"/>`

	`</datatype>` `</attDef>`
Remarks	Mapping elements from one system to another via @analog may help a repository harvest selected data from the MEI file to build a basic catalog record. The encoding system from which fields are taken must be specified. When possible, subfields as well as fields should be specified, e.g., subfields within MARC fields.

att.breath.anl

att.breath.anl Analytical domain attributes.	
Module	MEI.cmn
Members	breath (direct member of att.breath.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.breath.ges

att.breath.ges Gestural domain attributes.	
Module	MEI.cmn
Members	breath (direct member of att.breath.ges)
Attributes	

att.breath.log

att.breath.log Logical domain attributes.	
Module	MEI.cmn
Members	breath (direct member of att.breath.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident]

	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.breath.vis

att.breath.vis Visual domain attributes.	
Module	MEI.cmn
Members	breath (direct member of att.breath.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography]

	@fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.extsym" />`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.xy" />`
	`</classes>`

att.calendared

att.calendared Attributes that indicate the calendar system of a date or other datable element.

Module	MEI.shared
Members	date, event (direct members of att.calendared)
Attributes	@calendar *(optional)* Indicates the calendar system to which a date belongs, for example, Gregorian, Julian, Roman, Mosaic, Revolutionary, Islamic, etc. Value of datatype NMTOKEN. [att.calendared]

Declaration	`<attDef ident= "calendar" usage= "opt">`
	`<desc>Indicates the calendar system to which a date belongs, for example, Gregorian, Julian, Roman, Mosaic, Revolutionary, Islamic, etc.</desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "NMTOKEN"/>`
	`</datatype>`
	`</attDef>`

att.canonical

att.canonical Attributes that can be used to associate a representation such as a name or title with canonical information about the object being named or referenced.	
Module	MEI.shared
Members	perfRes, perfResList, resp, title (direct members of att.canonical) addName, bloc, corpName, country, district, famName, foreName, genName, geogFeat, geogName, name, nameLink, periodName, persName, region, repository, roleName, settlement, styleName (via att.name)
Attributes	@codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype NMTOKEN, separated by spaces. [att.canonical]

Declaration	`<attDef ident= "codedval" usage= "opt">`
	`<desc>a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. </desc>`
	`<datatype maxOccurs= "unbounded" minOccurs= "1">`
	`<rng:data type= "NMTOKEN"/>`
	`</datatype>`
	`</attDef>`

att.channelized

att.channelized Attributes that record MIDI channel information.	
Module	MEI.midi
Members	instrDef (direct member of att.channelized) scoreDef (via att.scoreDef.ges)
Attributes	@midi.channel *(optional)* Records a MIDI channel value. Value conforms to data.MIDICHANNEL . [att.channelized] @midi.duty *(optional)* Specifies the 'on' part of the duty cycle as a percentage of a note's duration. Value conforms to data.PERCENT . [att.channelized] @midi.port *(optional)* Sets the MIDI port value. Value conforms to data.MIDIVALUE . [att.channelized] @midi.track *(optional)* Sets the MIDI track. Value of datatype **positiveInteger**. [att.channelized]
Declaration	<attDef ident= "midi.channel" usage= "opt"> <desc>Records a MIDI channel value. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDICHANNEL" /> </datatype> </attDef> <attDef ident= "midi.duty" usage= "opt"> <desc>Specifies the 'on' part of the duty cycle as a percentage of a note's duration. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.PERCENT" /> </datatype> </attDef> <attDef ident= "midi.port" usage= "opt"> <desc>Sets the MIDI port value. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDIVALUE" /> </datatype> </attDef> <attDef ident= "midi.track" usage= "opt"> <desc>Sets the MIDI track. </desc> <datatype maxOccurs= "1" minOccurs= "1">

	<rng:data type= "positiveInteger"/> </datatype> </attDef>

att.chord.anl

att.chord.anl Analytical domain attributes.	
Module	MEI.shared
Members	chord (direct member of att.chord.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" /> </classes>

att.chord.ges

att.chord.ges Gestural domain attributes.

Module	MEI.shared
Members	chord (direct member of att.chord.ges)
Attributes	@artic.ges *(optional)* Records performed articulation that differs from the written value. One or more values from data.ARTICULATION , separated by spaces. [att.articulation.performed] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @grace *(optional)* Marks a note or chord as a "grace" (without a definitive written duration) and records from which other note/chord it should "steal" time. Value conforms to data.GRACE . [att.graced] @grace.time *(optional)* Records the amount of time to be "stolen" from a non-grace note/chord. Value conforms to data.PERCENT . [att.graced] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident]
Declaration	<classes> <memberOf key=" att.articulation.performed" /> <memberOf key=" att.duration.performed" /> <memberOf key=" att.instrumentident" /> <memberOf key=" att.chord.ges.cmn" /> </classes>

att.chord.ges.cmn

att.chord.ges.cmn Gestural domain attributes for CMN features.	
Module	MEI.cmn
Members	chord (via att.chord.ges)
Attributes	@grace *(optional)* Marks a note or chord as a "grace" (without a definitive written duration) and records from which other note/chord it should "steal" time. Value conforms to data.GRACE . [att.graced] @grace.time *(optional)* Records the amount of time to be "stolen" from a non-grace note/chord. Value conforms to data.PERCENT . [att.graced]

Declaration	

```
<classes>
 <memberOf key= " att.graced" />
</classes>
```

att.chord.log

att.chord.log Logical domain attributes for chord. The artic, dots, and dur attributes encode the written articulations, augmentation dots, and duration values. The beam, fermata, lv, slur, syl, tie, and tuplet attributes may be used to indicate the attachment of these things to this chord. If visual information about these things needs to be recorded, then either the elements corresponding to these attributes or the attributes available in the att.vis.chord class should be employed.	
Module	MEI.shared
Members	chord (direct member of att.chord.log)
Attributes	@artic *(optional)* Encodes the written articulation(s). Articulations are normally encoded in order from the note head outward; that is, away from the stem. See additional notes at att.vis.note. Only articulations should be encoded in the artic attribute; for example, fingerings should be encoded using the <fingering> element. One or more values from data.ARTICULATION , separated by spaces. [att.articulation] @beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lv *(optional)* Indicates the attachment of an l.v. (laissez vibrer) sign to this element. Value conforms to data.BOOLEAN . [att.lvpresent] @ornam *(optional)* Indicates that this element has an attached ornament. If visual information about the ornament is needed, then one of the elements that represents an ornament (mordent, trill, or turn) should be employed. One or more values from data.ORNAM.cmn , separated by spaces. [att.ornam]

	@slur *(optional)* Indicates that this element participates in a slur. If visual information about the slur needs to be recorded, then a <slur> element should be employed. One or more values from data.SLUR , separated by spaces. [att.slurpresent] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @syl *(optional)* Holds an associated sung text syllable. Value of datatype **string**. [att.syltext] @tie *(optional)* Indicates that this element participates in a tie. If visual information about the tie needs to be recorded, then a <tie> element should be employed. One or more values from data.TIE , separated by spaces. [att.tiepresent] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent]
Declaration	<classes> <memberOf key=" att.event" /> <memberOf key=" att.articulation" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.musical" /> <memberOf key=" att.fermatapresent" /> <memberOf key=" att.syltext" /> <memberOf key=" att.slurpresent" /> <memberOf key=" att.tiepresent" /> <memberOf key=" att.tupletpresent" /> <memberOf key=" att.chord.log.cmn" /> </classes>

att.chord.log.cmn

att.chord.log.cmn Logical domain attributes for CMN features.	
Module	MEI.cmn
Members	chord (via att.chord.log)

Attributes	@beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] @lv *(optional)* Indicates the attachment of an l.v. (laissez vibrer) sign to this element. Value conforms to data.BOOLEAN . [att.lvpresent] @ornam *(optional)* Indicates that this element has an attached ornament. If visual information about the ornament is needed, then one of the elements that represents an ornament (mordent, trill, or turn) should be employed. One or more values from data.ORNAM.cmn , separated by spaces. [att.ornam]

Declaration	`<classes>`
	`<memberOf key=" att.beamed" />`
	`<memberOf key=" att.lvpresent" />`
	`<memberOf key=" att.ornam" />`
	`</classes>`

att.chord.vis

att.chord.vis Visual domain attributes for chord. The slur, slur.dir, slur.rend, tie, tie.dir, and tie.rend attributes here are syntactic sugar for these attributes on each of the chord's individual notes. The values here apply to all the notes in the chord. If some notes are slurred or tied while others aren't, then the individual note attributes must be used.	
Module	MEI.shared
Members	chord (direct member of att.chord.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @breaksec *(optional)* Presence of this attribute indicates that the secondary beam should be broken following this note/chord. The value of the attribute records the number of beams which should remain unbroken. Value of datatype **positiveInteger**. [att.beamsecondary] @cluster *(optional)* Indicates a single, alternative note head should be displayed instead of individual note heads. The highest and lowest notes of the chord usually indicate the upper and lower boundaries of the cluster note head. Value conforms to data.CLUSTER . [att.chord.vis] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary

	accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @stem.dir *(optional)* Describes the direction of a stem. Value conforms to data.STEMDIRECTION . [att.stems] @stem.len *(optional)* Encodes the stem length. Value conforms to data.MEASUREMENTABS . [att.stems] @stem.mod *(optional)* Encodes any stem "modifiers"; that is, symbols rendered on the stem, such as tremolo or Sprechstimme indicators. Value conforms to data.STEMMODIFIER . [att.stems] @stem.pos *(optional)* Records the position of the stem in relation to the note head(s). Value conforms to data.STEMPOSITION . [att.stems] @stem.with *(optional)* Contains an indication of which staff a note or chord that logically belongs to the current staff should be visually placed on; that is, the one above or the one below. Value conforms to data.OTHERSTAFF . [att.stems.cmn] @stem.x *(optional)* Records the output x coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems] @stem.y *(optional)* Records the output y coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems]

	@to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.enclosingchars" /> <memberOf key=" att.extsym" /> <memberOf key=" att.relativesize" /> <memberOf key=" att.stems" /> <memberOf key=" att.typography" /> <memberOf key=" att.visibility" /> <memberOf key=" att.visualoffset.ho" /> <memberOf key=" att.visualoffset.to" /> <memberOf key=" att.xy" /> <memberOf key=" att.chord.vis.cmn" /> </classes> <attDef ident= "cluster" usage= "opt"> <desc>Indicates a single, alternative note head should be displayed instead of individual note heads. The highest and lowest notes of the chord usually indicate the upper and lower boundaries of the cluster note head. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.CLUSTER" /> </datatype> </attDef>

att.chord.vis.cmn

att.chord.vis.cmn Visual domain attributes for chord. The slur, slur.dir, slur.rend, tie, tie.dir, and tie.rend attributes here are "syntactic sugar" for these attributes on each of the chord's individual notes. The values here

apply to all the notes in the chord. If some notes are slurred or tied while others aren't, then the individual note attributes must be used.	
Module	MEI.cmn
Members	chord (via att.chord.vis)
Attributes	@breaksec *(optional)* Presence of this attribute indicates that the secondary beam should be broken following this note/chord. The value of the attribute records the number of beams which should remain unbroken. Value of datatype **positiveInteger**. [att.beamsecondary]
Declaration	<classes> <memberOf key=" att.beamsecondary" /> </classes>

att.classcodeident

att.classcodeident	
Module	MEI.shared
Members	term, termList (direct members of att.classcodeident)
Attributes	@classcode *(optional)* Contains a reference to the controlled vocabulary from which the term is drawn. The value must match the value of an ID attribute on a classCode element given elsewhere in the document. Value conforms to data.URI . [att.classcodeident]
Declaration	<attDef ident= "classcode" usage= "opt"> <desc>Contains a reference to the controlled vocabulary from which the term is drawn. The value must match the value of an ID attribute on a classCode element given elsewhere in the document. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> <constraintSpec ident= "check_classcodeTarget" scheme= "isoschematron"> <constraint> <sch:rule context= "@classcode"> <sch:assert role= "warning" test= "not(normalize-space(.) eq ''")"> @classcode attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:classCode/@xml:id"> The

	value in @classcode should correspond to the @xml:id attribute of a classCode element. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>
Constraints	@classcode attribute should have content. The value in @classcode should correspond to the @xml:id attribute of a classCode element. <sch:rule context= "@classcode"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @classcode attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:classCode/@xml:id"> The value in @classcode should correspond to the @xml:id attribute of a classCode element. </sch:assert> </sch:rule>

att.clef.anl

att.clef.anl Analytical domain attributes.	
Module	MEI.shared
Members	clef (direct member of att.clef.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.clef.ges

att.clef.ges Gestural domain attributes.	
Module	MEI.shared
Members	clef (direct member of att.clef.ges)
Attributes	

att.clef.log

att.clef.log Logical domain attributes.	
Module	MEI.shared
Members	clef (direct member of att.clef.log)
Attributes	@cautionary *(optional)* Records the function of the clef. A "cautionary" clef does not change the following pitches. Value conforms to data.BOOLEAN . [att.clef.log] @dis *(optional)* Records the amount of octave displacement. Value conforms to data.OCTAVE.DIS . [att.octavedisplacement] @dis.place *(optional)* Records the direction of octave displacement. Value conforms to data.PLACE . [att.octavedisplacement] @line *(optional)* Indicates the line upon which a feature stands. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. Value conforms to data.CLEFLINE . [att.lineloc] @oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @shape *(optional)* Describes a clef's shape. Value conforms to data.CLEFSHAPE . [att.clefshape]

Declaration	<classes> <memberOf key=" att.clefshape" /> <memberOf key=" att.lineloc" /> <memberOf key=" att.octave" /> <memberOf key=" att.octavedisplacement" /> </classes> <attDef ident= "cautionary" usage= "opt"> <desc>Records the function of the clef. A "cautionary" clef does not change the following pitches. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name=" data.BOOLEAN" /> </datatype> </attDef>

att.clef.vis

att.clef.vis Visual domain attributes.	
Module	MEI.shared
Members	clef (direct member of att.clef.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym]

	@glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> </classes>

att.clefGrp.anl

att.clefGrp.anl Analytical domain attributes.	
Module	MEI.shared
Members	clefGrp (direct member of att.clefGrp.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" />

	`</classes>`

att.clefGrp.ges

att.clefGrp.ges Gestural domain attributes.	
Module	MEI.shared
Members	clefGrp (direct member of att.clefGrp.ges)
Attributes	

att.clefGrp.log

att.clefGrp.log Logical domain attributes.	
Module	MEI.shared
Members	clefGrp (direct member of att.clefGrp.log)
Attributes	

att.clefGrp.vis

att.clefGrp.vis Visual domain attributes.	
Module	MEI.shared
Members	clefGrp (direct member of att.clefGrp.vis)
Attributes	

att.cleffing.log

att.cleffing.log Used by staffDef and scoreDef to provide default values for attributes in the logical domain related to clefs.	
Module	MEI.shared

Members	scoreDef (via att.scoreDef.log) staffDef (via att.staffDef.log)
Attributes	@clef.dis *(optional)* Records the amount of octave displacement to be applied to the clef. Value conforms to data.OCTAVE.DIS . [att.cleffing.log] @clef.dis.place *(optional)* Records the direction of octave displacement to be applied to the clef. Value conforms to data.PLACE . [att.cleffing.log] @clef.line *(optional)* Contains a default value for the position of the clef. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. Value conforms to data.CLEFLINE . [att.cleffing.log] @clef.shape *(optional)* Encodes a value for the clef symbol. Value conforms to data.CLEFSHAPE . [att.cleffing.log]
Declaration	

```
<attDef ident= "clef.shape" usage= "opt">
 <desc>Encodes a value for the clef symbol. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.CLEFSHAPE" />
 </datatype>
</attDef>
```

```
<attDef ident= "clef.line" usage= "opt">
 <desc>Contains a default value for the position of the clef. The value
 must be in the range between 1 and the number of lines on the staff.
 The numbering of lines starts with the lowest line of the staff.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.CLEFLINE" />
 </datatype>
</attDef>
```

```
<attDef ident= "clef.dis" usage= "opt">
 <desc>Records the amount of octave displacement to be applied to the
 clef. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.OCTAVE.DIS" />
 </datatype>
</attDef>
```

```
<attDef ident= "clef.dis.place" usage= "opt">
 <desc>Records the direction of octave displacement to be applied to the
 clef. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
```

	`<rng:ref name= " data.PLACE" /> </datatype> </attDef>`

att.cleffing.vis

att.cleffing.vis Used by staffDef and scoreDef to provide default values for attributes in the visual domain related to clefs.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis) staffDef (via att.staffDef.vis)
Attributes	@clef.color *(optional)* Describes the color of the clef. Value conforms to data.COLOR . [att.cleffing.vis] @clef.visible *(optional)* Determines whether the clef is to be displayed. Value conforms to data.BOOLEAN . [att.cleffing.vis]
Declaration	`<attDef ident= "clef.color" usage= "opt"> <desc>Describes the color of the clef. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.COLOR" /> </datatype> </attDef>` `<attDef ident= "clef.visible" usage= "opt"> <desc>Determines whether the clef is to be displayed. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>`

att.clefshape

att.clefshape Attributes that record the shape of a clef.	
Module	MEI.shared

Members	clef (via att.clef.log)
Attributes	@shape *(optional)* Describes a clef's shape. Value conforms to data.CLEFSHAPE . [att.clefshape]
Declaration	<attDef ident= "shape" usage= "opt"> <desc>Describes a clef's shape. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.CLEFSHAPE" /> </datatype> </attDef>

att.color

att.color Visual color attributes.	
Module	MEI.shared
Members	curve, rend, symbol (direct members of att.color) accid (via att.accid.vis) arpeg (via att.arpeg.vis) artic (via att.artic.vis) barLine (via att.barLine.vis) beam (via att.beam.vis) beamSpan (via att.beamSpan.vis) beatRpt (via att.beatRpt.vis) bend (via att.bend.vis) breath (via att.breath.vis) chord (via att.chord.vis) clef (via att.clef.vis) cpMark (via att.cpMark.vis) custos (via att.custos.vis) dot (via att.dot.vis) fermata (via att.fermata.vis) gliss (via att.gliss.vis) hairpin (via att.hairpin.vis) halfmRpt (via att.halfmRpt.vis) harpPedal (via att.harpPedal.vis) ineume (via att.ineume.vis) line (via att.line.vis) mensur (via att.mensur.vis) mordent (via att.mordent.vis) mRpt (via att.mRpt.vis)

	mRpt2 (via att.mRpt2.vis) note (via att.note.vis) octave (via att.octave.vis) ornam (via att.ornam.vis) pedal (via att.pedal.vis) phrase (via att.phrase.vis) reh (via att.reh.vis) rest (via att.rest.vis) slur (via att.slur.vis) tie (via att.tie.vis) trill (via att.trill.vis) tuplet (via att.tuplet.vis) tupletSpan (via att.tupletSpan.vis) turn (via att.turn.vis) uneume (via att.uneume.vis) verse (via att.verse.vis)
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color]
Declaration	<attDef ident= "color" usage= "opt"> <desc>Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.COLOR" /> </datatype> </attDef>

att.coloration

att.coloration Indication of coloration.	
Module	MEI.shared
Members	note (via att.note.vis)
Attributes	@colored *(optional)* Indicates this feature is 'colored'; that is, it is a participant in a change in rhythmic values. In mensural notation, coloration is indicated by colored notes (red, black, etc.) where void notes would otherwise occur. In CMN, coloration is indicated by an inverse color; that is, the note head is void when it would otherwise be filled and vice versa. Value conforms to data.BOOLEAN . [att.coloration]

Declaration	

```
<attDef ident= "colored" usage= "opt">
 <desc>Indicates this feature is 'colored'; that is, it is a participant
 in a change in rhythmic values. In mensural notation, coloration is
 indicated by colored notes (red, black, etc.) where void notes would
 otherwise occur. In CMN, coloration is indicated by an inverse color;
 that is, the note head is void when it would otherwise be filled and
 vice versa. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

att.common

att.common Attributes common to many elements.	
Module	MEI.shared
Members	abbr, accessRestrict, accid, actor, add, addName, address, addrLine, altId, anchoredText, annot, app, appInfo, application, arpeg, arranger, artic, audience, author, availability, avFile, back, barLine, barre, beam, beamSpan, beatRpt, bend, bibl, biblList, biblScope, bloc, body, breath, bTrem, byline, caption, captureMode, carrierForm, castGrp, castItem, castList, cc, chan, change, changeDesc, chanPr, choice, chord, chordDef, chordMember, chordTable, classCode, classification, clef, clefGrp, clip, componentGrp, composer, condition, contentItem, contents, context, corpName, corr, correction, country, cpMark, creation, cue, curve, custos, damage, date, del, depth, desc, dimensions, dir, distributor, district, div, dot, dynam, edition, editionStmt, editor, editorialDecl, encodingDesc, ending, event, eventList, exhibHist, expan, expansion, expression, expressionList, extent, extMeta, f, facsimile, famName, fb, fermata, fig, figDesc, fileChar, fileDesc, fing, fingerprint, fingGrp, foreName, front, fTrem, funder, gap, genName, genre, geogFeat, geogName, gliss, graphic, group, grpSym, hairpin, halfmRpt, hand, handList, handShift, harm, harpPedal, head, height, hex, history, identifier, imprint, incip, incipCode, incipText, ineume, inscription, instrDef, instrGrp, interpretation, item, itemList, key, keyAccid, keySig, l, label, language, langUsage, lb, lem, lg, li, librettist, ligature, line, list, lyricist, lyrics, mapping, marker, mdiv, measure, meiCorpus, meiHead, mensur, mensuration, metaText, meter, meterSig, meterSigGrp, midi, mordent, mRest, mRpt, mRpt2, mSpace, multiRest, multiRpt, music, name, normalization, nameLink, note, noteOff, noteOn, notesStmt, num, octave, orig, ornam, ossia, otherChar, p, pad, part, parts, pb, pedal, perfDuration, perfMedium, performance, perfRes, perfResList, periodName, persName, pgDesc, pgFoot, pgFoot2, pgHead, pgHead2, phrase, physDesc, physLoc, physMedium, plateNum, playingSpeed, port, postBox, postCode, price, prog, projectDesc, propName, proport, propValue, provenance, ptr, publisher, pubPlace, pubStmt, quote, rdg, recipient, recording, ref, reg, region, reh, relatedItem, relation, relationList, rend, repository, resp, respStmt, rest, restore, revisionDesc, role, roleDesc, roleName, samplingDecl, sb, score, scoreDef,

	scoreFormat, section, segmentation, seqNum, series, seriesStmt, settlement, sic, slur, soundChan, source, sourceDesc, space, specRepro, sponsor, stack, staffGrp, stdVals, street, styleName, subst, supplied, surface, syl, syllable, symbol, symbolDef, symName, symProp, symbolTable, sysReq, table, td, tempo, term, termList, textLang, th, tie, title, titlePage, titleStmt, tr, trackConfig, treatHist, treatSched, trill, trkName, tuplet, tupletSpan, turn, unclear, uneume, unpub, useRestrict, vel, verse, watermark, when, width, work, workDesc, zone (direct members of att.common)
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype string. [att.commonPart] @n *(optional)* Provides a number-like designation for an element. Value conforms to token . [att.common] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype ID. [att.id]

Declaration	`<classes>`
	`<memberOf key=" att.commonPart" />`
	`</classes>`
	
	`<attDef ident="n" usage="opt">`
	`<desc>Provides a number-like designation for an element. </desc>`
	`<datatype maxOccurs="1" minOccurs="1">`
	`<rng:ref name=" token" />`
	`</datatype>`
	`</attDef>`

att.common.anl

att.common.anl Common analytical attributes. When the MEI.performance module is used, the when attribute is also a member of this attribute class.	
Module	MEI.analysis
Members	anchoredText, cc, chan, chanPr, cue, curve, fb, hex, marker, metaText, noteOff, noteOn, port, prog, seqNum, symbol, trkName, vel (direct members of att.common.anl) accid (via att.accid.anl) annot (via att.annot.anl) arpeg (via att.arpeg.anl)

	artic (via att.artic.anl) barLine (via att.barLine.anl) beam (via att.beam.anl) beamSpan (via att.beamSpan.anl) beatRpt (via att.beatRpt.anl) bend (via att.bend.anl) breath (via att.breath.anl) bTrem (via att.bTrem.anl) chord (via att.chord.anl) clef (via att.clef.anl) clefGrp (via att.clefGrp.anl) cpMark (via att.cpMark.anl) custos (via att.custos.anl) dir (via att.dir.anl) dot (via att.dot.anl) dynam (via att.dynam.anl) ending (via att.ending.anl) f (via att.f.anl) fermata (via att.fermata.anl) fing (via att.fing.anl) fingGrp (via att.fingGrp.anl) fTrem (via att.fTrem.anl) gliss (via att.gliss.anl) grpSym (via att.grpSym.anl) hairpin (via att.hairpin.anl) halfmRpt (via att.halfmRpt.anl) harm (via att.harm.anl) harpPedal (via att.harpPedal.anl) ineume (via att.ineume.anl) keyAccid (via att.keyAccid.anl) keySig (via att.keySig.anl) layer (via att.layer.anl) ligature (via att.ligature.anl) lyrics (via att.lyrics.anl) measure (via att.measure.anl) mensur (via att.mensur.anl) meterSig (via att.meterSig.anl) meterSigGrp (via att.meterSigGrp.anl) midi (via att.midi.anl) mordent (via att.mordent.anl) mRest (via att.mRest.anl) mRpt (via att.mRpt.anl) mRpt2 (via att.mRpt2.anl) mSpace (via att.mSpace.anl)

	multiRest (via att.multiRest.anl) multiRpt (via att.multiRpt.anl) note (via att.note.anl) octave (via att.octave.anl) ornam (via att.ornam.anl) ossia (via att.ossia.anl) part (via att.part.anl) parts (via att.parts.anl) pb (via att.pb.anl) pedal (via att.pedal.anl) phrase (via att.phrase.anl) proport (via att.proport.anl) lem, rdg (via att.rdg.anl) reh (via att.reh.anl) rest (via att.rest.anl) sb (via att.sb.anl) score (via att.score.anl) section (via att.section.anl) slur (via att.slur.anl) space (via att.space.anl) staff (via att.staff.anl) syl (via att.syl.anl) tempo (via att.tempo.anl) tie (via att.tie.anl) trill (via att.trill.anl) tuplet (via att.tuplet.anl) tupletSpan (via att.tupletSpan.anl) turn (via att.turn.anl) uneume (via att.uneume.anl) verse (via att.verse.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	

```
<classes>
 <memberOf key= " att.alignment" />
</classes>
```

```
<attDef ident= "copyof" usage= "opt">
 <desc>Points to an element of which the current element is a copy.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.URI" />
 </datatype>
 <constraintSpec ident= "When_copyof_element_empty" scheme=
 "isoschematron">
   <constraint>
     <sch:rule context= "mei:*[@copyof]">
        <sch:assert test= "count(child::node()) = 0"> An element with a
        copyof attribute cannot have content. </sch:assert>
     </sch:rule>
   </constraint>
 </constraintSpec>
 <constraintSpec ident= "check_copyofTarget" scheme= "isoschematron">
   <constraint>
     <sch:rule context= "@copyof">
        <sch:assert role= "warning" test= "not(normalize-space(.) eq
        '')"> @copyof attribute should have content. </sch:assert>
        <sch:assert role= "warning" test= "every $i in tokenize(.,
        '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> The value in
        @copyof should correspond to the @xml:id attribute of an
        element. </sch:assert>
     </sch:rule>
   </constraint>
 </constraintSpec>
</attDef>
```

```
<attDef ident= "corresp" usage= "opt">
 <desc>Used to point to other elements that correspond to this one in a
 generic fashion. </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
   <rng:ref name= " data.URI" />
 </datatype>
```

```
 <constraintSpec ident= "check_correspTarget" scheme= "isoschematron">
  <constraint>
    <sch:rule context= "@corresp">
      <sch:assert role= "warning" test= "not(normalize-space(.) eq
      '')"> @corresp attribute should have content. </sch:assert>
      <sch:assert role= "warning" test= "every $i in tokenize(.,
      '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in
      @corresp should correspond to the @xml:id attribute of an
      element. </sch:assert>
    </sch:rule>
  </constraint>
 </constraintSpec>
</attDef>
```

```
<attDef ident= "next" usage= "opt">
 <desc>Used to point to the next event(s) in a user-defined collection.
 </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
  <rng:ref name= " data.URI" />
 </datatype>
 <constraintSpec ident= "check_nextTarget" scheme= "isoschematron">
  <constraint>
    <sch:rule context= "@next">
      <sch:assert role= "warning" test= "not(normalize-space(.) eq
      '')"> @next attribute should have content. </sch:assert>
      <sch:assert role= "warning" test= "every $i in tokenize(.,
      '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in
      @next should correspond to the @xml:id attribute of an element.
      </sch:assert>
    </sch:rule>
  </constraint>
 </constraintSpec>
</attDef>
```

```
<attDef ident= "prev" usage= "opt">
 <desc>Points to the previous event(s) in a user-defined collection.
 </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
  <rng:ref name= " data.URI" />
 </datatype>
 <constraintSpec ident= "check_prevTarget" scheme= "isoschematron">
  <constraint>
    <sch:rule context= "@prev">
      <sch:assert role= "warning" test= "not(normalize-space(.) eq
      '')"> @prev attribute should have content. </sch:assert>
      <sch:assert role= "warning" test= "every $i in tokenize(.,
      '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in
```

```
        @prev should correspond to the @xml:id attribute of an element.
        </sch:assert>
      </sch:rule>
    </constraint>
  </constraintSpec>
</attDef>
```

```
<attDef ident= "sameas" usage= "opt">
 <desc>Points to an element that is the same as the current element but
 is not a literal copy of the current element. </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
   <rng:ref name= " data.URI" />
 </datatype>
 <constraintSpec ident= "check_sameasTarget" scheme= "isoschematron">
   <constraint>
     <sch:rule context= "@sameas">
        <sch:assert role= "warning" test= "not(normalize-space(.) eq
        '')"> @sameas attribute should have content. </sch:assert>
        <sch:assert role= "warning" test= "every $i in tokenize(.,
        '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in
        @sameas should correspond to the @xml:id attribute of an
        element. </sch:assert>
     </sch:rule>
   </constraint>
 </constraintSpec>
</attDef>
```

```
<attDef ident= "synch" usage= "opt">
 <desc>Points to elements that are synchronous with the current element.
 </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
   <rng:ref name= " data.URI" />
 </datatype>
 <constraintSpec ident= "check_synchTarget" scheme= "isoschematron">
   <constraint>
     <sch:rule context= "@synch">
        <sch:assert role= "warning" test= "not(normalize-space(.) eq
        '')"> @synch attribute should have content. </sch:assert>
        <sch:assert role= "warning" test= "every $i in tokenize(.,
        '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in
        @synch should correspond to the @xml:id attribute of an element.
        </sch:assert>
     </sch:rule>
   </constraint>
 </constraintSpec>
</attDef>
```

Constraints	An element with a copyof attribute cannot have content. `<sch:rule context= "mei:*[@copyof]"> <sch:assert test= "count(child::node()) = 0"> An element with a copyof attribute cannot have content. </sch:assert> </sch:rule>`
Constraints	@copyof attribute should have content. The value in @copyof should correspond to the @xml:id attribute of an element. `<sch:rule context= "@copyof"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @copyof attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> The value in @copyof should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>`
Constraints	@corresp attribute should have content. Each value in @corresp should correspond to the @xml:id attribute of an element. `<sch:rule context= "@corresp"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @corresp attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @corresp should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>`
Constraints	@next attribute should have content. Each value in @next should correspond to the @xml:id attribute of an element. `<sch:rule context= "@next"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @next attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @next should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>`
Constraints	@prev attribute should have content. Each value in @prev should correspond to the @xml:id attribute of an element.

	<sch:rule context= "@prev"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @prev attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @prev should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>
Constraints	@sameas attribute should have content. Each value in @sameas should correspond to the @xml:id attribute of an element. <sch:rule context= "@sameas"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @sameas attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @sameas should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>
Constraints	@synch attribute should have content. Each value in @synch should correspond to the @xml:id attribute of an element. <sch:rule context= "@synch"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @synch attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @synch should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>

att.commonPart

att.commonPart Attributes that form the basis of the att.common class.	
Module	MEI.shared
Members	layer, layerDef, staff, staffDef (direct members of att.commonPart) abbr, accessRestrict, accid, actor, add, addName, address, addrLine, altId, anchoredText, annot, app, appInfo, application, arpeg, arranger, artic, audience, author, availability, avFile, back, barLine, barre, beam, beamSpan, beatRpt, bend, bibl, biblList, biblScope, bloc, body, breath, bTrem, byline, caption, captureMode, carrierForm, castGrp, castItem, castList, cc, chan, change,

	changeDesc, chanPr, choice, chord, chordDef, chordMember, chordTable, classCode, classification, clef, clefGrp, clip, componentGrp, composer, condition, contentItem, contents, context, corpName, corr, correction, country, cpMark, creation, cue, curve, custos, damage, date, del, depth, desc, dimensions, dir, distributor, district, div, dot, dynam, edition, editionStmt, editor, editorialDecl, encodingDesc, ending, event, eventList, exhibHist, expan, expansion, expression, expressionList, extent, extMeta, f, facsimile, famName, fb, fermata, fig, figDesc, fileChar, fileDesc, fing, fingerprint, fingGrp, foreName, front, fTrem, funder, gap, genName, genre, geogFeat, geogName, gliss, graphic, group, grpSym, hairpin, halfmRpt, hand, handList, handShift, harm, harpPedal, head, height, hex, history, identifier, imprint, incip, incipCode, incipText, ineume, inscription, instrDef, instrGrp, interpretation, item, itemList, key, keyAccid, keySig, l, label, language, langUsage, lb, lem, lg, li, librettist, ligature, line, list, lyricist, lyrics, mapping, marker, mdiv, measure, meiCorpus, meiHead, mensur, mensuration, metaText, meter, meterSig, meterSigGrp, midi, mordent, mRest, mRpt, mRpt2, mSpace, multiRest, multiRpt, music, name, normalization, nameLink, note, noteOff, noteOn, notesStmt, num, octave, orig, ornam, ossia, otherChar, p, pad, part, parts, pb, pedal, perfDuration, perfMedium, performance, perfRes, perfResList, periodName, persName, pgDesc, pgFoot, pgFoot2, pgHead, pgHead2, phrase, physDesc, physLoc, physMedium, plateNum, playingSpeed, port, postBox, postCode, price, prog, projectDesc, propName, proport, propValue, provenance, ptr, publisher, pubPlace, pubStmt, quote, rdg, recipient, recording, ref, reg, region, reh, relatedItem, relation, relationList, rend, repository, resp, respStmt, rest, restore, revisionDesc, role, roleDesc, roleName, samplingDecl, sb, score, scoreDef, scoreFormat, section, segmentation, seqNum, series, seriesStmt, settlement, sic, slur, soundChan, source, sourceDesc, space, specRepro, sponsor, stack, staffGrp, stdVals, street, styleName, subst, supplied, surface, syl, syllable, symbol, symbolDef, symName, symProp, symbolTable, sysReq, table, td, tempo, term, termList, textLang, th, tie, title, titlePage, titleStmt, tr, trackConfig, treatHist, treatSched, trill, trkName, tuplet, tupletSpan, turn, unclear, uneume, unpub, useRestrict, vel, verse, watermark, when, width, work, workDesc, zone (via att.common)
Attributes	@label *(optional)* Provides a name or label for an element. The value may be any string. Value of datatype **string**. [att.commonPart] @xml:base *(optional)* Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. Value conforms to data.URI . [att.commonPart] @xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

Declaration	`<classes>`
	`<memberOf key= " att.id" />`
	`</classes>`
	
	`<attDef ident= "label" usage= "opt">`

	<desc>Provides a name or label for an element. The value may be any string. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "string"/> </datatype> </attDef> <attDef ident= "xml:base" usage= "opt"> <desc>Provides a base URI reference with which applications can resolve relative URI references into absolute URI references. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> </attDef>

att.controlevent

att.controlevent Attributes shared by events which rely on other events for their existence. For example, a slur/phrase marking must be drawn between or over a group of notes. The slur is therefore a control event.	
Module	MEI.shared
Members	accid (via att.accid.log) arpeg (via att.arpeg.log) artic (via att.artic.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dot (via att.dot.log) dynam (via att.dynam.log) f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log)

	octave (via att.octave.log) ornam (via att.ornam.log) pedal (via att.pedal.log) phrase (via att.phrase.log) slur (via att.slur.log) tempo (via att.tempo.log) tie (via att.tie.log) trill (via att.trill.log) tupletSpan (via att.tupletSpan.log) turn (via att.turn.log)
Attributes	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`<memberOf key=" att.plist" />`
	`<memberOf key=" att.targeteval" />`
	`<memberOf key=" att.timestamp.musical" />`
	`<memberOf key=" att.timestamp.performed" />`
	`<memberOf key=" att.staffident" />`
	`<memberOf key=" att.layerident" />`
	`</classes>`

att.coordinated

att.coordinated This attribute class records the position of a feature within a two-dimensional coordinate system.	
Module	MEI.shared
Members	surface, symbolDef, zone (direct members of att.coordinated)
Attributes	@lrx *(optional)* Indicates the lower-right corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @lry *(optional)* Indicates the lower-left corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @ulx *(optional)* Indicates the upper-left corner x coordinate. Value of datatype nonNegativeInteger. [att.coordinated] @uly *(optional)* Indicates the upper-left corner y coordinate. Value of datatype nonNegativeInteger. [att.coordinated]
Declaration	<attDef ident= "ulx" usage= "opt"> <desc>Indicates the upper-left corner x coordinate. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "nonNegativeInteger"/> </datatype> </attDef> <attDef ident= "uly" usage= "opt"> <desc>Indicates the upper-left corner y coordinate. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "nonNegativeInteger"/> </datatype> </attDef> <attDef ident= "lrx" usage= "opt"> <desc>Indicates the lower-right corner x coordinate. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "nonNegativeInteger"/> </datatype> </attDef> <attDef ident= "lry" usage= "opt"> <desc>Indicates the lower-left corner x coordinate. </desc>

	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "nonNegativeInteger"/>`
	`</datatype>`
	`</attDef>`

att.cpMark.anl

att.cpMark.anl Analytical domain attributes.	
Module	MEI.edittrans
Members	cpMark (direct member of att.cpMark.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.cpMark.ges

att.cpMark.ges Gestural domain attributes.

Module	MEI.edittrans
Members	cpMark (direct member of att.cpMark.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	<classes> <memberOf key= " att.duration.performed" /> </classes>

att.cpMark.log

att.cpMark.log Logical domain attributes.	
Module	MEI.edittrans
Members	cpMark (direct member of att.cpMark.log)
Attributes	@dis *(optional)* Records the amount of octave displacement. Value conforms to data.OCTAVE.DIS . [att.octavedisplacement] @dis.place *(optional)* Records the direction of octave displacement. Value conforms to data.PLACE . [att.octavedisplacement] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @origin.endid *(optional)* indicates the final element in a sequence of events. Value conforms to data.URI . [att.origin.startendid] @origin.layer *(optional)* identifies the layer on which referenced notation occurs. One or more of positiveInteger. [att.origin.layerident]

	@origin.staff *(rec)* signifies the staff on which referenced notation occurs. Defaults to the same value as the local staff. Mandatory when applicable. One or more of **positiveInteger**. [att.origin.staffident] @origin.startid *(optional)* indicates the first element in a sequence of events. Value conforms to data.URI . [att.origin.startendid] @origin.tstamp *(optional)* encodes the starting point of musical material in terms of musical time, i.e., a (potentially negative) count of measures plus a beat location. Value conforms to data.MEASUREBEATOFFSET . [att.origin.timestamp.musical] @origin.tstamp2 *(rec)* encodes the ending point of musical material in terms of musical time, i.e., a count of measures plus a beat location. The values are relative to the measure identified by @origin.tstamp. Value conforms to data.MEASUREBEAT . [att.origin.timestamp.musical] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]

Declaration	`<classes>`
	`<memberOf key=" att.controlevent" />`
	`<memberOf key=" att.startendid" />`
	`<memberOf key=" att.timestamp2.musical" />`
	`<memberOf key=" att.origin.timestamp.musical" />`
	`<memberOf key=" att.origin.staffident" />`
	`<memberOf key=" att.origin.layerident" />`
	`<memberOf key=" att.origin.startendid" />`
	`<memberOf key=" att.octavedisplacement" />`
	`</classes>`

att.cpMark.vis

att.cpMark.vis Visual domain attributes.	
Module	MEI.edittrans
Members	cpMark (direct member of att.cpMark.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to]

	@vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.enclosingchars" /> <memberOf key=" att.extsym" /> <memberOf key=" att.placement" /> <memberOf key=" att.typography" /> <memberOf key=" att.visualoffset" /> <memberOf key=" att.xy" /> </classes>

att.crit

att.crit Attributes common to all elements representing variant readings.	
Module	MEI.critapp
Members	lem, rdg (direct members of att.crit)
Attributes	@cause *(optional)* Classifies the cause for the variant reading, according to any appropriate typology of possible origins. Value of datatype **NMTOKEN**. [att.crit] @hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype **positiveInteger**. [att.sequence]

	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source]
Declaration	<classes> <memberOf key=" att.handident" /> <memberOf key=" att.responsibility" /> <memberOf key=" att.sequence" /> <memberOf key=" att.source" /> </classes> <attDef ident= "cause" usage= "opt"> <desc>Classifies the cause for the variant reading, according to any appropriate typology of possible origins. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "NMTOKEN"/> </datatype> </attDef>

att.curvature

att.curvature Attributes that describe curvature.	
Module	MEI.shared
Members	curve (direct member of att.curvature) bend (via att.bend.vis) att.phrase.vis.cmn (no elements directly inheriting from this class) phrase (via att.phrase.vis) slur (via att.slur.vis) tie (via att.tie.vis)
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature]

	@curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " above" *(Upward curve.)*, " below" *(Downward curve.)*, " mixed" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature]
Declaration	

```
<attDef ident= "bezier" usage= "opt">
 <desc>Records the placement of Bezier control points as a series of
 pairs of space-separated values; e.g., 19 45 -32 118. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:list>
     <rng:oneOrMore>
       <rng:data type= "decimal"/>
       <rng:data type= "decimal"/>
     </rng:oneOrMore>
   </rng:list>
 </datatype>
</attDef>
```

```
<attDef ident= "bulge" usage= "opt">
 <desc>Describes a curve as one or more pairs of values with respect to
 an imaginary line connecting the starting and ending points of the
 curve. The first value captures a distance to the left (positive value)
 or right (negative value) of the line, expressed in virtual units. The
 second value of each pair represents a point along the line, expressed
 as a percentage of the line's length. N.B. An MEI virtual unit (VU) is
 half the distance between adjacent staff lines. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:list>
     <rng:oneOrMore>
       <rng:data type= "decimal"/>
       <rng:ref name= " data.PERCENT" />
     </rng:oneOrMore>
   </rng:list>
 </datatype>
</attDef>
```

```
<attDef ident= "curvedir" usage= "opt">
 <desc>Describes a curve with a generic term indicating the direction of
 curvature. </desc>
 <valList type= "closed">
   <valItem ident= "above">
     <desc>Upward curve. </desc>
   </valItem>
   <valItem ident= "below">
     <desc>Downward curve. </desc>
   </valItem>
   <valItem ident= "mixed">
```

	<desc>A "meandering" curve, both above and below the items it pertains to. </desc> </valItem> </valList> </attDef>

att.curverend

att.curverend Attributes that record the visual rendition of curves.	
Module	MEI.shared
Members	curve (direct member of att.curverend) bend (via att.bend.vis) att.phrase.vis.cmn (no elements directly inheriting from this class) phrase (via att.phrase.vis) slur (via att.slur.vis) tie (via att.tie.vis)
Attributes	@lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend]
Declaration	<attDef ident= "lform" usage= "opt"> <desc>Describes the line style of a curve. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.LINEFORM" /> </datatype> </attDef> <attDef ident= "lwidth" usage= "opt"> <desc>Width of a curved line. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.LINEWIDTH" /> </datatype> </attDef>

att.custos.anl

att.custos.anl Analytical domain attributes.	
Module	MEI.shared
Members	custos (direct member of att.custos.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.custos.ges

att.custos.ges Gestural domain attributes.	
Module	MEI.shared
Members	custos (direct member of att.custos.ges)
Attributes	

att.custos.log

att.custos.log Logical domain attributes.	
Module	MEI.shared
Members	custos (direct member of att.custos.log)
Attributes	@oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @target *(optional)* Encodes the target note when its pitch differs from the pitch at which the custos appears. Value conforms to data.URI . [att.custos.log]
Declaration	<classes> <memberOf key=" att.pitched" /> </classes> <attDef ident="target" usage="opt"> <desc>Encodes the target note when its pitch differs from the pitch at which the custos appears. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.URI" /> </datatype> <constraintSpec ident="check_custosTarget" scheme="isoschematron"> <constraint> <sch:rule context="mei:custos/@target"> <sch:assert role="warning" test="not(normalize-space(.) eq '')"> @target attribute should have content. </sch:assert> <sch:assert role="warning" test="every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:note/@xml:id"> The value in @target should correspond to the @xml:id attribute of a note element. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>
Constraints	@target attribute should have content. The value in @target should correspond to the @xml:id attribute of a note element.

	<sch:rule context= "mei:custos/@target"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @target attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:note/@xml:id"> The value in @target should correspond to the @xml:id attribute of a note element. </sch:assert> </sch:rule>

att.custos.vis

att.custos.vis Visual domain attributes.	
Module	MEI.shared
Members	custos (direct member of att.custos.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc]

Declaration	`<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.extsym" /> <memberOf key=" att.staffloc" /> <memberOf key=" att.typography" /> </classes>`

att.cutout

att.cutout Attributes that indicate how to render staff lines of the measure containing an element belonging to this attribute class.	
Module	MEI.cmn
Members	mRest (via att.mRest.vis) mSpace (via att.mSpace.vis)
Attributes	@cutout *(optional)* "Cut-out" style indicated for this measure. Allowed values are: " cutout" *(The staff lines should not be drawn.)* [att.cutout]
Declaration	`<attDef ident= "cutout" usage= "opt"> <desc>"Cut-out" style indicated for this measure. </desc> <valList type= "closed"> <valItem ident= "cutout"> <desc>The staff lines should not be drawn. </desc> </valItem> </valList> </attDef>`

att.datable

att.datable Attributes common to dates.	
Module	MEI.shared
Members	application, change, date, event (direct members of att.datable)

	addName, bloc, corpName, country, district, famName, foreName, genName, geogFeat, geogName, name, nameLink, periodName, persName, region, repository, roleName, settlement, styleName (via att.name)
Attributes	@enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable]
Declaration	

```
<attDef ident= "enddate" usage= "opt">
 <desc>Contains the end point of a date range in standard ISO form.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.ISODATE" />
 </datatype>
</attDef>
```

```
<attDef ident= "isodate" usage= "opt">
 <desc>Provides the value of a textual date in standard ISO form.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.ISODATE" />
 </datatype>
</attDef>
```

```
<attDef ident= "notafter" usage= "opt">
 <desc>Contains an upper boundary for an uncertain date in standard ISO
 form. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.ISODATE" />
 </datatype>
</attDef>
```

```
<attDef ident= "notbefore" usage= "opt">
 <desc>Contains a lower boundary, in standard ISO form, for an uncertain
 date. </desc>
```

	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.ISODATE" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "startdate" usage= "opt">`
	`<desc>Contains the starting point of a date range in standard ISO form.`
	`</desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.ISODATE" />`
	`</datatype>`
	`</attDef>`

att.datapointing

att.datapointing Attributes for linking metadata to data.	
Module	MEI.shared
Members	availability, classification, clip, correction, editorialDecl, expression, interpretation, item, langUsage, normalization, projectDesc, recording, relatedItem, samplingDecl, segmentation, source, stdVals, surface, when, work, zone (direct members of att.datapointing)
Attributes	@data *(optional)* Used to link metadata elements to one or more data-containing elements. One or more values from data.URI , separated by spaces. [att.datapointing]

Declaration	`<attDef ident= "data" usage= "opt">`
	`<desc>Used to link metadata elements to one or more data-containing elements. </desc>`
	`<datatype maxOccurs= "unbounded" minOccurs= "1">`
	`<rng:ref name= " data.URI" />`
	`</datatype>`
	`<constraintSpec ident= "check_dataTarget" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "@data">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @data attribute should have content. </sch:assert>`
	`<sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*[ancestor::mei:music]/@xml:id"> The value`

	in @data should correspond to the @xml:id attribute of a descendant of the music element. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>
Constraints	@data attribute should have content. The value in @data should correspond to the @xml:id attribute of a descendant of the music element. <sch:rule context= "@data"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @data attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*[ancestor::mei:music]/@xml:id"> The value in @data should correspond to the @xml:id attribute of a descendant of the music element. </sch:assert> </sch:rule>

att.declaring

att.declaring Provides attributes for elements which may be associated with particular contextual elements within the header.	
Module	MEI.shared
Members	avFile, back, body, clip, div, facsimile, front, graphic, group, layer, layerDef, lg, mdiv, measure, music, p, part, parts, performance, recording, score, section, staff, staffDef, staffGrp, surface (direct members of att.declaring)
Attributes	@decls *(optional)* Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. One or more values from data.URI , separated by spaces. [att.declaring]
Declaration	<attDef ident= "decls" usage= "opt"> <desc>Identifies one or more metadata elements within the header, which are understood to apply to the element bearing this attribute and its content. </desc>

	<datatype maxOccurs= "unbounded" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> <constraintSpec ident= "check_declsTarget" scheme= "isoschematron"> <constraint> <sch:rule context= "@decls"> <sch:assert role= "warning" test= "not(normalize-space(.) eq ''')"> @decls attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*[ancestor::mei:meiHead]/@xml:id"> Each value in @decls should correspond to the @xml:id attribute of an element within the metadata header. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>
Constraints	@decls attribute should have content. Each value in @decls should correspond to the @xml:id attribute of an element within the metadata header. <sch:rule context= "@decls"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @decls attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*[ancestor::mei:meiHead]/@xml:id"> Each value in @decls should correspond to the @xml:id attribute of an element within the metadata header. </sch:assert> </sch:rule>

att.dimensions

att.dimensions Attributes that capture the dimensions of an entity.	
Module	MEI.shared
Members	graphic (direct member of att.dimensions)
Attributes	@height *(optional)* Measurement of the vertical dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.height] @width *(optional)* Measurement of the horizontal dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.width]

Declaration	`<classes> <memberOf key=" att.height" /> <memberOf key=" att.width" /> </classes>`

att.dir.anl

att.dir.anl Analytical domain attributes.	
Module	MEI.shared
Members	dir (direct member of att.dir.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key=" att.common.anl" /> </classes>`

att.dir.ges

att.dir.ges Gestural domain attributes.

Module	MEI.shared
Members	dir (direct member of att.dir.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	<classes> <memberOf key= " att.duration.performed" /> </classes>

att.dir.log

att.dir.log Logical domain attributes.	
Module	MEI.shared
Members	dir (direct member of att.dir.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident]

	@plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	`<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>`

att.dir.vis

att.dir.vis Visual domain attributes.	
Module	MEI.shared
Members	dir (direct member of att.dir.vis)
Attributes	@endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to]

	@extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.extender" />`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.visualoffset" />

```
  <memberOf key= " att.visualoffset2.ho" />
  <memberOf key= " att.visualoffset2.to" />
  <memberOf key= " att.xy" />
</classes>
```

att.distances

att.distances Attributes that describe distance from the staff.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis) staffDef (via att.staffDef.vis)
Attributes	@dynam.dist *(optional)* Records the default distance from the staff for dynamic marks. Value conforms to data.MEASUREMENTREL . [att.distances] @harm.dist *(optional)* Records the default distance from the staff of harmonic indications, such as guitar chord grids or functional labels. Value conforms to data.MEASUREMENTREL . [att.distances] @text.dist *(optional)* Determines how far from the staff to render text elements. Value conforms to data.MEASUREMENTREL . [att.distances]
Declaration	

```
<attDef ident= "dynam.dist" usage= "opt">
 <desc>Records the default distance from the staff for dynamic marks.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTREL" />
 </datatype>
</attDef>
```

```
<attDef ident= "harm.dist" usage= "opt">
 <desc>Records the default distance from the staff of harmonic
 indications, such as guitar chord grids or functional labels. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTREL" />
 </datatype>
</attDef>
```

```
<attDef ident= "text.dist" usage= "opt">
```

	<desc>Determines how far from the staff to render text elements. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MEASUREMENTREL" /> </datatype> </attDef>

att.dot.anl

att.dot.anl Analytical domain attributes.	
Module	MEI.shared
Members	dot (direct member of att.dot.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" /> </classes>

att.dot.ges

att.dot.ges Gestural domain attributes.	
Module	MEI.shared
Members	dot (direct member of att.dot.ges)
Attributes	

att.dot.log

att.dot.log Logical domain attributes.	
Module	MEI.shared
Members	dot (direct member of att.dot.log)
Attributes	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @form *(optional)* Records the function of the dot. Allowed values are: " aug" *(Augmentation dot.)*, " div" *(Dot of division.)* [att.dot.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	<classes> <memberOf key= " att.controlevent" /> </classes> <attDef ident= "form" usage= "opt"> <desc>Records the function of the dot. </desc> <valList type= "closed"> <valItem ident= "aug"> <desc>Augmentation dot. </desc> </valItem> <valItem ident= "div"> <desc>Dot of division. </desc> </valItem> </valList> </attDef>

att.dot.vis

att.dot.vis Visual domain attributes.	
Module	MEI.shared
Members	dot (direct member of att.dot.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym]

	@glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.extsym" />`
	`<memberOf key=" att.staffloc" />`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.visualoffset.ho" />`
	`<memberOf key=" att.visualoffset.vo" />`
	`<memberOf key=" att.xy" />`
	`<memberOf key=" att.dot.vis.mensural" />`
	`</classes>`

att.dot.vis.mensural

att.dot.vis.mensural Visual domain attributes.	
Module	MEI.mensural
Members	dot (via att.dot.vis)

Attributes	@oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched]

Declaration	`<classes>`
	`<memberOf key= " att.staffloc.pitched" />`
	`</classes>`

att.duration.additive

att.duration.additive Attributes that permit total duration to be represented by multiple values.	
Module	MEI.shared
Members	annot (via att.annot.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) dir (via att.dir.log) dynam (via att.dynam.log) f (via att.f.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) line (via att.line.log) octave (via att.octave.log) ornam (via att.ornam.log) phrase (via att.phrase.log) slur (via att.slur.log) trill (via att.trill.log) tuplet (via att.tuplet.log) tupletSpan (via att.tupletSpan.log)
Attributes	@dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive]

Declaration	`<attDef ident= "dur" usage= "opt">` `<desc>Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. </desc>` `<datatype maxOccurs= "unbounded" minOccurs= "1">` `<rng:ref name= " data.DURATION.additive" />` `</datatype>` `<constraintSpec ident= "ignore_dots_attribute" scheme= "isoschematron">` `<constraint>` `<sch:rule context= "mei:*[contains(@dur, '.')]">` `<sch:assert test= "not(@dots)"> An element with a dur attribute that contains dotted values must not have a dots attribute.` `</sch:assert>` `</sch:rule>` `</constraint>` `</constraintSpec>` `</attDef>`

Constraints	An element with a dur attribute that contains dotted values must not have a dots attribute.
	`<sch:rule context= "mei:*[contains(@dur, '.')]">`
	`<sch:assert test= "not(@dots)"> An element with a dur attribute that contains dotted values must not have a dots attribute. </sch:assert>`
	`</sch:rule>`

att.duration.default

att.duration.default Attributes that provide a durational default value.	
Module	MEI.shared
Members	layerDef (via att.layerDef.log) scoreDef (via att.scoreDef.log) staffDef (via att.staffDef.log)
Attributes	@dur.default *(optional)* Contains a default duration in those situations when the first note, rest, chord, etc. in a measure does not have a duration specified. Value conforms to data.DURATION . [att.duration.default]

	@num.default *(optional)* Along with numbase.default, describes the default duration as a ratio. num.default is the first value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @numbase.default *(optional)* Along with num.default, describes the default duration as a ratio. numbase.default is the second value in the ratio. Value of datatype **positiveInteger**. [att.duration.default]

Declaration	`<attDef ident= "dur.default" usage= "opt"> <desc>Contains a default duration in those situations when the first note, rest, chord, etc. in a measure does not have a duration specified. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.DURATION" /> </datatype> </attDef>`
	`<attDef ident= "num.default" usage= "opt"> <desc>Along with numbase.default, describes the default duration as a ratio. num.default is the first value in the ratio. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "positiveInteger"/> </datatype> </attDef>`
	`<attDef ident= "numbase.default" usage= "opt"> <desc>Along with num.default, describes the default duration as a ratio. numbase.default is the second value in the ratio. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "positiveInteger"/> </datatype> </attDef>`

att.duration.musical

att.duration.musical Attributes that express duration in musical terms.	
Module	MEI.shared
Members	bTrem (via att.bTrem.log) chord (via att.chord.log) fTrem (via att.fTrem.log) halfmRpt (via att.halfmRpt.log)

	mRest (via att.mRest.log) mSpace (via att.mSpace.log) note (via att.note.log) rest (via att.rest.log) space (via att.space.log)
Attributes	@dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical]

Declaration	`<attDef ident= "dur" usage= "opt">`
	`<desc>Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.DURATION" />`
	`</datatype>`
	`</attDef>`

att.duration.performed

att.duration.performed Attributes that record performed duration that differs from a feature's written duration.	
Module	MEI.shared
Members	annot (via att.annot.ges) beamSpan (via att.beamSpan.ges) chord (via att.chord.ges) cpMark (via att.cpMark.ges) dir (via att.dir.ges) dynam (via att.dynam.ges) f (via att.f.ges) fermata (via att.fermata.ges) fing (via att.fing.ges) fingGrp (via att.fingGrp.ges) gliss (via att.gliss.ges) hairpin (via att.hairpin.ges) harm (via att.harm.ges) harpPedal (via att.harpPedal.ges) line (via att.line.ges) mRest (via att.mRest.ges) mSpace (via att.mSpace.ges) multiRest (via att.multiRest.ges) note (via att.note.ges)

	octave (via att.octave.ges) ornam (via att.ornam.ges) phrase (via att.phrase.ges) rest (via att.rest.ges) slur (via att.slur.ges) space (via att.space.ges) trill (via att.trill.ges) tuplet (via att.tuplet.ges) tupletSpan (via att.tupletSpan.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	<attDef ident= "dur.ges" usage= "opt"> <desc>Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.DURATION.gestural" /> </datatype> </attDef>

att.duration.ratio

att.duration.ratio Attributes that describe duration as a ratio.	
Module	MEI.shared
Members	mensur, mensuration (via att.mensur.log) att.note.ges.mensural (no elements directly inheriting from this class) note (via att.note.ges) proport (via att.proport.log) att.rest.ges.mensural (no elements directly inheriting from this class) rest (via att.rest.ges) tuplet (via att.tuplet.log) tupletSpan (via att.tupletSpan.log)
Attributes	@num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio]

	@numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio]

Declaration	`<attDef ident= "num" usage= "opt">`
	`<desc>Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "positiveInteger"/>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "numbase" usage= "opt">`
	`<desc>Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "positiveInteger"/>`
	`</datatype>`
	`</attDef>`

att.dynam.anl

att.dynam.anl Analytical domain attributes.	
Module	MEI.shared
Members	dynam (direct member of att.dynam.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.dynam.ges

att.dynam.ges Gestural domain attributes.	
Module	MEI.shared
Members	dynam (direct member of att.dynam.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @val *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue] @val2 *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue2]
Declaration	<classes> <memberOf key=" att.duration.performed" /> <memberOf key=" att.midivalue" /> <memberOf key=" att.midivalue2" /> </classes>

att.dynam.log

att.dynam.log Logical domain attributes.	
Module	MEI.shared
Members	dynam (direct member of att.dynam.log)

Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]

Declaration	`<classes>`
	`<memberOf key=" att.controlevent" />`
	`<memberOf key=" att.augmentdots" />`
	`<memberOf key=" att.duration.additive" />`

	<memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.dynam.vis

att.dynam.vis Visual domain attributes.	
Module	MEI.shared
Members	dynam (direct member of att.dynam.vis)
Attributes	@endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	<classes> <memberOf key=" att.placement" /> <memberOf key=" att.visualoffset" /> <memberOf key=" att.visualoffset2.ho" /> <memberOf key=" att.visualoffset2.to" /> <memberOf key=" att.xy" /> </classes>

att.edit

att.edit Attributes describing the nature of an encoded scholarly intervention or interpretation.	
Module	MEI.edittrans
Members	abbr, add, addName, bloc, corpName, corr, country, date, district, event, expan, famName, foreName, gap, genName, geogFeat, geogName, handShift, name, nameLink, orig, perfRes, perfResList, periodName, persName, reg, region, relation, restore, roleName, settlement, styleName, subst, supplied, unclear (direct members of att.edit)
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence] @resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility] @source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source]
Declaration	<classes> <memberOf key=" att.responsibility" /> <memberOf key=" att.source" /> <memberOf key=" att.evidence" /> </classes>

att.enclosingchars

att.enclosingchars Attributes that capture characters used to enclose symbols having a cautionary or editorial function.	
Module	MEI.shared
Members	accid (via att.accid.vis) artic (via att.artic.vis) chord (via att.chord.vis) cpMark (via att.cpMark.vis) keyAccid (via att.keyAccid.vis) note (via att.note.vis) rest (via att.rest.vis)
Attributes	@enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars]
Declaration	<attDef ident= "enclose" usage= "opt"> <desc>Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.ENCLOSURE" /> </datatype> </attDef>

att.ending.anl

att.ending.anl Analytical domain attributes.	
Module	MEI.shared
Members	ending (direct member of att.ending.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl]

	@next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key=" att.common.anl" /> </classes>`

att.ending.ges

att.ending.ges Gestural domain attributes.	
Module	MEI.shared
Members	ending (direct member of att.ending.ges)
Attributes	

att.ending.log

att.ending.log Logical domain attributes.	
Module	MEI.shared
Members	ending (direct member of att.ending.log)
Attributes	

att.ending.vis

att.ending.vis Visual domain attributes.	
Module	MEI.shared
Members	ending (direct member of att.ending.vis)
Attributes	

att.endings

att.endings Attributes that record ending style information	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis)
Attributes	@ending.rend *(optional)* Describes where ending marks should be displayed. Allowed values are: " top" *(Ending rendered only above top staff.)*, " barred" *(Ending rendered above staves that have bar lines drawn across them.)*, " grouped" *(Endings rendered above staff groups.)* [att.endings]

Declaration	`<attDef ident= "ending.rend" usage= "opt">`
	`<desc>Describes where ending marks should be displayed. </desc>`
	`<valList type= "closed">`
	`<valItem ident= "top">`
	`<desc>Ending rendered only above top staff. </desc>`
	`</valItem>`
	`<valItem ident= "barred">`
	`<desc>Ending rendered above staves that have bar lines drawn across them. </desc>`
	`</valItem>`
	`<valItem ident= "grouped">`
	`<desc>Endings rendered above staff groups. </desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`

att.event

att.event Attributes that apply to all written events, e.g., note, chord, rest, etc.

Module	MEI.shared
Members	clef, clefGrp (direct members of att.event) beam (via att.beam.log) beatRpt (via att.beatRpt.log) bTrem (via att.bTrem.log) chord (via att.chord.log) fTrem (via att.fTrem.log) halfmRpt (via att.halfmRpt.log) mRest (via att.mRest.log) mRpt (via att.mRpt.log) mRpt2 (via att.mRpt2.log) mSpace (via att.mSpace.log) multiRest (via att.multiRest.log) multiRpt (via att.multiRpt.log) note (via att.note.log) pad (via att.pad.log) rest (via att.rest.log) space (via att.space.log) tuplet (via att.tuplet.log) uneume (via att.uneume.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`<memberOf key=" att.timestamp.musical" />`
	`<memberOf key=" att.timestamp.performed" />`
	`<memberOf key=" att.staffident" />`
	`<memberOf key=" att.layerident" />`
	`</classes>`

att.evidence

att.evidence Attributes describing the support for and the certainty of an assertion.	
Module	MEI.edittrans
Members	abbr, add, addName, bloc, corpName, corr, country, date, district, event, expan, famName, foreName, gap, genName, geogFeat, geogName, handShift, name, nameLink, orig, perfRes, perfResList, periodName, persName, reg, region, relation, restore, roleName, settlement, styleName, subst, supplied, unclear (via att.edit)
Attributes	@cert *(optional)* Signifies the degree of certainty or precision associated with a feature. Value conforms to data.CERTAINTY . [att.evidence] @evidence *(optional)* Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. Value of datatype NMTOKEN. [att.evidence]

Declaration	`<attDef ident= "cert" usage= "opt">`
	`<desc>Signifies the degree of certainty or precision associated with a feature. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.CERTAINTY" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "evidence" usage= "opt">`
	`<desc>Indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. Suggested values include: 'internal', 'external', 'conjecture'. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "NMTOKEN"/>`
	`</datatype>`
	`</attDef>`

att.expandable

att.expandable Attributes that indicate whether to render a repeat symbol or the source material to which it refers.	
Module	MEI.cmn
Members	beatRpt (via att.beatRpt.vis)

	halfmRpt (via att.halfmRpt.vis) mRpt (via att.mRpt.vis) mRpt2 (via att.mRpt2.vis) multiRpt (via att.multiRpt.vis)
Attributes	@expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable]
Declaration	<attDef ident= "expand" usage= "opt"> <desc>Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>

att.extender

att.extender Attributes that describe extension symbols, typically lines. Members of this class are also typically members of the att.linerend class.	
Module	MEI.shared
Members	dir (via att.dir.vis) f (via att.f.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) harm (via att.harm.vis) octave (via att.octave.vis) trill (via att.trill.vis)
Attributes	@extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base]

	@lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base]
Declaration	<classes> <memberOf key= " att.linerend" /> </classes> <attDef ident= "extender" usage= "opt"> <desc>Indicates the presence of an extension symbol, typically a line. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>

att.extent

att.extent Attributes for identification of the extent of editorial assertions.	
Module	MEI.edittrans
Members	damage, gap (direct members of att.extent)
Attributes	@extent *(optional)* Indicates the extent of damage or omission. Value of datatype string. [att.extent]
Declaration	<attDef ident= "extent" usage= "opt"> <desc>Indicates the extent of damage or omission. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "string"/> </datatype> </attDef>

att.extsym

att.extsym Attributes used to associated MEI features with corresponding glyphs in an externally-defined standard such as SMuFL.	
Module	MEI.externalsymbols
Members	symbol (direct member of att.extsym) accid (via att.accid.vis) arpeg (via att.arpeg.vis) artic (via att.artic.vis) beatRpt (via att.beatRpt.vis) breath (via att.breath.vis) chord (via att.chord.vis) clef (via att.clef.vis) cpMark (via att.cpMark.vis) custos (via att.custos.vis) dot (via att.dot.vis) fermata (via att.fermata.vis) gliss (via att.gliss.vis) grpSym (via att.grpSym.vis) halfmRpt (via att.halfmRpt.vis) harpPedal (via att.harpPedal.vis) ineume (via att.ineume.vis) keyAccid (via att.keyAccid.vis) mensur (via att.mensur.vis) meterSig (via att.meterSig.vis) mordent (via att.mordent.vis) mRest (via att.mRest.vis) mRpt (via att.mRpt.vis) mRpt2 (via att.mRpt2.vis) multiRest (via att.multiRest.vis) multiRpt (via att.multiRpt.vis) note (via att.note.vis) pedal (via att.pedal.vis) proport (via att.proport.vis) sb (via att.sb.vis) trill (via att.trill.vis) turn (via att.turn.vis) uneume (via att.uneume.vis)
Attributes	@glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym]

	@glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym]

Declaration	`<attDef ident= "glyphname" usage= "opt">`
	`<desc>Glyph name. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string"/>`
	`</datatype>`
	`<constraintSpec ident= "check_glyphnameTarget" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "@glyphname">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq ''")"> @glyphname attribute should have content. </sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`
	
	`<attDef ident= "glyphnum" usage= "opt">`
	`<desc>Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 – U+ECBF.`
	`</desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string">`
	`<rng:param name= "pattern"> (#x|U\+)[A-F0-9]+ </rng:param>`
	`</rng:data>`
	`</datatype>`
	`<constraintSpec ident= "check_glyphnum" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "mei:*[starts-with(@glyphnum, 'U+')]">`
	`<sch:assert role= "warning" test= "string-length(@glyphnum) = 6"> SMuFL version 1.18 uses the range U+E000 – U+ECBF.`
	`</sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	@glyphname attribute should have content.
	
	`<sch:rule context= "@glyphname">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')">`
	`@glyphname attribute should have content. </sch:assert>`
	`</sch:rule>`

Constraints	SMuFL version 1.18 uses the range U+E000 - U+ECBF. `<sch:rule context= "mei:*[starts-with(@glyphnum, 'U+')]"> <sch:assert role= "warning" test= "string-length(@glyphnum) = 6"> SMuFL version 1.18 uses the range U+E000 – U+ECBF. </sch:assert> </sch:rule>`

att.f.anl

att.f.anl Analytical domain attributes.	
Module	MEI.shared
Members	f (direct member of att.f.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key= " att.common.anl" /> </classes>`

att.f.ges

att.f.ges Gestural domain attributes.	
Module	MEI.shared
Members	f (direct member of att.f.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	`<classes> <memberOf key=" att.duration.performed" /> </classes>`

att.f.log

att.f.log Logical domain attributes.	
Module	MEI.shared
Members	f (direct member of att.f.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval]

	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.f.vis

att.f.vis Visual domain attributes.	
Module	MEI.shared
Members	f (direct member of att.f.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym]

	@extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	

```
<classes>
 <memberOf key=" att.altsym" />
 <memberOf key=" att.extender" />
 <memberOf key=" att.placement" />
 <memberOf key=" att.visualoffset" />
 <memberOf key=" att.xy" />
</classes>
```

Remarks	If @tstamp2 is not provided, then the extender should be drawn based on the value of @tstamp2 on the harm ancestor.

att.fTrem.anl

att.fTrem.anl Analytical domain attributes.	
Module	MEI.cmn
Members	fTrem (direct member of att.fTrem.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.fTrem.ges

att.fTrem.ges Gestural domain attributes.	
Module	MEI.cmn
Members	fTrem (direct member of att.fTrem.ges)

Attributes	@measperf *(optional)* The performed duration of an individual note in a measured tremolo. Value conforms to data.DURATION.cmn . [att.tremmeasured]
Declaration	<classes> <memberOf key=" att.tremmeasured" /> </classes>

att.fTrem.log

att.fTrem.log Logical domain attributes.	
Module	MEI.cmn
Members	fTrem (direct member of att.fTrem.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @form *(optional)* Describes the style of the tremolo. Allowed values are: " meas" *(Measured tremolo.)*, " unmeas" *(Unmeasured tremolo.)* [att.fTrem.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.event" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.musical" />

	`</classes>`
	
	`<attDef ident= "form" usage= "opt">`
	`<desc>Describes the style of the tremolo. </desc>`
	`<valList type= "closed">`
	`<valItem ident= "meas">`
	`<desc>Measured tremolo. </desc>`
	`</valItem>`
	`<valItem ident= "unmeas">`
	`<desc>Unmeasured tremolo. </desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`

att.fTrem.vis

att.fTrem.vis Visual domain attributes.	
Module	MEI.cmn
Members	fTrem (direct member of att.fTrem.vis)
Attributes	@slash *(optional)* Indicates the number of slashes present. Value conforms to data.SLASH . [att.slashcount]

Declaration	`<classes>`
	`<memberOf key= " att.slashcount" />`
	`</classes>`

att.facsimile

att.facsimile Attributes that associate a feature corresponding with all or part of an image.	
Module	MEI.facsimile
Members	abbr, accid, actor, add, addName, address, addrLine, anchoredText, annot, arpeg, arranger, artic, author, avFile, back, barLine, beam, beamSpan, beatRpt, bend, bibl, biblList, biblScope, bloc, breath, bTrem, byline, caption, castGrp, castItem, castList, chord, clef, clefGrp, composer,

	corpName, country, cpMark, creation, curve, custos, damage, date, del, desc, dir, distributor, district, div, dot, dynam, editor, ending, event, eventList, expan, extent, f, famName, fb, fermata, fig, fing, fingGrp, foreName, front, fTrem, funder, genName, genre, geogFeat, geogName, gliss, graphic, grpSym, hairpin, halfmRpt, handShift, harm, harpPedal, head, identifier, imprint, ineume, keyAccid, keySig, l, label, layer, lb, lg, li, librettist, ligature, line, list, lyricist, lyrics, mdiv, measure, mensur, meterSig, meterSigGrp, mordent, mRest, mRpt, mRpt2, mSpace, multiRest, multiRpt, name, nameLink, note, num, octave, orig, ornam, ossia, p, pb, pedal, perfDuration, periodName, persName, pgFoot, pgFoot2, pgHead, pgHead2, phrase, physLoc, plateNum, postBox, postCode, proport, publisher, pubPlace, quote, recipient, region, reh, relatedItem, repository, resp, respStmt, rest, restore, role, roleDesc, roleName, sb, section, series, settlement, sic, slur, space, sponsor, stack, staff, staffGrp, street, styleName, supplied, syl, symbol, table, td, tempo, textLang, th, tie, title, titlePage, tr, trill, tuplet, tupletSpan, turn, unclear, uneume, verse, watermark (direct members of att.facsimile)
Attributes	@facs *(optional)* Permits the current element to reference a facsimile surface or image zone which corresponds to it. One or more values from data.URI , separated by spaces. [att.facsimile]

Declaration	`<attDef ident= "facs" usage= "opt">`
	`<desc>Permits the current element to reference a facsimile surface or image zone which corresponds to it. </desc>`
	`<datatype maxOccurs= "unbounded" minOccurs= "1">`
	`<rng:ref name= " data.URI" />`
	`</datatype>`
	`<constraintSpec ident= "check_facsTarget" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "@facs">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @facs attribute should have content. </sch:assert>`
	`<sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*[local-name() eq 'surface' or local-name() eq 'zone']/@xml:id" > Each value in @facs should correspond to the @xml:id attribute of a surface or zone element. </sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	@facs attribute should have content. Each value in @facs should correspond to the @xml:id attribute of a surface or zone element. `<sch:rule context= "@facs">`

	<sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @facs attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*[local-name() eq 'surface' or local-name() eq 'zone']/@xml:id" > Each value in @facs should correspond to the @xml:id attribute of a surface or zone element. </sch:assert> </sch:rule>

att.fermata.anl

att.fermata.anl Analytical domain attributes.	
Module	MEI.cmn
Members	fermata (direct member of att.fermata.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" /> </classes>

att.fermata.ges

att.fermata.ges Gestural domain attributes.	
Module	MEI.cmn
Members	fermata (direct member of att.fermata.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]

Declaration	`<classes>`
	`  <memberOf key= " att.duration.performed" />`
	`</classes>`

att.fermata.log

att.fermata.log Logical domain attributes.	
Module	MEI.cmn
Members	fermata (direct member of att.fermata.log)
Attributes	@endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist]

	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`<memberOf key=" att.controlevent" />`
	`<memberOf key=" att.startendid" />`
	`</classes>`

att.fermata.vis

att.fermata.vis Visual domain attributes.	
Module	MEI.cmn
Members	fermata (direct member of att.fermata.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography]

	@fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Describes the visual appearance of the fermata; that is, whether it occurs as upright or inverted. Allowed values are: " **inv**" *(Inverted, i.e., curve or bracket below the dot.)*, " **norm**" *(Upright; i.e., curve or bracket above the dot.)* [att.fermata.vis] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @shape *(optional)* Describes the visual appearance of the fermata; that is, whether it has a curved, square, or angular shape. Allowed values are: " **curved**" *(A curve above or below the dot.)*, " **square**" *(A bracket above or below the dot.)*, " **angular**" *(A triangle above or below the dot.)* [att.fermata.vis] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.extsym" />`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.xy" />`
	`</classes>`

```
<attDef ident= "form" usage= "opt">
 <desc>Describes the visual appearance of the fermata; that is, whether
 it occurs as upright or inverted. </desc>
 <valList type= "closed">
   <valItem ident= "inv">
     <desc>Inverted, i.e., curve or bracket below the dot. </desc>
   </valItem>
   <valItem ident= "norm">
     <desc>Upright; i.e., curve or bracket above the dot. </desc>
   </valItem>
 </valList>
</attDef>
```

```
<attDef ident= "shape" usage= "opt">
 <desc>Describes the visual appearance of the fermata; that is, whether
 it has a curved, square, or angular shape. </desc>
 <valList type= "closed">
   <valItem ident= "curved">
     <desc>A curve above or below the dot. </desc>
   </valItem>
   <valItem ident= "square">
     <desc>A bracket above or below the dot. </desc>
   </valItem>
   <valItem ident= "angular">
     <desc>A triangle above or below the dot. </desc>
   </valItem>
 </valList>
</attDef>
```

att.fermatapresent

att.fermatapresent Attributes indicating the attachment of a fermata to the feature.	
Module	MEI.shared
Members	chord (via att.chord.log) mRest (via att.mRest.log) mSpace (via att.mSpace.log) note (via att.note.log) rest (via att.rest.log) space (via att.space.log)

Attributes	@fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent]
Declaration	<attDef ident= "fermata" usage= "opt"> <desc>Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.PLACE" /> </datatype> </attDef>

att.filing

att.filing Attributes that deal with string filing characteristics.	
Module	MEI.shared
Members	title (direct member of att.filing) addName, bloc, corpName, country, district, famName, foreName, genName, geogFeat, geogName, name, nameLink, periodName, persName, region, repository, roleName, settlement, styleName (via att.name)
Attributes	@nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype positiveInteger. [att.filing]
Declaration	<attDef ident= "nonfiling" usage= "opt"> <desc>Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "positiveInteger"/> </datatype> </attDef>

att.fing.anl

att.fing.anl Analytical domain attributes.	
Module	MEI.fingering
Members	fing (direct member of att.fing.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.fing.ges

att.fing.ges Gestural domain attributes.	
Module	MEI.fingering
Members	fing (direct member of att.fing.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML

	'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	<classes> <memberOf key=" att.duration.performed" /> </classes>

att.fing.log

att.fing.log Logical domain attributes.	
Module	MEI.fingering
Members	fing (direct member of att.fing.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid]

	@tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.fing.vis

att.fing.vis Visual domain attributes.	
Module	MEI.fingering
Members	fing (direct member of att.fing.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base]

	@lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.extender" />`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.xy" />`
	`</classes>`

Remarks	If @tstamp2 is not provided, then the extender should be drawn based on the value of @tstamp2 on a fingering ancestor.

att.fingGrp.anl

att.fingGrp.anl Analytical domain attributes.	
Module	MEI.fingering
Members	fingGrp (direct member of att.fingGrp.anl)

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.fingGrp.ges

att.fingGrp.ges Gestural domain attributes.	
Module	MEI.fingering
Members	fingGrp (direct member of att.fingGrp.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]

Declaration	`<classes>`
	`<memberOf key=" att.duration.performed" />`
	`</classes>`

att.fingGrp.log

att.fingGrp.log Logical domain attributes.	
Module	MEI.fingering
Members	fingGrp (direct member of att.fingGrp.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @form *(optional)* Allowed values are: " **alter**" *(alternation of fingers.)*, " **combi**" *(combination of fingers.)*, " **subst**" *(substitution of fingers.)* [att.fingGrp.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

	@tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes> <attDef ident= "form" usage= "opt"> <valList type= "closed"> <valItem ident= "alter"> <desc>alternation of fingers. </desc> </valItem> <valItem ident= "combi"> <desc>combination of fingers. </desc> </valItem> <valItem ident= "subst"> <desc>substitution of fingers. </desc> </valItem> </valList> </attDef>

att.fingGrp.vis

att.fingGrp.vis Visual domain attributes.	
Module	MEI.fingering
Members	fingGrp (direct member of att.fingGrp.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho]

	@lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @orient *(optional)* Allowed values are: " horiz" *(Combination expressed horizontally, as for brass instruments.)*, " vert" *(Combination expressed vertically, as for woodwind instruments or piano.)* [att.fingGrp.vis] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype decimal. [att.xy]
Declaration	 

	`<desc>Combination expressed horizontally, as for brass instruments. </desc>`
	`</valItem>`
	`<valItem ident= "vert">`
	`<desc>Combination expressed vertically, as for woodwind instruments or piano. </desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`

att.fretlocation

att.fretlocation Attributes that describe a fret location.	
Module	MEI.harmony
Members	barre, chordMember (direct members of att.fretlocation)
Attributes	@fret *(optional)* Records the location at which a string should be stopped against a fret. Value conforms to data.FRET . [att.fretlocation]

Declaration	`<attDef ident= "fret" usage= "opt">`
	`<desc>Records the location at which a string should be stopped against a fret. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.FRET" />`
	`</datatype>`
	`</attDef>`

att.gliss.anl

att.gliss.anl Analytical domain attributes.	
Module	MEI.cmn
Members	gliss (direct member of att.gliss.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl]

	@corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key=" att.common.anl" /> </classes>`

att.gliss.ges

att.gliss.ges Gestural domain attributes.	
Module	MEI.cmn
Members	gliss (direct member of att.gliss.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	`<classes> <memberOf key=" att.duration.performed" /> </classes>`

att.gliss.log

att.gliss.log Logical domain attributes.	
Module	MEI.cmn
Members	gliss (direct member of att.gliss.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

	@tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.gliss.vis

att.gliss.vis Visual domain attributes.	
Module	MEI.cmn
Members	gliss (direct member of att.gliss.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography]

	@fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]

Declaration	`<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> <memberOf key=" att.visualoffset" /> <memberOf key=" att.visualoffset2" /> <memberOf key=" att.xy" /> <memberOf key=" att.xy2" /> <memberOf key=" att.linerend" /> </classes>`

att.graced

att.graced Attributes that mark a note or chord as a "grace", how it should "steal" time, and how much time should be allotted to the grace note/chord.	
Module	MEI.cmn
Members	att.chord.ges.cmn (no elements directly inheriting from this class) chord (via att.chord.ges) att.note.ges.cmn (no elements directly inheriting from this class) note (via att.note.ges)
Attributes	@grace *(optional)* Marks a note or chord as a "grace" (without a definitive written duration) and records from which other note/chord it should "steal" time. Value conforms to data.GRACE . [att.graced] @grace.time *(optional)* Records the amount of time to be "stolen" from a non-grace note/chord. Value conforms to data.PERCENT . [att.graced]
Declaration	`<attDef ident= "grace" usage= "opt"> <desc>Marks a note or chord as a "grace" (without a definitive written duration) and records from which other note/chord it should "steal" time. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.GRACE" /> </datatype> </attDef>` `<attDef ident= "grace.time" usage= "opt">`

	<desc>Records the amount of time to be "stolen" from a non-grace note/ chord. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.PERCENT" /> </datatype> </attDef>

att.grpSym.anl

att.grpSym.anl Analytical domain attributes.	
Module	MEI.shared
Members	grpSym (direct member of att.grpSym.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" /> </classes>

att.grpSym.ges

att.grpSym.ges Gestural domain attributes.	
Module	MEI.shared
Members	grpSym (direct member of att.grpSym.ges)
Attributes	

att.grpSym.log

att.grpSym.log Logical domain attributes.	
Module	MEI.shared
Members	grpSym (direct member of att.grpSym.log)
Attributes	@endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @level *(optional)* Indicates the nesting level of staff grouping symbols. Value of datatype positiveInteger. [att.grpSym.log] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @symbol *(optional)* Specifies the symbol used to group a set of staves. Allowed values are: " brace" *(Curved symbol, i.e., {.)*, " bracket" *(Square symbol, i.e., [, but with curved/angled top and bottom segments.)*, " bracketsq" *(Square symbol, i.e., [, with horizontal top and bottom segments.)*, " line" *(Line symbol, i.e., |, (wide) line without top and bottom curved/horizontal segments.)* , " none" *(Grouping symbol missing.)* [att.staffgroupingsym]

Declaration	`<classes>`
	`<memberOf key= " att.staffgroupingsym" />`
	`<memberOf key= " att.startendid" />`
	`</classes>`
	
	`<attDef ident= "level" usage= "opt">`
	`<desc>Indicates the nesting level of staff grouping symbols. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "positiveInteger"/>`
	`</datatype>`
	`</attDef>`

att.grpSym.vis

att.grpSym.vis Visual domain attributes.	
Module	MEI.shared
Members	grpSym (direct member of att.grpSym.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> <memberOf key=" att.visualoffset" /> <memberOf key=" att.xy" /> </classes>`

att.hairpin.anl

att.hairpin.anl Analytical domain attributes.	
Module	MEI.cmn
Members	hairpin (direct member of att.hairpin.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key=" att.common.anl" /> </classes>`

att.hairpin.ges

att.hairpin.ges Gestural domain attributes.	
Module	MEI.cmn
Members	hairpin (direct member of att.hairpin.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @val *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue] @val2 *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue2]

Declaration	`<classes>`
	`<memberOf key=" att.duration.performed" />`
	`<memberOf key=" att.midivalue" />`
	`<memberOf key=" att.midivalue2" />`
	`</classes>`

att.hairpin.log

att.hairpin.log Logical domain attributes.	
Module	MEI.cmn
Members	hairpin (direct member of att.hairpin.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of*

	that pointer will be taken, and so on, until an element is found which is not a pointer.) , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @form *(required)* Captures the visual rendition and function of the hairpin; that is, whether it indicates an increase or a decrease in volume. Allowed values are: " cres" *(Crescendo; i.e., louder.)*, " dim" *(Diminuendo; i.e., softer.)* [att.hairpin.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @niente *(optional)* Indicates that the hairpin starts from or ends in silence. Often rendered as a small circle attached to the closed end of the hairpin. See Gould, p. 108. Value conforms to data.BOOLEAN . [att.hairpin.log] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes> <attDef ident="form" usage="req">

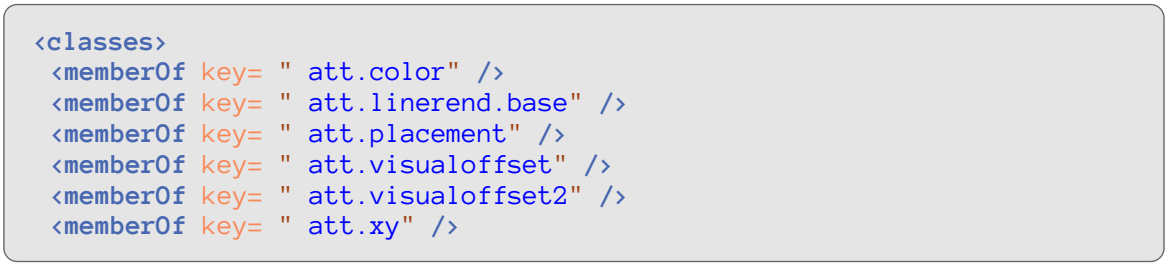
```
 <desc>Captures the visual rendition and function of the hairpin; that
 is, whether it indicates an increase or a decrease in volume. </desc>
 <valList type= "closed">
  <valItem ident= "cres">
   <desc>Crescendo; i.e., louder. </desc>
  </valItem>
  <valItem ident= "dim">
   <desc>Diminuendo; i.e., softer. </desc>
  </valItem>
 </valList>
</attDef>
```

```
<attDef ident= "niente" usage= "opt">
 <desc>Indicates that the hairpin starts from or ends in silence. Often
 rendered as a small circle attached to the closed end of the hairpin.
 See Gould, p. 108. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
  <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

att.hairpin.vis

att.hairpin.vis Visual domain attributes. The startho and startvo attributes record the horizontal and vertical offsets of the left end, endho and endvo record the horizontal and vertical offsets of the right end, and the opening attribute records the width of the opening in staff inter-line units. The x and y attributes give the absolute coordinates of the left end point, and x2 and y2 the right end point, of an imaginary line that defines the length of the hairpin and horizontally bifurcates it. The so-called "pitch" of hairpin may be controlled by use of the startho, endho, startvo, and endvo attributes, while the placement of the entire rendered mark may be controlled by use of the ho and vo attributes.

Module	MEI.cmn
Members	hairpin (direct member of att.hairpin.vis)
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to]

	@endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @opening *(optional)* Specifies the distance between the lines at the open end of a hairpin dynamic mark. Value conforms to data.MEASUREMENTABS . [att.hairpin.vis] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]
Declaration	

	<memberOf key=" att.xy2" /> </classes> <attDef ident= "opening" usage= "opt"> <desc>Specifies the distance between the lines at the open end of a hairpin dynamic mark. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MEASUREMENTABS" /> </datatype> </attDef>

att.halfmRpt.anl

att.halfmRpt.anl Analytical domain attributes.	
Module	MEI.cmn
Members	halfmRpt (direct member of att.halfmRpt.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" />

	`</classes>`

att.halfmRpt.ges

att.halfmRpt.ges Gestural domain attributes.	
Module	MEI.cmn
Members	halfmRpt (direct member of att.halfmRpt.ges)
Attributes	

att.halfmRpt.log

att.halfmRpt.log Logical domain attributes.	
Module	MEI.cmn
Members	halfmRpt (direct member of att.halfmRpt.log)
Attributes	@dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	`<classes>` `<memberOf key=" att.event" />`

	<memberOf key=" att.duration.musical" /> </classes>

att.halfmRpt.vis

att.halfmRpt.vis Visual domain attributes.	
Module	MEI.cmn
Members	halfmRpt (direct member of att.halfmRpt.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to]

	@vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.expandable" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> <memberOf key=" att.visualoffset" /> </classes>

att.handident

att.handident Attributes which identify a document hand.	
Module	MEI.shared
Members	damage, gap, unclear (direct members of att.handident) lem, rdg (via att.crit) abbr, add, corr, del, expan, restore, subst (via att.trans)
Attributes	@hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident]
Declaration	<attDef ident= "hand" usage= "opt"> <desc>Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> <constraintSpec ident= "check_handTarget" scheme= "isoschematron"> <constraint> <sch:rule context= "@hand"> <sch:assert role= "warning" test= "not(normalize-space(.) eq ''")"> @hand attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:hand/@xml:id"> Each value in @hand should correspond to the @xml:id attribute of a hand element. </sch:assert> </sch:rule>

	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	@hand attribute should have content.
	Each value in @hand should correspond to the @xml:id attribute of a hand element.
	`<sch:rule context= "@hand">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')">`
	`@hand attribute should have content. </sch:assert>`
	`<sch:assert role= "warning" test= "every $i in tokenize(., '\s+')`
	`satisfies substring($i,2)=//mei:hand/@xml:id"> Each value in @hand`
	`should correspond to the @xml:id attribute of a hand element.`
	`</sch:assert>`
	`</sch:rule>`

att.harm.anl

att.harm.anl Analytical domain attributes.	
Module	MEI.harmony
Members	harm (direct member of att.harm.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @inth *(optional)* Encodes the harmonic interval between pitches occurring at the same time. One or more values from data.INTERVAL.HARMONIC , separated by spaces. [att.intervalharmonic] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> <memberOf key=" att.intervalharmonic" /> </classes>

att.harm.ges

att.harm.ges Gestural domain attributes.	
Module	MEI.harmony
Members	harm (direct member of att.harm.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	<classes> <memberOf key=" att.duration.performed" /> </classes>

att.harm.log

att.harm.log Logical domain attributes.	
Module	MEI.harmony
Members	harm (direct member of att.harm.log)
Attributes	@chordref *(optional)* Contains a reference to a <chordDef> element elsewhere in the document. Value conforms to data.URI . [att.harm.log] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots]

	@dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	`<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" />`

	`</classes>`
	
	`<attDef ident= "chordref" usage= "opt">`
	` <desc>Contains a reference to a <chordDef> element elsewhere in the`
	` document. </desc>`
	` <datatype maxOccurs= "1" minOccurs= "1">`
	`  <rng:ref name= " data.URI" />`
	` </datatype>`
	` <constraintSpec ident= "check_chordrefTarget" scheme= "isoschematron">`
	`  <constraint>`
	`  <sch:rule context= "@chordref">`
	`  <sch:assert role= "warning" test= "not(normalize-space(.) eq`
	`  '')"> @chordref attribute should have content. </sch:assert>`
	`  <sch:assert role= "warning" test= "every $i in tokenize(.,`
	`  '\s+') satisfies substring($i,2)=//mei:chordDef/@xml:id"> The`
	`  value in @chordref should correspond to the @xml:id attribute of`
	`  a chordDef element. </sch:assert>`
	`  </sch:rule>`
	`  </constraint>`
	` </constraintSpec>`
	`</attDef>`

Constraints	@chordref attribute should have content.
	The value in @chordref should correspond to the @xml:id attribute of a chordDef element.
	
	`<sch:rule context= "@chordref">`
	` <sch:assert role= "warning" test= "not(normalize-space(.) eq '')">`
	` @chordref attribute should have content. </sch:assert>`
	` <sch:assert role= "warning" test= "every $i in tokenize(., '\s+')`
	` satisfies substring($i,2)=//mei:chordDef/@xml:id"> The value in`
	` @chordref should correspond to the @xml:id attribute of a chordDef`
	` element. </sch:assert>`
	`</sch:rule>`

att.harm.vis

att.harm.vis Visual domain attributes.	
Module	MEI.harmony
Members	harm (direct member of att.harm.vis)

Attributes	@endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @rendgrid *(optional)* Describes how the harmonic indication should be rendered. Allowed values are: " **grid**" *(Chord tablature grid.)*, " **gridtext**" *(Chord tablature grid and the element's textual content.)*, " **text**" *(Textual content of the element.)* [att.harm.vis] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	<classes> <memberOf key=" att.extender" /> <memberOf key=" att.placement" /> <memberOf key=" att.visualoffset" /> <memberOf key=" att.visualoffset2.ho" /> <memberOf key=" att.visualoffset2.to" /> <memberOf key=" att.xy" /> </classes> <attDef ident= "rendgrid" usage= "opt"> <desc>Describes how the harmonic indication should be rendered. </desc> <valList type= "closed"> <valItem ident= "grid"> <desc>Chord tablature grid. </desc> </valItem> <valItem ident= "gridtext"> <desc>Chord tablature grid and the element's textual content. </desc> </valItem> <valItem ident= "text"> <desc>Textual content of the element. </desc> </valItem> </valList> </attDef>

att.harmonicfunction

att.harmonicfunction Attributes describing the harmonic function of a single pitch.	
Module	MEI.analysis
Members	note (via att.note.anl) uneume (via att.uneume.anl)
Attributes	@deg *(optional)* Captures relative scale degree information using Humdrum **deg syntax -- an optional indicator of melodic approach (^ = ascending approach, v = descending approach), a scale degree value (1 = tonic ... 7 = leading tone), and an optional indication of chromatic alteration. The amount of chromatic alternation is not indicated. Value conforms to data.SCALEDEGREE . [att.harmonicfunction]

Declaration	`<attDef ident= "deg" usage= "opt">` `<desc>Captures relative scale degree information using Humdrum **deg syntax -- an optional indicator of melodic approach (^ = ascending approach, v = descending approach), a scale degree value (1 = tonic ... 7 = leading tone), and an optional indication of chromatic alteration. The amount of chromatic alternation is not indicated. </desc>` `<datatype maxOccurs= "1" minOccurs= "1">` `<rng:ref name= " data.SCALEDEGREE" />` `</datatype>` `</attDef>`

att.harpPedal.anl

att.harpPedal.anl Analytical domain attributes.	
Module	MEI.cmn
Members	harpPedal (direct member of att.harpPedal.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.harpPedal.ges

att.harpPedal.ges Gestural domain attributes.	
Module	MEI.cmn
Members	harpPedal (direct member of att.harpPedal.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	`<classes> <memberOf key=" att.duration.performed" /> </classes>`

att.harpPedal.log

att.harpPedal.log Logical domain attributes. The pedal setting, i.e., flat, natural, or sharp, for each diatonic pitch name is indicated by the seven letter-named attributes.	
Module	MEI.cmn
Members	harpPedal (direct member of att.harpPedal.log)
Attributes	@a *(optional)* Indicates the pedal setting for the harp's A strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @b *(optional)* Indicates the pedal setting for the harp's B strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @c *(optional)* Indicates the pedal setting for the harp's C strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @d *(optional)* Indicates the pedal setting for the harp's D strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @e *(optional)* Indicates the pedal setting for the harp's E strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of*

	that pointer will be taken, and so on, until an element is found which is not a pointer.) , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @f *(optional)* Indicates the pedal setting for the harp's F strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @g *(optional)* Indicates the pedal setting for the harp's G strings. Allowed values are: " f" *(Flat.)*, " n" *(Natural.)*, " s" *(Sharp.)* [att.harpPedal.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`<memberOf key= " att.controlevent" />`
	`<memberOf key= " att.startendid" />`
	`</classes>`
	
	`<attDef ident= "c" usage= "opt">`
	`<desc>Indicates the pedal setting for the harp's C strings. </desc>`
	`<defaultVal>n </defaultVal>`
	`<valList type= "closed">`
	`<valItem ident= "f">`
	`<desc>Flat. </desc>`
	`</valItem>`
	`<valItem ident= "n">`
	`<desc>Natural. </desc>`
	`</valItem>`

```
    <valItem ident= "s">
      <desc>Sharp. </desc>
    </valItem>
  </valList>
</attDef>
```

```
<attDef ident= "d" usage= "opt">
 <desc>Indicates the pedal setting for the harp's D strings. </desc>
 <defaultVal>n </defaultVal>
 <valList type= "closed">
   <valItem ident= "f">
     <desc>Flat. </desc>
   </valItem>
   <valItem ident= "n">
     <desc>Natural. </desc>
   </valItem>
   <valItem ident= "s">
     <desc>Sharp. </desc>
   </valItem>
 </valList>
</attDef>
```

```
<attDef ident= "e" usage= "opt">
 <desc>Indicates the pedal setting for the harp's E strings. </desc>
 <defaultVal>n </defaultVal>
 <valList type= "closed">
   <valItem ident= "f">
     <desc>Flat. </desc>
   </valItem>
   <valItem ident= "n">
     <desc>Natural. </desc>
   </valItem>
   <valItem ident= "s">
     <desc>Sharp. </desc>
   </valItem>
 </valList>
</attDef>
```

```
<attDef ident= "f" usage= "opt">
 <desc>Indicates the pedal setting for the harp's F strings. </desc>
 <defaultVal>n </defaultVal>
 <valList type= "closed">
   <valItem ident= "f">
     <desc>Flat. </desc>
   </valItem>
```

```
    <valItem ident= "n">
      <desc>Natural. </desc>
    </valItem>
    <valItem ident= "s">
      <desc>Sharp. </desc>
    </valItem>
  </valList>
</attDef>
```

```
<attDef ident= "g" usage= "opt">
 <desc>Indicates the pedal setting for the harp's G strings. </desc>
 <defaultVal>n </defaultVal>
 <valList type= "closed">
   <valItem ident= "f">
     <desc>Flat. </desc>
   </valItem>
   <valItem ident= "n">
     <desc>Natural. </desc>
   </valItem>
   <valItem ident= "s">
     <desc>Sharp. </desc>
   </valItem>
 </valList>
</attDef>
```

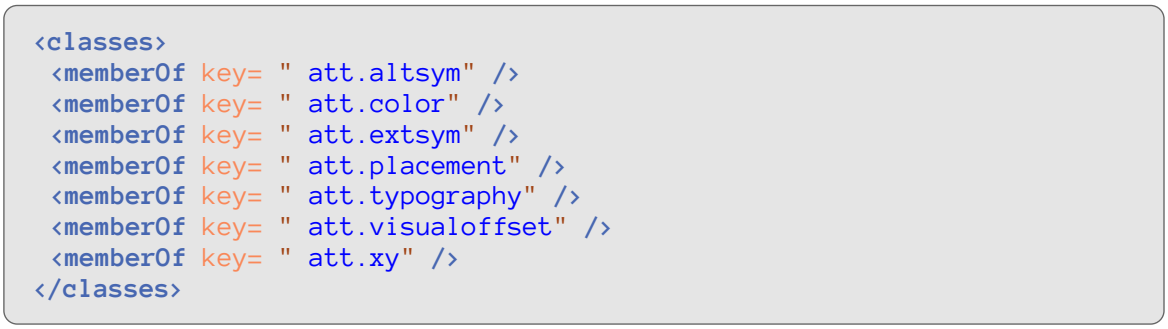
```
<attDef ident= "a" usage= "opt">
 <desc>Indicates the pedal setting for the harp's A strings. </desc>
 <defaultVal>n </defaultVal>
 <valList type= "closed">
   <valItem ident= "f">
     <desc>Flat. </desc>
   </valItem>
   <valItem ident= "n">
     <desc>Natural. </desc>
   </valItem>
   <valItem ident= "s">
     <desc>Sharp. </desc>
   </valItem>
 </valList>
</attDef>
```

```
<attDef ident= "b" usage= "opt">
 <desc>Indicates the pedal setting for the harp's B strings. </desc>
 <defaultVal>n </defaultVal>
 <valList type= "closed">
```

	<valItem ident= "f"> <desc>Flat. </desc> </valItem> <valItem ident= "n"> <desc>Natural. </desc> </valItem> <valItem ident= "s"> <desc>Sharp. </desc> </valItem> </valList> </attDef>

att.harpPedal.vis

att.harpPedal.vis Visual domain attributes.	
Module	MEI.cmn
Members	harpPedal (direct member of att.harpPedal.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym]

	@ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	

att.height

att.height Attributes that describe vertical size.	
Module	MEI.shared
Members	graphic (via att.dimensions)
Attributes	@height *(optional)* Measurement of the vertical dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.height]

Declaration	`<attDef ident= "height" usage= "opt">`
	`<desc>Measurement of the vertical dimension of an entity. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTABS" />`
	`</datatype>`
	`</attDef>`

att.horizontalalign

att.horizontalalign Attributes that record horizontal alignment.	
Module	MEI.shared
Members	rend (direct member of att.horizontalalign) syl (via att.syl.vis)
Attributes	@halign *(optional)* Records horizontal alignment. Value conforms to data.HORIZONTALALIGNMENT . [att.horizontalalign]

Declaration	`<attDef ident= "halign" usage= "opt">`
	`<desc>Records horizontal alignment. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.HORIZONTALALIGNMENT" />`
	`</datatype>`
	`</attDef>`

att.id

att.id Attributes that uniquely identify an element.	
Module	MEI.shared
Members	mei (direct member of att.id) layer, layerDef, staff, staffDef (via att.commonPart) abbr, accessRestrict, accid, actor, add, addName, address, addrLine, altId, anchoredText, annot, app, appInfo, application, arpeg, arranger, artic, audience, author, availability, avFile, back, barLine, barre, beam, beamSpan, beatRpt, bend, bibl, biblList, biblScope, bloc, body, breath, bTrem, byline, caption, captureMode, carrierForm, castGrp, castItem, castList, cc, chan, change, changeDesc, chanPr, choice, chord, chordDef, chordMember, chordTable, classCode,

	classification, clef, clefGrp, clip, componentGrp, composer, condition, contentItem, contents, context, corpName, corr, correction, country, cpMark, creation, cue, curve, custos, damage, date, del, depth, desc, dimensions, dir, distributor, district, div, dot, dynam, edition, editionStmt, editor, editorialDecl, encodingDesc, ending, event, eventList, exhibHist, expan, expansion, expression, expressionList, extent, extMeta, f, facsimile, famName, fb, fermata, fig, figDesc, fileChar, fileDesc, fing, fingerprint, fingGrp, foreName, front, fTrem, funder, gap, genName, genre, geogFeat, geogName, gliss, graphic, group, grpSym, hairpin, halfmRpt, hand, handList, handShift, harm, harpPedal, head, height, hex, history, identifier, imprint, incip, incipCode, incipText, ineume, inscription, instrDef, instrGrp, interpretation, item, itemList, key, keyAccid, keySig, l, label, language, langUsage, lb, lem, lg, li, librettist, ligature, line, list, lyricist, lyrics, mapping, marker, mdiv, measure, meiCorpus, meiHead, mensur, mensuration, metaText, meter, meterSig, meterSigGrp, midi, mordent, mRest, mRpt, mRpt2, mSpace, multiRest, multiRpt, music, name, normalization, nameLink, note, noteOff, noteOn, notesStmt, num, octave, orig, ornam, ossia, otherChar, p, pad, part, parts, pb, pedal, perfDuration, perfMedium, performance, perfRes, perfResList, periodName, persName, pgDesc, pgFoot, pgFoot2, pgHead, pgHead2, phrase, physDesc, physLoc, physMedium, plateNum, playingSpeed, port, postBox, postCode, price, prog, projectDesc, propName, proport, propValue, provenance, ptr, publisher, pubPlace, pubStmt, quote, rdg, recipient, recording, ref, reg, region, reh, relatedItem, relation, relationList, rend, repository, resp, respStmt, rest, restore, revisionDesc, role, roleDesc, roleName, samplingDecl, sb, score, scoreDef, scoreFormat, section, segmentation, seqNum, series, seriesStmt, settlement, sic, slur, soundChan, source, sourceDesc, space, specRepro, sponsor, stack, staffGrp, stdVals, street, styleName, subst, supplied, surface, syl, syllable, symbol, symbolDef, symName, symProp, symbolTable, sysReq, table, td, tempo, term, termList, textLang, th, tie, title, titlePage, titleStmt, tr, trackConfig, treatHist, treatSched, trill, trkName, tuplet, tupletSpan, turn, unclear, uneume, unpub, useRestrict, vel, verse, watermark, when, width, work, workDesc, zone (via att.common)
Attributes	@xml:id *(optional)* Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. Value of datatype **ID**. [att.id]

Declaration	`<attDef ident= "xml:id" usage= "opt">`
	`<desc>Regularizes the naming of an element and thus facilitates building links between it and other resources. Each id attribute within a document must have a unique value. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "ID"/>`
	`</datatype>`
	`</attDef>`

att.ineume.anl

att.ineume.anl Analytical domain attributes.

Module	MEI.neumes
Members	ineume (direct member of att.ineume.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.ineume.ges

att.ineume.ges Gestural domain attributes.	
Module	MEI.neumes
Members	ineume (direct member of att.ineume.ges)
Attributes	

att.ineume.log

att.ineume.log Logical domain attributes.

Module	MEI.neumes
Members	ineume (direct member of att.ineume.log)
Attributes	@form *(optional)* Provides a subclass or functional label for the neume. Value conforms to data.INEUMEFORM . [att.ineume.log] @name *(optional)* Records the name of the neume. Value conforms to data.INEUMENAME . [att.ineume.log]
Declaration	<attDef ident= "form" usage= "opt"> <desc>Provides a subclass or functional label for the neume. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.INEUMEFORM" /> </datatype> </attDef> <attDef ident= "name" usage= "opt"> <desc>Records the name of the neume. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.INEUMENAME" /> </datatype> </attDef>

att.ineume.vis

att.ineume.vis Visual domain attributes.	
Module	MEI.neumes
Members	ineume (direct member of att.ineume.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography]

	@fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.extsym" /> <memberOf key=" att.staffloc" /> <memberOf key=" att.typography" /> </classes>

att.instrumentident

att.instrumentident Attributes which identify a MIDI instrument.	
Module	MEI.shared
Members	chord (via att.chord.ges) layerDef (via att.layerDef.ges) mRest (via att.mRest.ges) mSpace (via att.mSpace.ges) multiRest (via att.multiRest.ges) note (via att.note.ges) rest (via att.rest.ges) staffDef (via att.staffDef.ges) staffGrp (via att.staffGrp.ges)
Attributes	@instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident]

Declaration	`<attDef ident= "instr" usage= "opt">`
	`<desc>Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document.</desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.URI" />`
	`</datatype>`
	`<constraintSpec ident= "check_instrTarget" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "@instr">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @instr attribute should have content. </sch:assert>`
	`<sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:instrDef/@xml:id"> The value in @instr should correspond to the @xml:id attribute of an instrDef element. </sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	@instr attribute should have content.
	The value in @instr should correspond to the @xml:id attribute of an instrDef element.
	
	`<sch:rule context= "@instr">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')">`
	`@instr attribute should have content. </sch:assert>`
	`<sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:instrDef/@xml:id"> The value in @instr should correspond to the @xml:id attribute of an instrDef element.`
	`</sch:assert>`
	`</sch:rule>`

att.internetmedia

att.internetmedia Attributes which record the type of an electronic resource.	
Module	MEI.shared
Members	avFile, graphic, incipCode, incipText, ptr, ref (direct members of att.internetmedia)

Attributes	@mimetype *(optional)* Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. Value of datatype string. [att.internetmedia]

Declaration	`<attDef ident= "mimetype" usage= "opt">`
	`<desc>Specifies the applicable MIME (multimedia internet mail extension) type. The value should be a valid MIME media type defined by the Internet Engineering Task Force in RFC 2046. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string"/>`
	`</datatype>`
	`</attDef>`

att.intervalharmonic

att.intervalharmonic Attributes that describe harmonic intervals.	
Module	MEI.analysis
Members	chordMember (direct member of att.intervalharmonic) harm (via att.harm.anl) att.intervallicdesc (no elements directly inheriting from this class)
Attributes	@inth *(optional)* Encodes the harmonic interval between pitches occurring at the same time. One or more values from data.INTERVAL.HARMONIC , separated by spaces. [att.intervalharmonic]

Declaration	`<attDef ident= "inth" usage= "opt">`
	`<desc>Encodes the harmonic interval between pitches occurring at the same time. </desc>`
	`<datatype maxOccurs= "unbounded" minOccurs= "1">`
	`<rng:ref name= " data.INTERVAL.HARMONIC" />`
	`</datatype>`
	`</attDef>`

att.intervallicdesc

att.intervallicdesc Attributes that provide for description of intervallic content.	
Module	MEI.analysis

Members	
Attributes	@inth *(optional)* Encodes the harmonic interval between pitches occurring at the same time. One or more values from data.INTERVAL.HARMONIC , separated by spaces. [att.intervalharmonic] @intm *(optional)* Encodes the melodic interval from the previous pitch. The value may be a general directional indication (u, d, s), an indication of diatonic interval direction, quality, and size, or a precise numeric value in half steps. Value conforms to data.INTERVAL.MELODIC . [att.intervalmelodic]
Declaration	`<classes> <memberOf key=" att.intervalharmonic" /> <memberOf key=" att.intervalmelodic" /> </classes>`

att.intervalmelodic

att.intervalmelodic Attributes that provide for description of intervallic content.	
Module	MEI.analysis
Members	att.intervallicdesc (no elements directly inheriting from this class) note (via att.note.anl) uneume (via att.uneume.anl)
Attributes	@intm *(optional)* Encodes the melodic interval from the previous pitch. The value may be a general directional indication (u, d, s), an indication of diatonic interval direction, quality, and size, or a precise numeric value in half steps. Value conforms to data.INTERVAL.MELODIC . [att.intervalmelodic]
Declaration	`<attDef ident= "intm" usage= "opt"> <desc>Encodes the melodic interval from the previous pitch. The value may be a general directional indication (u, d, s), an indication of diatonic interval direction, quality, and size, or a precise numeric value in half steps. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name=" data.INTERVAL.MELODIC" /> </datatype> </attDef>`

att.joined

att.joined Attributes indicating that elements are semantically linked; that is, while the parts are encoded separately, together they may be thought of as a single intellectual object.	
Module	MEI.shared
Members	measure (via att.measure.anl) phrase (via att.phrase.anl) slur (via att.slur.anl)
Attributes	@join *(optional)* Used for linking visually separate entities that form a single logical entity, for example, multiple slurs broken across a system break that form a single musical phrase. Also used to indicate a measure which metrically completes the current one. Record the identifiers of the separately encoded components, excluding the one carrying the attribute. One or more values from data.URI , separated by spaces. [att.joined]
Declaration	`<attDef ident= "join" usage= "opt">` `<desc>Used for linking visually separate entities that form a single logical entity, for example, multiple slurs broken across a system break that form a single musical phrase. Also used to indicate a measure which metrically completes the current one. Record the identifiers of the separately encoded components, excluding the one carrying the attribute. </desc>` `<datatype maxOccurs= "unbounded" minOccurs= "1">` `<rng:ref name= " data.URI" />` `</datatype>` `<constraintSpec ident= "check_joinTarget" scheme= "isoschematron">` `<constraint>` `<sch:rule context= "@join">` `<sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @join attribute should have content. </sch:assert>` `<sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @join should correspond to the @xml:id attribute of an element. </sch:assert>` `</sch:rule>` `</constraint>` `</constraintSpec>` `</attDef>`
Constraints	@join attribute should have content. Each value in @join should correspond to the @xml:id attribute of an element.

	<sch:rule context= "@join"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @join attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @join should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>

att.keyAccid.anl

att.keyAccid.anl Analytical domain attributes.	
Module	MEI.shared
Members	keyAccid (direct member of att.keyAccid.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" /> </classes>

att.keyAccid.ges

att.keyAccid.ges Gestural domain attributes.	
Module	MEI.shared
Members	keyAccid (direct member of att.keyAccid.ges)
Attributes	

att.keyAccid.log

att.keyAccid.log Logical domain attributes.	
Module	MEI.shared
Members	keyAccid (direct member of att.keyAccid.log)
Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch]
Declaration	`<classes> <memberOf key=" att.accidental" /> <memberOf key=" att.pitched" /> </classes>`

att.keyAccid.vis

att.keyAccid.vis Visual domain attributes.	
Module	MEI.shared
Members	keyAccid (direct member of att.keyAccid.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym]

	@enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	`<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.enclosingchars" /> <memberOf key=" att.extsym" /> <memberOf key=" att.staffloc" /> <memberOf key=" att.typography" /> <memberOf key=" att.xy" /> </classes>`

att.keySig.anl

att.keySig.anl Analytical domain attributes.	
Module	MEI.shared
Members	keySig (direct member of att.keySig.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.keySig.ges

att.keySig.ges Gestural domain attributes.	
Module	MEI.shared
Members	keySig (direct member of att.keySig.ges)
Attributes	

att.keySig.log

att.keySig.log Logical domain attributes.	
Module	MEI.shared
Members	key, keySig (direct members of att.keySig.log)
Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @mode *(optional)* Indicates major, minor, or other tonality. Value conforms to data.MODE . [att.keySig.log] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @sig *(optional)* Indicates where the key lies in the circle of fifths. Value conforms to data.KEYSIGNATURE . [att.keySig.log] @sig.mixed *(optional)* Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. One or more values from data.KEYSIGTOKEN , separated by spaces. [att.keySig.log]
Declaration	<classes> <memberOf key=" att.accidental" /> <memberOf key=" att.pitch" /> </classes> <attDef ident="sig" usage="opt"> <desc>Indicates where the key lies in the circle of fifths. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.KEYSIGNATURE" /> </datatype> </attDef> <attDef ident="sig.mixed" usage="opt"> <desc>Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9–39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by

	setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. </desc> <datatype maxOccurs= "unbounded" minOccurs= "1"> <rng:ref name= " data.KEYSIGTOKEN" /> </datatype> </attDef> <attDef ident= "mode" usage= "opt"> <desc>Indicates major, minor, or other tonality. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MODE" /> </datatype> </attDef>

att.keySig.vis

att.keySig.vis Visual domain attributes.	
Module	MEI.shared
Members	keySig (direct member of att.keySig.vis)
Attributes	@sig.showchange *(optional)* Determines whether cautionary accidentals should be displayed at a key change. Value conforms to data.BOOLEAN . [att.keySig.vis] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility]
Declaration	<classes> <memberOf key= " att.visibility" /> </classes> <attDef ident= "sig.showchange" usage= "opt"> <desc>Determines whether cautionary accidentals should be displayed at a key change. </desc>

	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`

att.keySigDefault.log

att.keySigDefault.log Used by staffDef and scoreDef to provide default values for attributes in the logical domain related to key signatures.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.log) staffDef (via att.staffDef.log)
Attributes	@key.accid *(optional)* Contains an accidental for the tonic key, if one is required, e.g., if key.pname equals 'c' and key.accid equals 's', then a tonic of C# is indicated. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.keySigDefault.log] @key.mode *(optional)* Indicates major, minor, or other tonality. Value conforms to data.MODE . [att.keySigDefault.log] @key.pname *(optional)* Holds the pitch name of the tonic key, e.g. 'c' for the key of C. Value conforms to data.PITCHNAME . [att.keySigDefault.log] @key.sig *(optional)* Indicates where the key lies in the circle of fifths. Value conforms to data.KEYSIGNATURE . [att.keySigDefault.log] @key.sig.mixed *(optional)* Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. One or more values from data.KEYSIGTOKEN , separated by spaces. [att.keySigDefault.log]

Declaration	`<attDef ident= "key.accid" usage= "opt">`
	`<desc>Contains an accidental for the tonic key, if one is required, e.g., if key.pname equals 'c' and key.accid equals 's', then a tonic of C# is indicated. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.ACCIDENTAL.IMPLICIT" />`

```
 </datatype>
</attDef>
```

```
<attDef ident= "key.mode" usage= "opt">
 <desc>Indicates major, minor, or other tonality. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MODE" />
 </datatype>
</attDef>
```

```
<attDef ident= "key.pname" usage= "opt">
 <desc>Holds the pitch name of the tonic key, e.g. 'c' for the key of C.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.PITCHNAME" />
 </datatype>
</attDef>
```

```
<attDef ident= "key.sig" usage= "opt">
 <desc>Indicates where the key lies in the circle of fifths. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.KEYSIGNATURE" />
 </datatype>
</attDef>
```

```
<attDef ident= "key.sig.mixed" usage= "opt">
 <desc>Mixed key signatures, e.g. those consisting of a mixture of flats
 and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox
 placement of the accidentals (Read, p. 141) must be indicated by
 setting the key.sig attribute to 'mixed' and providing explicit key
 signature information in the key.sig.mixed attribute or in the <keySig>
 element. It is intended that key.sig.mixed contain a series of tokens
 with each token containing pitch name, accidental, and octave, such as
 'a4 c5s e5f' that indicate what key accidentals should be rendered and
 where they should be placed. </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
   <rng:ref name= " data.KEYSIGTOKEN" />
 </datatype>
</attDef>
```

att.keySigDefault.vis

att.keySigDefault.vis Used by staffDef and scoreDef to provide default values for attributes in the visual domain related to key signatures.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis) staffDef (via att.staffDef.vis)
Attributes	@key.sig.show *(optional)* Indicates whether the key signature should be displayed. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @key.sig.showchange *(optional)* Determines whether cautionary accidentals should be displayed at a key change. Value conforms to data.BOOLEAN . [att.keySigDefault.vis]

Declaration	`<attDef ident= "key.sig.show" usage= "opt">`
	`<desc>Indicates whether the key signature should be displayed. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "key.sig.showchange" usage= "opt">`
	`<desc>Determines whether cautionary accidentals should be displayed at a key change. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`

att.labels.addl

att.labels.addl Attributes that record labels for a feature in addition to those found in att.common.	
Module	MEI.shared
Members	layerDef (via att.layerDef.vis) staffDef (via att.staffDef.vis) staffGrp (via att.staffGrp.vis)
Attributes	@label.abbr *(optional)* Provides a label for a group of staves on pages after the first page. Usually, this label takes an abbreviated form. Value of datatype **string**. [att.labels.addl]

Declaration	`<attDef ident= "label.abbr" usage= "opt">`
	`<desc>Provides a label for a group of staves on pages after the first page. Usually, this label takes an abbreviated form. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string"/>`
	`</datatype>`
	`</attDef>`

att.lang

att.lang Language attributes common to text elements.	
Module	MEI.shared
Members	abbr, accessRestrict, actor, add, addName, address, addrLine, anchoredText, annot, arranger, audience, author, back, bibl, biblList, biblScope, bloc, byline, caption, captureMode, carrierForm, castGrp, castItem, castList, changeDesc, classCode, composer, condition, contentItem, context, corpName, corr, correction, country, creation, cue, damage, date, del, depth, desc, dimensions, dir, distributor, district, div, dynam, edition, editionStmt, editor, editorialDecl, event, exhibHist, expan, extent, famName, figDesc, fileChar, foreName, front, funder, genName, genre, geogFeat, geogName, hand, head, height, incipText, inscription, interpretation, l, label, language, lg, li, librettist, list, lyricist, lyrics, marker, meiHead, mensuration, metaText, meter, name, normalization, nameLink, num, orig, otherChar, p, perfDuration, perfRes, perfResList, periodName, persName, pgDesc, pgFoot, pgFoot2, pgHead, pgHead2, physMedium, plateNum, playingSpeed, postBox, postCode, price, projectDesc, provenance, publisher, pubPlace, quote, recipient, ref, reg, region, reh, rend, repository, resp, restore, role, roleDesc, roleName, samplingDecl, scoreFormat, segmentation, series, settlement, sic, soundChan, specRepro, sponsor, stack, stdVals, street, styleName, supplied, syl, sysReq, table, td, tempo, term, textLang, th, title, titlePage, tr, trackConfig, treatHist, treatSched, trkName, unclear, unpub, useRestrict, verse, watermark, width (direct members of att.lang)
Attributes	@translit *(optional)* Specifies the transliteration technique used. Value of datatype NMTOKEN. [att.lang] @xml:lang *(optional)* Identifies the language of the element's content. The values for this attribute are language 'tags' as defined in BCP 47. All language tags that make use of private use sub-tags must be documented in a corresponding language element in the MEI header whose id attribute is the same as the language tag's value. Value of datatype **language**. [att.lang]
Declaration	`<attDef ident= "xml:lang" usage= "opt">`

```
  <desc>Identifies the language of the element's content. The values for
  this attribute are language 'tags' as defined in BCP 47. All language
  tags that make use of private use sub-tags must be documented in a
  corresponding language element in the MEI header whose id attribute is
  the same as the language tag's value. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:data type= "language"/>
  </datatype>
</attDef>
```

```
<attDef ident= "translit" usage= "opt">
  <desc>Specifies the transliteration technique used. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:data type= "NMTOKEN"/>
  </datatype>
</attDef>
```

att.layer.anl

att.layer.anl Analytical domain attributes.	
Module	MEI.shared
Members	layer (direct member of att.layer.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	

```
<classes>
 <memberOf key= " att.common.anl" />
</classes>
```

att.layer.ges

att.layer.ges Gestural domain attributes.	
Module	MEI.shared
Members	layer (direct member of att.layer.ges)
Attributes	

att.layer.log

att.layer.log Logical domain attributes.	
Module	MEI.shared
Members	layer (direct member of att.layer.log)
Attributes	@def *(optional)* Provides a mechanism for linking the layer to a layerDef element. Value conforms to data.URI . [att.layer.log] @metcon *(optional)* Indicates the relationship between the content of a staff or layer and the prevailing meter. Allowed values are: " c" *(Complete; i.e., conformant with the prevailing meter.)*, " i" *(Incomplete; i.e., not enough beats.)*, " o" *(Overfull; i.e., too many beats.)* [att.meterconformance]
Declaration	

```
<classes>
 <memberOf key= " att.meterconformance" />
</classes>
```

```
<attDef ident= "def" usage= "opt">
 <desc>Provides a mechanism for linking the layer to a layerDef element.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
  <rng:ref name= " data.URI" />
 </datatype>
```

	<constraintSpec ident= "check_defTarget_layer" scheme= "isoschematron"><constraint><sch:rule context= "mei:layer/@def"><sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @def attribute should have content. </sch:assert><sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:layerDef/@xml:id"> The value in @def should correspond to the @xml:id attribute of a layerDef element. </sch:assert></sch:rule></constraint></constraintSpec></attDef>
Constraints	@def attribute should have content. The value in @def should correspond to the @xml:id attribute of a layerDef element. <sch:rule context= "mei:layer/@def"><sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @def attribute should have content. </sch:assert><sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:layerDef/@xml:id"> The value in @def should correspond to the @xml:id attribute of a layerDef element. </sch:assert></sch:rule>

att.layer.vis

att.layer.vis Visual domain attributes.	
Module	MEI.shared
Members	layer (direct member of att.layer.vis)
Attributes	@visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility]
Declaration	<classes><memberOf key= " att.visibility" />

	`</classes>`

att.layerDef.anl

att.layerDef.anl Analytical domain attributes.	
Module	MEI.shared
Members	layerDef (direct member of att.layerDef.anl)
Attributes	

att.layerDef.ges

att.layerDef.ges Gestural domain attributes.	
Module	MEI.shared
Members	layerDef (direct member of att.layerDef.ges)
Attributes	@instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident]
Declaration	`<classes> <memberOf key= " att.instrumentident" /> </classes>`

att.layerDef.log

att.layerDef.log Logical domain attributes.	
Module	MEI.shared
Members	layerDef (direct member of att.layerDef.log)

Attributes	@beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log] @dur.default *(optional)* Contains a default duration in those situations when the first note, rest, chord, etc. in a measure does not have a duration specified. Value conforms to data.DURATION . [att.duration.default] @num.default *(optional)* Along with numbase.default, describes the default duration as a ratio. num.default is the first value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @numbase.default *(optional)* Along with num.default, describes the default duration as a ratio. numbase.default is the second value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @octave.default *(optional)* Contains a default octave specification for use when the first note, rest, chord, etc. in a measure does not have an octave value specified. Value conforms to data.OCTAVE . [att.octavedefault] @trans.diat *(optional)* Records the amount of diatonic pitch shift, e.g., C to C♯ = 0, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @trans.semi *(optional)* Records the amount of pitch shift in semitones, e.g., C to C♯ = 1, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition]

Declaration	`<classes>`
	`<memberOf key=" att.duration.default" />`
	`<memberOf key=" att.layerDef.log.cmn" />`
	`<memberOf key=" att.octavedefault" />`
	`<memberOf key=" att.transposition" />`
	`</classes>`

att.layerDef.log.cmn

att.layerDef.log.cmn Logical domain attributes.	
Module	MEI.cmn
Members	layerDef (via att.layerDef.log)
Attributes	@beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log]

	@beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log]
Declaration	<classes> <memberOf key=" att.beaming.log" /> </classes>

att.layerDef.vis

att.layerDef.vis Visual domain attributes.	
Module	MEI.shared
Members	layerDef (direct member of att.layerDef.vis)
Attributes	@beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " acc" *(Beam lines grow farther apart from left to right.)*, " rit" *(Beam lines grow closer together from left to right.)*, " norm" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis] @label.abbr *(optional)* Provides a label for a group of staves on pages after the first page. Usually, this label takes an abbreviated form. Value of datatype **string**. [att.labels.addl] @text.fam *(optional)* Provides a default value for the font family name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTFAMILY . [att.textstyle] @text.name *(optional)* Provides a default value for the font name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTNAME . [att.textstyle] @text.size *(optional)* Provides a default value for the font size of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSIZE . [att.textstyle] @text.style *(optional)* Provides a default value for the font style of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSTYLE . [att.textstyle] @text.weight *(optional)* Provides a default value for the font weight for text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTWEIGHT . [att.textstyle]

	@visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility]
Declaration	<classes> <memberOf key=" att.labels.addl" /> <memberOf key=" att.beaming.vis" /> <memberOf key=" att.textstyle" /> <memberOf key=" att.visibility" /> </classes>

att.layerident

att.layerident Attributes that identify the layer to which a feature applies.	
Module	MEI.shared
Members	annot (via att.annot.log) att.controlevent (no elements directly inheriting from this class) accid (via att.accid.log) arpeg (via att.arpeg.log) artic (via att.artic.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dot (via att.dot.log) dynam (via att.dynam.log) f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log) octave (via att.octave.log) ornam (via att.ornam.log)

	pedal (via att.pedal.log) phrase (via att.phrase.log) slur (via att.slur.log) tempo (via att.tempo.log) tie (via att.tie.log) trill (via att.trill.log) tupletSpan (via att.tupletSpan.log) turn (via att.turn.log) clef, clefGrp (via att.event) beam (via att.beam.log) beatRpt (via att.beatRpt.log) bTrem (via att.bTrem.log) chord (via att.chord.log) fTrem (via att.fTrem.log) halfmRpt (via att.halfmRpt.log) mRest (via att.mRest.log) mRpt (via att.mRpt.log) mRpt2 (via att.mRpt2.log) mSpace (via att.mSpace.log) multiRest (via att.multiRest.log) multiRpt (via att.multiRpt.log) note (via att.note.log) pad (via att.pad.log) rest (via att.rest.log) space (via att.space.log) tuplet (via att.tuplet.log) uneume (via att.uneume.log) lyrics (via att.lyrics.log) cc, chan, chanPr, cue, hex, marker, metaText, noteOff, noteOn, port, prog, seqNum, trkName, vel (via att.midi.event) midi (via att.midi.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident]

Declaration	`<attDef ident= "layer" usage= "opt">`
	`<desc>Identifies the layer to which a feature applies. </desc>`
	`<datatype maxOccurs= "unbounded" minOccurs= "1">`
	`<rng:data type= "positiveInteger"/>`
	`</datatype>`
	`</attDef>`

att.ligature.anl

att.ligature.anl Analytical domain attributes.	
Module	MEI.mensural
Members	ligature (direct member of att.ligature.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.ligature.ges

att.ligature.ges Gestural domain attributes.	
Module	MEI.mensural
Members	ligature (direct member of att.ligature.ges)
Attributes	

att.ligature.log

att.ligature.log Logical domain attributes.	
Module	MEI.mensural
Members	ligature (direct member of att.ligature.log)
Attributes	@form *(optional)* Provides an indication of the function of the ligature. Value conforms to data.LIGATUREFORM . [att.ligature.log]
Declaration	<attDef ident= "form" usage= "opt"> <desc>Provides an indication of the function of the ligature. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.LIGATUREFORM" /> </datatype> </attDef>

att.ligature.vis

att.ligature.vis Visual domain attributes.	
Module	MEI.mensural
Members	ligature (direct member of att.ligature.vis)
Attributes	

att.line.anl

att.line.anl Analytical domain attributes.	
Module	MEI.shared
Members	line (direct member of att.line.anl)
Attributes	

att.line.ges

att.line.ges Attributes for describing the performed components of a line.	
Module	MEI.shared
Members	line (direct member of att.line.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]

Declaration	`<classes>`
	`<memberOf key=" att.duration.performed" />`
	`</classes>`

att.line.log

att.line.log Attributes for describing the logical behaviour of a line.	
Module	MEI.shared
Members	line (direct member of att.line.log)
Attributes	@dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident]

	@plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	`<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>`

att.line.vis

att.line.vis Attributes for describing the visual appearance of a line.	
Module	MEI.shared
Members	line (direct member of att.line.vis)
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.line.vis]

	@endsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.line.vis] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @form *(optional)* Visual form of the line. Value conforms to data.LINEFORM . [att.line.vis] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.line.vis] @startsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.line.vis] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @width *(optional)* Width of the line. Value conforms to data.LINEWIDTH . [att.line.vis] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]

Declaration

```
<classes>
 <memberOf key=" att.color" />
 <memberOf key=" att.placement" />
 <memberOf key=" att.visualoffset" />
 <memberOf key=" att.visualoffset2" />
 <memberOf key=" att.xy" />
 <memberOf key=" att.xy2" />
</classes>
```

```
<attDef ident= "form" usage= "opt">
 <desc>Visual form of the line. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.LINEFORM" />
 </datatype>
</attDef>
```

```
<attDef ident= "width" usage= "opt">
 <desc>Width of the line. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.LINEWIDTH" />
 </datatype>
</attDef>
```

```
<attDef ident= "endsym" usage= "opt">
 <desc>Symbol rendered at end of line. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.LINESTARTENDSYMBOL" />
 </datatype>
</attDef>
```

```
<attDef ident= "endsymsize" usage= "opt">
 <desc>Holds the relative size of the line-end symbol. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.LINESTARTENDSYMBOLSIZE" />
 </datatype>
</attDef>
```

```
<attDef ident= "startsym" usage= "opt">
 <desc>Symbol rendered at start of line. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.LINESTARTENDSYMBOL" />
 </datatype>
</attDef>
```

	`<attDef ident= "startsymsize" usage= "opt">`
	`<desc>Holds the relative size of the line-start symbol. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINESTARTENDSYMBOLSIZE" />`
	`</datatype>`
	`</attDef>`

att.lineloc

att.lineloc Attributes for identifying the staff line with which a feature is associated.	
Module	MEI.shared
Members	clef (via att.clef.log)
Attributes	@line *(optional)* Indicates the line upon which a feature stands. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. Value conforms to data.CLEFLINE . [att.lineloc]

Declaration	`<attDef ident= "line" usage= "opt">`
	`<desc>Indicates the line upon which a feature stands. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.CLEFLINE" />`
	`</datatype>`
	`</attDef>`

att.linerend

att.linerend Attributes that record the visual rendition of lines.	
Module	MEI.shared
Members	att.extender (no elements directly inheriting from this class) dir (via att.dir.vis) f (via att.f.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis)

	harm (via att.harm.vis) octave (via att.octave.vis) trill (via att.trill.vis) gliss (via att.gliss.vis) pedal (via att.pedal.vis)
Attributes	@lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base]

Declaration	`<classes>`
	`<memberOf key=" att.linerend.base" />`
	`</classes>`
	
	`<attDef ident= "lendsym" usage= "opt">`
	`<desc>Symbol rendered at end of line. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINESTARTENDSYMBOL" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "lendsymsize" usage= "opt">`
	`<desc>Holds the relative size of the line-end symbol. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINESTARTENDSYMBOLSIZE" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "lstartsym" usage= "opt">`
	`<desc>Symbol rendered at start of line. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINESTARTENDSYMBOL" />`
	`</datatype>`

	`</attDef>`
	
	`<attDef ident= "lstartsymsize" usage= "opt">`
	`<desc>Holds the relative size of the line-start symbol. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINESTARTENDSYMBOLSIZE" />`
	`</datatype>`
	`</attDef>`

att.linerend.base

att.linerend.base Attributes that record the basic visual rendition of lines.	
Module	MEI.shared
Members	hairpin (via att.hairpin.vis) att.linerend (no elements directly inheriting from this class) att.extender (no elements directly inheriting from this class) dir (via att.dir.vis) f (via att.f.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) harm (via att.harm.vis) octave (via att.octave.vis) trill (via att.trill.vis) gliss (via att.gliss.vis) pedal (via att.pedal.vis)
Attributes	@lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base]

Declaration	`<attDef ident= "lform" usage= "opt">`
	`<desc>Describes the line style of a line. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINEFORM" />`
	`</datatype>`
	`</attDef>`

	`<attDef ident= "lwidth" usage= "opt">`
	`<desc>Width of a line. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINEWIDTH" />`
	`</datatype>`
	`</attDef>`

att.lvpresent

att.lvpresent Attributes that indicate the presence of an l.v. (laissez vibrer) marking attached to a feature.	
Module	MEI.cmn
Members	att.chord.log.cmn (no elements directly inheriting from this class) chord (via att.chord.log) att.note.log.cmn (no elements directly inheriting from this class) note (via att.note.log)
Attributes	@lv *(optional)* Indicates the attachment of an l.v. (laissez vibrer) sign to this element. Value conforms to data.BOOLEAN . [att.lvpresent]

Declaration	`<attDef ident= "lv" usage= "opt">`
	`<desc>Indicates the attachment of an l.v. (laissez vibrer) sign to this element. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`

att.lyrics.anl

att.lyrics.anl Analytical domain attributes.	
Module	MEI.lyrics
Members	lyrics (direct member of att.lyrics.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl]

	@corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key= " att.common.anl" /> </classes>`

att.lyrics.ges

att.lyrics.ges Gestural domain attributes.	
Module	MEI.lyrics
Members	lyrics (direct member of att.lyrics.ges)
Attributes	

att.lyrics.log

att.lyrics.log Logical domain attributes.	
Module	MEI.lyrics
Members	lyrics (direct member of att.lyrics.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident]

	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]
Declaration	<classes> <memberOf key=" att.staffident" /> <memberOf key=" att.layerident" /> </classes>

att.lyrics.vis

att.lyrics.vis Visual domain attributes.	
Module	MEI.lyrics
Members	lyrics (direct member of att.lyrics.vis)
Attributes	@fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement]
Declaration	<classes> <memberOf key=" att.placement" /> <memberOf key=" att.typography" /> </classes>

att.lyricstyle

att.lyricstyle Attributes that describe default typography of lyrics.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis) staffDef (via att.staffDef.vis)
Attributes	@lyric.align *(optional)* Describes the alignment of lyric syllables associated with a note or chord. Value conforms to data.MEASUREMENTREL . [att.lyricstyle] @lyric.fam *(optional)* Sets the font family default value for lyrics. Value conforms to data.FONTFAMILY . [att.lyricstyle] @lyric.name *(optional)* Sets the font name default value for lyrics. Value conforms to data.FONTNAME . [att.lyricstyle] @lyric.size *(optional)* Sets the default font size value for lyrics. Value conforms to data.FONTSIZE . [att.lyricstyle] @lyric.style *(optional)* Sets the default font style value for lyrics. Value conforms to data.FONTSTYLE . [att.lyricstyle] @lyric.weight *(optional)* Sets the default font weight value for lyrics. Value conforms to data.FONTWEIGHT . [att.lyricstyle]

Declaration	`<attDef ident= "lyric.align" usage= "opt">`
	`<desc>Describes the alignment of lyric syllables associated with a note or chord. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTREL" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "lyric.fam" usage= "opt">`
	`<desc>Sets the font family default value for lyrics. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.FONTFAMILY" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "lyric.name" usage= "opt">`
	`<desc>Sets the font name default value for lyrics. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.FONTNAME" />`

```
  </datatype>
</attDef>
```

```
<attDef ident= "lyric.size" usage= "opt">
 <desc>Sets the default font size value for lyrics. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTSIZE" />
 </datatype>
</attDef>
```

```
<attDef ident= "lyric.style" usage= "opt">
 <desc>Sets the default font style value for lyrics. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTSTYLE" />
 </datatype>
</attDef>
```

```
<attDef ident= "lyric.weight" usage= "opt">
 <desc>Sets the default font weight value for lyrics. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTWEIGHT" />
 </datatype>
</attDef>
```

att.mRest.anl

att.mRest.anl Analytical domain attributes.	
Module	MEI.cmn
Members	mRest (direct member of att.mRest.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key=" att.common.anl" /> </classes>`

att.mRest.ges

att.mRest.ges Gestural domain attributes.	
Module	MEI.cmn
Members	mRest (direct member of att.mRest.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident]
Declaration	`<classes> <memberOf key=" att.duration.performed" /> <memberOf key=" att.instrumentident" /> </classes>`

att.mRest.log

att.mRest.log Logical domain attributes.

Module	MEI.cmn
Members	mRest (direct member of att.mRest.log)
Attributes	@dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.duration.musical" /> <memberOf key=" att.event" /> <memberOf key=" att.fermatapresent" /> </classes>

att.mRest.vis

att.mRest.vis Visual domain attributes.	
Module	MEI.cmn
Members	mRest (direct member of att.mRest.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @cutout *(optional)* "Cut-out" style indicated for this measure. Allowed values are: " **cutout**" *(The staff lines should not be drawn.)* [att.cutout]

	@fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.cutout" /> <memberOf key=" att.extsym" /> <memberOf key=" att.relativesize" /> <memberOf key=" att.staffloc" /> <memberOf key=" att.staffloc.pitched" /> <memberOf key=" att.typography" /> <memberOf key=" att.visualoffset" /> <memberOf key=" att.visibility" /> <memberOf key=" att.xy" /> </classes>`

att.mRpt.anl

att.mRpt.anl Analytical domain attributes.	
Module	MEI.cmn
Members	mRpt (direct member of att.mRpt.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes>`

	<memberOf key=" att.common.anl" /> </classes>

att.mRpt.ges

att.mRpt.ges Gestural domain attributes.	
Module	MEI.cmn
Members	mRpt (direct member of att.mRpt.ges)
Attributes	

att.mRpt.log

att.mRpt.log Logical domain attributes.	
Module	MEI.cmn
Members	mRpt (direct member of att.mRpt.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.event" /> </classes>

att.mRpt.vis

att.mRpt.vis Visual domain attributes.	
Module	MEI.cmn
Members	mRpt (direct member of att.mRpt.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.expandable" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> </classes>

att.mRpt2.anl

att.mRpt2.anl Analytical domain attributes.	
Module	MEI.cmn
Members	mRpt2 (direct member of att.mRpt2.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.mRpt2.ges

att.mRpt2.ges Gestural domain attributes.	
Module	MEI.cmn
Members	mRpt2 (direct member of att.mRpt2.ges)
Attributes	

att.mRpt2.log

att.mRpt2.log Logical domain attributes.	
Module	MEI.cmn
Members	mRpt2 (direct member of att.mRpt2.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`  <memberOf key= " att.event" />`
	`</classes>`

att.mRpt2.vis

att.mRpt2.vis Visual domain attributes.	
Module	MEI.cmn
Members	mRpt2 (direct member of att.mRpt2.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable]

	@fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.expandable" />`
	`<memberOf key=" att.extsym" />`
	`<memberOf key=" att.typography" />`
	`</classes>`

att.mSpace.anl

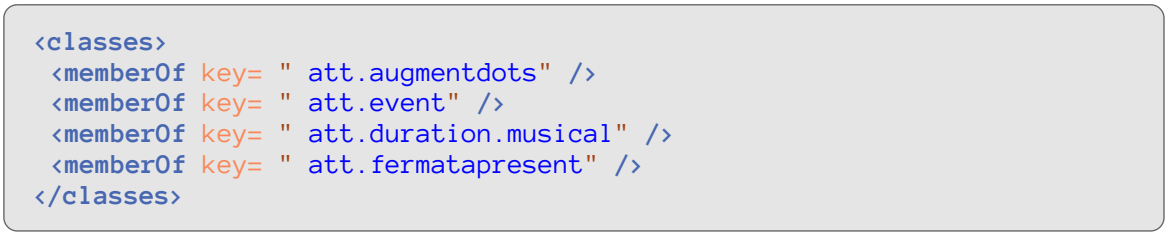
att.mSpace.anl Analytical domain attributes. Use the n attribute to explicitly encode this measure's position in a string of measures containing only <mRest> elements.	
Module	MEI.cmn
Members	mSpace (direct member of att.mSpace.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.mSpace.ges

att.mSpace.ges Gestural domain attributes.	
Module	MEI.cmn
Members	mSpace (direct member of att.mSpace.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident]
Declaration	<classes> <memberOf key=" att.duration.performed" /> <memberOf key=" att.instrumentident" /> </classes>

att.mSpace.log

att.mSpace.log Logical domain attributes.	
Module	MEI.cmn
Members	mSpace (direct member of att.mSpace.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	

att.mSpace.vis

att.mSpace.vis Visual domain attributes.	
Module	MEI.cmn

Members	mSpace (direct member of att.mSpace.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @cutout *(optional)* "Cut-out" style indicated for this measure. Allowed values are: " **cutout**" *(The staff lines should not be drawn.)* [att.cutout] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.cutout" /> <memberOf key=" att.visibility" /> <memberOf key=" att.xy" /> </classes>

att.measure.anl

att.measure.anl Analytical domain attributes.	
Module	MEI.shared
Members	measure (direct member of att.measure.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @join *(optional)* Used for linking visually separate entities that form a single logical entity, for example, multiple slurs broken across a system break that form a single musical phrase. Also used to indicate a measure which metrically completes the current one. Record the identifiers of the separately encoded components, excluding the one carrying the attribute. One or more values from data.URI , separated by spaces. [att.joined]

	@next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`<memberOf key=" att.joined" />`
	`</classes>`

att.measure.ges

att.measure.ges Gestural domain attributes. The tstamp.ges and tstamp.real attributes encode the onset time of the measure. In reality, this is usually the same as the onset time of the first event in the measure.	
Module	MEI.shared
Members	measure (direct member of att.measure.ges)
Attributes	@tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`<memberOf key=" att.timestamp.performed" />`
	`</classes>`

att.measure.log

att.measure.log Logical domain attributes. The n attribute contains a name or number associated with the measure (Read, p. 445). Often, this is an integer, but not always. For example, some measures, especially incomplete measures or those under an ending mark, may have labels that contain an integer plus a suffix, such as '12a'. Measures may even have labels, especially in editorial or analytical uses of MEI, that are entirely non-numeric strings. Measure numbers may be machine-generated instead of encoding them in the markup. However, an explicit measure number should restart numbering with the given value. The join attribute may be used to indicate another measure which metrically completes the current, incomplete one.	
Module	MEI.shared
Members	measure (direct member of att.measure.log)
Attributes	@control *(optional)* Indicates whether or not a bar line is "controlling"; that is, if it indicates a point of alignment across all the parts. Bar lines within a score are usually controlling; that is, they "line up". Bar lines within parts may or may not be controlling. When applied to <measure>, this attribute indicates the nature of the right barline but not the left. Value conforms to data.BOOLEAN . [att.meterconformance.bar] @left *(optional)* Indicates the visual rendition of the left bar line. It is present here only for facilitation of translation from legacy encodings which use it. Usually, it can be safely ignored. Value conforms to data.BARRENDITION . [att.measure.log] @metcon *(optional)* Indicates the relationship between the content of a measure and the prevailing meter. Value conforms to data.BOOLEAN . [att.meterconformance.bar] @right *(optional)* Indicates the function of the right bar line and is structurally important. Value conforms to data.BARRENDITION . [att.measure.log]
Declaration	<classes> <memberOf key=" att.meterconformance.bar" /> </classes> <attDef ident="left" usage="opt"> <desc>Indicates the visual rendition of the left bar line. It is present here only for facilitation of translation from legacy encodings which use it. Usually, it can be safely ignored. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.BARRENDITION" /> </datatype> </attDef> <attDef ident="right" usage="opt">

	<desc>Indicates the function of the right bar line and is structurally important. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BARRENDITION" /> </datatype> </attDef>

att.measure.vis

att.measure.vis Visual domain attributes.	
Module	MEI.cmn
Members	measure (direct member of att.measure.vis)
Attributes	@barplace *(optional)* Records the location of a bar line. Value conforms to data.BARPLACE . [att.barplacement] @taktplace *(optional)* If takt bar lines are to be used, then the taktplace attribute may be used to denote the staff location of the shortened bar line. The location may include staff lines, spaces, and the spaces directly above and below the staff. The value ranges between 0 (just below the staff) to 2 * number of staff lines (directly above the staff). For example, on a 5-line staff the lines would be numbered 1,3,5,7, and 9 while the spaces would be numbered 0,2,4,6,8,10. For example, a value of '9' puts the bar line through the top line of a 5-line staff. Value conforms to data.STAFFLOC . [att.barplacement] @unit *(optional)* Indicates the unit of measurement. Allowed values are: " byte" *(Byte.)*, " char" *(Character.)*, " cm" *(Centimeter.)*, " in" *(Inch.)*, " issue" *(Serial issue.)*, " mm" *(Millimeter.)*, " page" *(Page.)*, " pc" *(Pica.)*, " pt" *(Point.)*, " px" *(Pixel.)*, " record" *(Record.)*, " vol" *(Serial volume.)*, " vu" *(MEI virtual unit.)* [att.measurement] @width *(optional)* Measurement of the horizontal dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.width]
Declaration	<classes> <memberOf key= " att.barplacement" /> <memberOf key= " att.measurement" /> <memberOf key= " att.width" /> </classes>

att.measurement

att.measurement Attributes that record the unit of measurement in which a value is expressed.	
Module	MEI.shared
Members	biblScope, depth, dimensions, extent, gap, graphic, height, num, width (direct members of att.measurement) barLine (via att.barLine.vis) measure (via att.measure.vis)
Attributes	@unit *(optional)* Indicates the unit of measurement. Allowed values are: " byte" *(Byte.)*, " char" *(Character.)*, " cm" *(Centimeter.)*, " in" *(Inch.)*, " issue" *(Serial issue.)*, " mm" *(Millimeter.)*, " page" *(Page.)*, " pc" *(Pica.)*, " pt" *(Point.)*, " px" *(Pixel.)*, " record" *(Record.)*, " vol" *(Serial volume.)*, " vu" *(MEI virtual unit.)* [att.measurement]
Declaration	

```
<attDef ident= "unit" usage= "opt">
 <desc>Indicates the unit of measurement. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
  <rng:data type= "NMTOKEN"/>
 </datatype>
 <valList type= "semi">
  <valItem ident= "byte">
   <desc>Byte. </desc>
  </valItem>
  <valItem ident= "char">
   <desc>Character. </desc>
  </valItem>
  <valItem ident= "cm">
   <desc>Centimeter. </desc>
  </valItem>
  <valItem ident= "in">
   <desc>Inch. </desc>
  </valItem>
  <valItem ident= "issue">
   <desc>Serial issue. </desc>
  </valItem>
  <valItem ident= "mm">
   <desc>Millimeter. </desc>
  </valItem>
  <valItem ident= "page">
   <desc>Page. </desc>
  </valItem>
  <valItem ident= "pc">
   <desc>Pica. </desc>
  </valItem>
```

	`<valItem ident= "pt">`
	`<desc>Point. </desc>`
	`</valItem>`
	`<valItem ident= "px">`
	`<desc>Pixel. </desc>`
	`</valItem>`
	`<valItem ident= "record">`
	`<desc>Record. </desc>`
	`</valItem>`
	`<valItem ident= "vol">`
	`<desc>Serial volume. </desc>`
	`</valItem>`
	`<valItem ident= "vu">`
	`<desc>MEI virtual unit. </desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`

att.measurenumbers

att.measurenumbers Attributes pertaining to measure numbers	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis)
Attributes	@mnum.visible *(optional)* Indicates whether measure numbers should be displayed. Value conforms to data.BOOLEAN . [att.measurenumbers]

Declaration	`<attDef ident= "mnum.visible" usage= "opt">`
	`<desc>Indicates whether measure numbers should be displayed. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`

att.mediabounds

att.mediabounds Attributes that establish the boundaries of a media object.

Module	MEI.shared
Members	clip, recording (direct members of att.mediabounds)
Attributes	@begin *(optional)* Specifies a point where the relevant content begins. A numerical value must be less and a time value must be earlier than that given by the end attribute. Value is plain text. [att.mediabounds] @betype *(optional)* Type of values used in the begin/end attributes. The begin and end attributes can only be interpreted meaningfully in conjunction with this attribute. Value conforms to data.BETYPE . [att.mediabounds] @end *(optional)* Specifies a point where the relevant content ends. If not specified, the end of the content is assumed to be the end point. A numerical value must be greater and a time value must be later than that given by the begin attribute. Value is plain text. [att.mediabounds]

Declaration	`<attDef ident= "begin" usage= "opt">`
	`<desc>Specifies a point where the relevant content begins. A numerical value must be less and a time value must be earlier than that given by the end attribute. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:text/>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "end" usage= "opt">`
	`<desc>Specifies a point where the relevant content ends. If not specified, the end of the content is assumed to be the end point. A numerical value must be greater and a time value must be later than that given by the begin attribute. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:text/>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "betype" usage= "opt">`
	`<desc>Type of values used in the begin/end attributes. The begin and end attributes can only be interpreted meaningfully in conjunction with this attribute. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BETYPE" />`
	`</datatype>`
	`</attDef>`

att.medium

att.medium Attributes describing a writing medium, such as pencil or ink.	
Module	MEI.shared
Members	hand, handShift (direct members of att.medium)
Attributes	@medium *(optional)* Describes the writing medium. Value of datatype **string**. [att.medium]

Declaration	`<attDef ident= "medium" usage= "opt">`
	`<desc>Describes the writing medium. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string"/>`
	`</datatype>`
	`</attDef>`

att.meiversion

att.meiversion Attributes that record the version of MEI in use.	
Module	MEI.shared
Members	mei, meiCorpus, meiHead, music (direct members of att.meiversion)
Attributes	@meiversion *(optional)* Specifies a generic MEI version label. Allowed values are: " **3.0.0**" *(This version of MEI.)* [att.meiversion]

Declaration	`<attDef ident= "meiversion" usage= "opt">`
	`<desc>Specifies a generic MEI version label. </desc>`
	`<defaultVal>3.0.0 </defaultVal>`
	`<valList type= "closed">`
	`<valItem ident= "3.0.0">`
	`<desc>This version of MEI. </desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`

att.melodicfunction

att.melodicfunction Attributes describing melodic function.	
Module	MEI.analysis
Members	note (via att.note.anl) uneume (via att.uneume.anl)
Attributes	@mfunc *(optional)* Describes melodic function using Humdrum **embel syntax. Value conforms to data.MELODICFUNCTION . [att.melodicfunction]

Declaration	`<attDef ident= "mfunc" usage= "opt">`
	`<desc>Describes melodic function using Humdrum **embel syntax. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MELODICFUNCTION" />`
	`</datatype>`
	`</attDef>`

att.mensur.anl

att.mensur.anl Analytical domain attributes.	
Module	MEI.mensural
Members	mensur (direct member of att.mensur.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" /> </classes>

att.mensur.ges

att.mensur.ges Gestural domain attributes.	
Module	MEI.mensural
Members	mensur (direct member of att.mensur.ges)
Attributes	

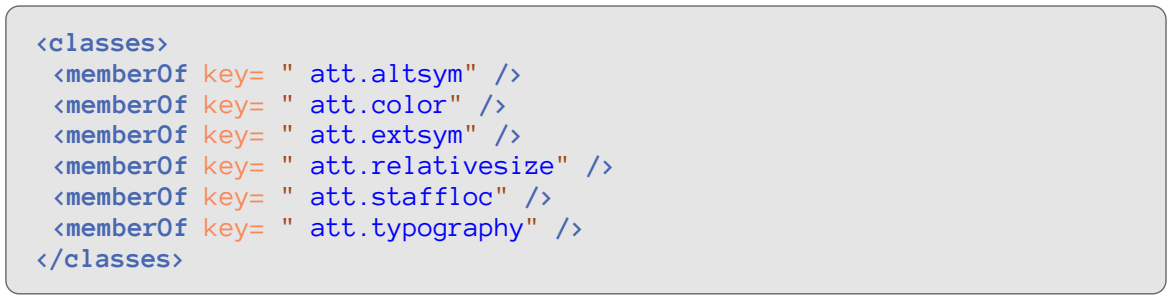
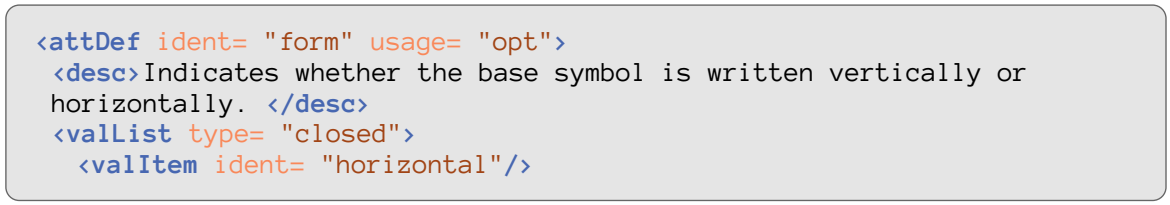
att.mensur.log

att.mensur.log Logical domain attributes.	
Module	MEI.shared
Members	mensur, mensuration (direct members of att.mensur.log)
Attributes	@dot *(optional)* Specifies whether a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensur.log] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared]

	@sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensur.log] @slash *(optional)* Indicates the number of slashes present. Value conforms to data.SLASH . [att.slashcount] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared]
Declaration	<classes> <memberOf key=" att.duration.ratio" /> <memberOf key=" att.slashcount" /> <memberOf key=" att.mensural.shared" /> </classes> <attDef ident= "dot" usage= "opt"> <desc>Specifies whether a dot is to be added to the base symbol. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef> <attDef ident= "sign" usage= "opt"> <desc>The base symbol in the mensuration sign/time signature of mensural notation. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MENSURATIONSIGN" /> </datatype> </attDef>

att.mensur.vis

att.mensur.vis Visual domain attributes. These attributes describe the physical appearance of the mensuration sign/time signature of mensural notation.	
Module	MEI.mensural
Members	mensur (direct member of att.mensur.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym]

	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " **horizontal**" , " **vertical**" [att.mensur.vis] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensur.vis] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize]
Declaration	 

	<valItem ident= "vertical"/> </valList> </attDef> <attDef ident= "orient" usage= "opt"> <desc>Describes the rotation or reflection of the base symbol. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.ORIENTATION" /> </datatype> </attDef>

att.mensural.log

att.mensural.log Used by staffDef and scoreDef to provide default values for attributes in the logical domain related to mensuration. The tempus, prolatio, modusmaior, and modusminor attributes (from the att.mensural.shared class) specify the relationship between the four principle levels of note value, i.e., the long, breve, semibreve and minim, in mensural notation. Modusminor describes the long-breve relationship, while tempus describes the breve-semibreve, and prolatio the semibreve-minim relationship, respectively. Modusmaior is for the maxima-long relationship. The proport.* attributes describe augmentation or diminution of the normal value of the notes in mensural notation.	
Module	MEI.mensural
Members	att.scoreDef.log.mensural (no elements directly inheriting from this class) scoreDef (via att.scoreDef.log) att.staffDef.log.mensural (no elements directly inheriting from this class) staffDef (via att.staffDef.log)
Attributes	@mensur.dot *(optional)* Determines if a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensural.log] @mensur.sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensural.log] @mensur.slash *(optional)* Indicates the number lines added to the mensuration sign. For example, one slash is added for what we now call 'alla breve'. Value of datatype positiveInteger. [att.mensural.log] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared]

	@prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @proport.num *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.num is for the first value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @proport.numbase *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.numbase is for the second value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared]
Declaration	

```
<classes>
 <memberOf key= " att.mensural.shared" />
</classes>
```

```
<attDef ident= "mensur.dot" usage= "opt">
 <desc>Determines if a dot is to be added to the base symbol. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

```
<attDef ident= "mensur.sign" usage= "opt">
 <desc>The base symbol in the mensuration sign/time signature of
 mensural notation. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MENSURATIONSIGN" />
 </datatype>
</attDef>
```

```
<attDef ident= "mensur.slash" usage= "opt">
 <desc>Indicates the number lines added to the mensuration sign. For
 example, one slash is added for what we now call 'alla breve'. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:data type= "positiveInteger"/>
 </datatype>
</attDef>
```

```
<attDef ident= "proport.num" usage= "opt">
```

```
  <desc>Together, proport.num and proport.numbase specify a proportional
  change as a ratio, e.g., 1:3. Proport.num is for the first value in the
  ratio. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:data type= "positiveInteger"/>
  </datatype>
</attDef>
```

```
<attDef ident= "proport.numbase" usage= "opt">
  <desc>Together, proport.num and proport.numbase specify a proportional
  change as a ratio, e.g., 1:3. Proport.numbase is for the second value
  in the ratio. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:data type= "positiveInteger"/>
  </datatype>
</attDef>
```

att.mensural.shared

att.mensural.shared Shared attributes in the mensural repertoire.	
Module	MEI.mensural
Members	mensur, mensuration (via att.mensur.log) att.mensural.log (no elements directly inheriting from this class) att.scoreDef.log.mensural (no elements directly inheriting from this class) scoreDef (via att.scoreDef.log) att.staffDef.log.mensural (no elements directly inheriting from this class) staffDef (via att.staffDef.log)
Attributes	@modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared]

Declaration	

```
<attDef ident= "modusmaior" usage= "opt">
 <desc>Describes the maxima-long relationship. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MODUSMAIOR" />
 </datatype>
</attDef>
```

```
<attDef ident= "modusminor" usage= "opt">
 <desc>Describes the long-breve relationship. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MODUSMINOR" />
 </datatype>
</attDef>
```

```
<attDef ident= "prolatio" usage= "opt">
 <desc>Describes the semibreve-minim relationship. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.PROLATIO" />
 </datatype>
</attDef>
```

```
<attDef ident= "tempus" usage= "opt">
 <desc>Describes the breve-semibreve relationship. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.TEMPUS" />
 </datatype>
</attDef>
```

att.mensural.vis

att.mensural.vis Used by staffDef and scoreDef to provide default values for attributes in the visual domain related to mensuration.	
Module	MEI.mensural
Members	att.scoreDef.vis.mensural (no elements directly inheriting from this class) scoreDef (via att.scoreDef.vis) att.staffDef.vis.mensural (no elements directly inheriting from this class) staffDef (via att.staffDef.vis)

Attributes	@mensur.color *(optional)* Records the color of the mensuration sign. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.mensural.vis] @mensur.form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " horizontal" , " vertical" [att.mensural.vis] @mensur.loc *(optional)* Holds the staff location of the mensuration sign. Value conforms to data.STAFFLOC . [att.mensural.vis] @mensur.orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensural.vis] @mensur.size *(optional)* Describes the relative size of the mensuration sign. Value conforms to data.SIZE . [att.mensural.vis]
Declaration	

```
<attDef ident= "mensur.color" usage= "opt">
 <desc>Records the color of the mensuration sign. Do not confuse this
 with the musical term 'color' as used in pre-CMN notation. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.COLOR" />
 </datatype>
</attDef>
```

```
<attDef ident= "mensur.form" usage= "opt">
 <desc>Indicates whether the base symbol is written vertically or
 horizontally. </desc>
 <valList type= "closed">
   <valItem ident= "horizontal"/>
   <valItem ident= "vertical"/>
 </valList>
</attDef>
```

```
<attDef ident= "mensur.loc" usage= "opt">
 <desc>Holds the staff location of the mensuration sign. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.STAFFLOC" />
 </datatype>
</attDef>
```

```
<attDef ident= "mensur.orient" usage= "opt">
 <desc>Describes the rotation or reflection of the base symbol. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.ORIENTATION" />
 </datatype>
</attDef>
```

	`<attDef ident= "mensur.size" usage= "opt">`
	`<desc>Describes the relative size of the mensuration sign. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.SIZE" />`
	`</datatype>`
	`</attDef>`

att.meterSig.anl

att.meterSig.anl Analytical domain attributes.	
Module	MEI.shared
Members	meterSig (direct member of att.meterSig.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.meterSig.ges

att.meterSig.ges Gestural domain attributes.	
Module	MEI.shared
Members	meterSig (direct member of att.meterSig.ges)
Attributes	

att.meterSig.log

att.meterSig.log Logical domain attributes.	
Module	MEI.shared
Members	meter, meterSig (direct members of att.meterSig.log)
Attributes	@count *(optional)* Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3. Value of datatype **a string matching the following regular expression: "\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*"** . [att.meterSig.log] @sym *(optional)* Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. Value conforms to data.METERSIGN . [att.meterSig.log] @unit *(optional)* Contains the number indicating the beat unit, that is, the bottom number of the meter signature. Value of datatype **decimal**. [att.meterSig.log]

Declaration	`<attDef ident= "count" usage= "opt">`
	`<desc>Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3.</desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string">`
	`<rng:param name= "pattern">`
	`\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*`
	`</rng:param>`
	`</rng:data>`
	`</datatype>`
	`</attDef>`

```
<attDef ident= "sym" usage= "opt">
 <desc>Indicates the use of a meter symbol instead of a numeric meter
 signature, that is, 'C' for common time or 'C' with a slash for cut
 time. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.METERSIGN" />
 </datatype>
</attDef>
```

```
<attDef ident= "unit" usage= "opt">
 <desc>Contains the number indicating the beat unit, that is, the bottom
 number of the meter signature. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:data type= "decimal"/>
 </datatype>
</attDef>
```

att.meterSig.vis

att.meterSig.vis Visual domain attributes.	
Module	MEI.shared
Members	meterSig (direct member of att.meterSig.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Contains an indication of how the meter signature should be rendered. Allowed values are: " num" *(Show only the number of beats.)*, " denomsym" *(The lower number in the meter*

	signature is replaced by a note symbol.), " norm" *(Meter signature rendered using traditional numeric values.)*, " invis" *(Meter signature not rendered.)* [att.meterSig.vis] @glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> </classes> <attDef ident="form" usage="opt"> <desc>Contains an indication of how the meter signature should be rendered. </desc> <valList type="closed"> <valItem ident="num"> <desc>Show only the number of beats. </desc> </valItem> <valItem ident="denomsym"> <desc>The lower number in the meter signature is replaced by a note symbol. </desc> </valItem> <valItem ident="norm"> <desc>Meter signature rendered using traditional numeric values. </desc> </valItem> <valItem ident="invis"> <desc>Meter signature not rendered. </desc> </valItem> </valList> </attDef>

att.meterSigDefault.log

att.meterSigDefault.log Used by staffDef and scoreDef to provide default values for attributes in the logical domain related to meter signature.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.log) staffDef (via att.staffDef.log)

Attributes	@meter.count *(optional)* Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3. Value of datatype **a string matching the following regular expression: "\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*"** . [att.meterSigDefault.log] @meter.unit *(optional)* Contains the number indicating the beat unit, that is, the bottom number of the meter signature. Value of datatype **decimal**. [att.meterSigDefault.log]

Declaration	`<attDef ident= "meter.count" usage= "opt">`
	`<desc>Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3.</desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string">`
	`<rng:param name= "pattern">`
	`\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*`
	`</rng:param>`
	`</rng:data>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "meter.unit" usage= "opt">`
	`<desc>Contains the number indicating the beat unit, that is, the bottom number of the meter signature. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "decimal"/>`
	`</datatype>`
	`</attDef>`

att.meterSigDefault.vis

att.meterSigDefault.vis Used by staffDef and scoreDef to provide default values for attributes in the visual domain related to meter signature.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis) staffDef (via att.staffDef.vis)
Attributes	@meter.rend *(optional)* Contains an indication of how the meter signature should be rendered. Allowed values are: " **num**" *(Show only the number of beats.)*, " **denomsym**" *(The lower number in*

	the meter signature is replaced by a note symbol.), " norm" *(Meter signature rendered using traditional numeric values.)*, " invis" *(Meter signature not rendered.)* [att.meterSigDefault.vis] @meter.showchange *(optional)* Determines whether a new meter signature should be displayed when the meter signature changes. Value conforms to data.BOOLEAN . [att.meterSigDefault.vis] @meter.sym *(optional)* Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. Value conforms to data.METERSIGN . [att.meterSigDefault.vis]

Declaration	`<attDef ident= "meter.rend" usage= "opt">`
	`<desc>Contains an indication of how the meter signature should be rendered. </desc>`
	`<valList type= "closed">`
	`<valItem ident= "num">`
	`<desc>Show only the number of beats. </desc>`
	`</valItem>`
	`<valItem ident= "denomsym">`
	`<desc>The lower number in the meter signature is replaced by a note symbol. </desc>`
	`</valItem>`
	`<valItem ident= "norm">`
	`<desc>Meter signature rendered using traditional numeric values. </desc>`
	`</valItem>`
	`<valItem ident= "invis">`
	`<desc>Meter signature not rendered. </desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`
	
	`<attDef ident= "meter.showchange" usage= "opt">`
	`<desc>Determines whether a new meter signature should be displayed when the meter signature changes. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "meter.sym" usage= "opt">`
	`<desc>Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.METERSIGN" />`

	`</datatype>` `</attDef>`

att.meterSigGrp.anl

att.meterSigGrp.anl Analytical domain attributes.	
Module	MEI.cmn
Members	meterSigGrp (direct member of att.meterSigGrp.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.meterSigGrp.ges

att.meterSigGrp.ges Gestural domain attributes.

Module	MEI.cmn
Members	meterSigGrp (direct member of att.meterSigGrp.ges)
Attributes	

att.meterSigGrp.log

att.meterSigGrp.log Logical domain attributes.	
Module	MEI.cmn
Members	meterSigGrp (direct member of att.meterSigGrp.log)
Attributes	@func *(required)* Function of the meter signature group. Allowed values are: " alternating" *(Meter signatures appear in alternating measures.)*, " interchanging" *(Meter signatures are interchangable, e.g. 3/4 and 6/8.)*, " mixed" *(Meter signatures with different unit values are used to express a complex metrical pattern that is not expressable using traditional means, such as 2/4+1/8.)* [att.meterSigGrp.log]
Declaration	

```
<attDef ident= "func" usage= "req">
 <desc>Function of the meter signature group. </desc>
 <valList type= "closed">
  <valItem ident= "alternating">
    <desc>Meter signatures appear in alternating measures. </desc>
  </valItem>
  <valItem ident= "interchanging">
    <desc>Meter signatures are interchangable, e.g. 3/4 and 6/8.
    </desc>
  </valItem>
  <valItem ident= "mixed">
    <desc>Meter signatures with different unit values are used to
    express a complex metrical pattern that is not expressable using
    traditional means, such as 2/4+1/8. </desc>
  </valItem>
 </valList>
</attDef>
```

att.meterSigGrp.vis

att.meterSigGrp.vis Visual domain attributes.	
Module	MEI.cmn

Members	meterSigGrp (direct member of att.meterSigGrp.vis)
Attributes	

att.meterconformance

att.meterconformance Attributes that provide information about a structure's conformance to the prevailing meter.	
Module	MEI.shared
Members	layer (via att.layer.log) staff (via att.staff.log)
Attributes	@metcon *(optional)* Indicates the relationship between the content of a staff or layer and the prevailing meter. Allowed values are: " c" *(Complete; i.e., conformant with the prevailing meter.)*, " i" *(Incomplete; i.e., not enough beats.)*, " o" *(Overfull; i.e., too many beats.)* [att.meterconformance]
Declaration	 ``` <attDef ident= "metcon" usage= "opt"> <desc>Indicates the relationship between the content of a staff or layer and the prevailing meter. </desc> <valList type= "closed"> <valItem ident= "c"> <desc>Complete; i.e., conformant with the prevailing meter. </desc> </valItem> <valItem ident= "i"> <desc>Incomplete; i.e., not enough beats. </desc> </valItem> <valItem ident= "o"> <desc>Overfull; i.e., too many beats. </desc> </valItem> </valList> </attDef> ```

att.meterconformance.bar

att.meterconformance.bar Attributes that provide information about a measure's conformance to the prevailing meter.	
Module	MEI.shared
Members	barLine (via att.barLine.log)

	measure (via att.measure.log)
Attributes	@control *(optional)* Indicates whether or not a bar line is "controlling"; that is, if it indicates a point of alignment across all the parts. Bar lines within a score are usually controlling; that is, they "line up". Bar lines within parts may or may not be controlling. When applied to <measure>, this attribute indicates the nature of the right barline but not the left. Value conforms to data.BOOLEAN . [att.meterconformance.bar] @metcon *(optional)* Indicates the relationship between the content of a measure and the prevailing meter. Value conforms to data.BOOLEAN . [att.meterconformance.bar]
Declaration	<attDef ident= "metcon" usage= "opt"> <desc>Indicates the relationship between the content of a measure and the prevailing meter. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef> <attDef ident= "control" usage= "opt"> <desc>Indicates whether or not a bar line is "controlling"; that is, if it indicates a point of alignment across all the parts. Bar lines within a score are usually controlling; that is, they "line up". Bar lines within parts may or may not be controlling. When applied to <measure>, this attribute indicates the nature of the right barline but not the left. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>

att.midi.anl

att.midi.anl Analytical domain attributes.	
Module	MEI.midi
Members	midi (direct member of att.midi.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl]

	@next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.midi.event

att.midi.event Attributes common to MIDI events.	
Module	MEI.midi
Members	cc, chan, chanPr, cue, hex, marker, metaText, noteOff, noteOn, port, prog, seqNum, trkName, vel (direct members of att.midi.event)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical]
Declaration	<classes> <memberOf key=" att.staffident" /> <memberOf key=" att.layerident" /> <memberOf key=" att.timestamp.musical" />

	`</classes>`

att.midi.ges

att.midi.ges Gestural domain attributes.	
Module	MEI.midi
Members	midi (direct member of att.midi.ges)
Attributes	

att.midi.log

att.midi.log Logical domain attributes.	
Module	MEI.midi
Members	midi (direct member of att.midi.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

Declaration	`<classes>`
	`<memberOf key=" att.staffident" />`
	`<memberOf key=" att.layerident" />`
	`</classes>`

att.midi.vis

att.midi.vis Visual domain attributes.	
Module	MEI.midi

Members	midi (direct member of att.midi.vis)
Attributes	

att.midiinstrument

att.midiinstrument Attributes that record MIDI instrument information.	
Module	MEI.midi
Members	instrDef (direct member of att.midiinstrument)
Attributes	@midi.instrname *(optional)* Provides a General MIDI label for the MIDI instrument. Value conforms to data.MIDINAMES . [att.midiinstrument] @midi.instrnum *(optional)* Sets the MIDI instrument number. Value conforms to data.MIDIVALUE . [att.midiinstrument] @midi.pan *(optional)* Sets the instrument's position in a stereo field. Values of 0 and 1 both pan left, 127 pans right, and 64 pans to the center. Value conforms to data.MIDIVALUE . [att.midiinstrument] @midi.volume *(optional)* Sets the instrument's volume. Value conforms to data.MIDIVALUE . [att.midiinstrument]

Declaration	`<attDef ident= "midi.instrnum" usage= "opt"> <desc>Sets the MIDI instrument number. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDIVALUE" /> </datatype> </attDef>`
	`<attDef ident= "midi.instrname" usage= "opt"> <desc>Provides a General MIDI label for the MIDI instrument. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDINAMES" /> </datatype> </attDef>`
	`<attDef ident= "midi.pan" usage= "opt"> <desc>Sets the instrument's position in a stereo field. Values of 0 and 1 both pan left, 127 pans right, and 64 pans to the center. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDIVALUE" />`

	``` </datatype> </attDef> ``` ``` <attDef ident= "midi.volume" usage= "opt"> <desc>Sets the instrument's volume. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDIVALUE" /> </datatype> </attDef> ```

att.midinumber

att.midinumber Attributes that record MIDI numbers.	
Module	MEI.midi
Members	cc, chanPr, noteOff, noteOn, port, prog, vel (direct members of att.midinumber)
Attributes	@num *(required)* MIDI number in the range set by data.MIDIVALUE. Value conforms to data.MIDIVALUE . [att.midinumber]
Declaration	``` <attDef ident= "num" usage= "req"> <desc>MIDI number in the range set by data.MIDIVALUE. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDIVALUE" /> </datatype> </attDef> ```

att.miditempo

att.miditempo Attributes that record MIDI tempo information.	
Module	MEI.midi
Members	scoreDef (via att.scoreDef.ges) tempo (via att.tempo.ges)

Attributes	@midi.bpm *(optional)* Captures the number of *quarter notes* per minute. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.MIDIBPM . [att.miditempo] @midi.mspb *(optional)* Records the number of microseconds per *quarter note*. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. At 120 quarter notes per minute, each quarter note will last 500,000 microseconds. Value conforms to data.MIDIMSPB . [att.miditempo]

Declaration	`<attDef ident= "midi.bpm" usage= "opt">`
	`<desc>Captures the number of *quarter notes* per minute. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MIDIBPM" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "midi.mspb" usage= "opt">`
	`<desc>Records the number of microseconds per *quarter note*. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. At 120 quarter notes per minute, each quarter note will last 500,000 microseconds. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MIDIMSPB" />`
	`</datatype>`
	`</attDef>`

att.midivalue

att.midivalue Attributes that record MIDI values.	
Module	MEI.midi
Members	cc (direct member of att.midivalue) dynam (via att.dynam.ges) hairpin (via att.hairpin.ges)
Attributes	@val *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue]
Declaration	`<attDef ident= "val" usage= "opt">`

	<desc>MIDI number. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDIVALUE" /> </datatype> </attDef>

att.midivalue2

att.midivalue2 Attributes that record terminal MIDI values.	
Module	MEI.midi
Members	dynam (via att.dynam.ges) hairpin (via att.hairpin.ges)
Attributes	@val2 *(optional)* MIDI number. Value conforms to data.MIDIVALUE . [att.midivalue2]
Declaration	<attDef ident= "val2" usage= "opt"> <desc>MIDI number. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MIDIVALUE" /> </datatype> </attDef>

att.midivelocity

att.midivelocity MIDI attributes pertaining to key velocity.	
Module	MEI.midi
Members	note (via att.note.ges)
Attributes	@vel *(optional)* MIDI Note-on/off velocity. Value conforms to data.MIDIVALUE . [att.midivelocity]
Declaration	<attDef ident= "vel" usage= "opt"> <desc>MIDI Note-on/off velocity. </desc> <datatype maxOccurs= "1" minOccurs= "1">

	<rng:ref name=" data.MIDIVALUE" /> </datatype> </attDef>

att.mmtempo

att.mmtempo Attributes that record tempo in terms of beats per minute.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.ges) tempo (via att.tempo.ges)
Attributes	@mm *(optional)* Used to describe tempo in terms of beats (often the meter signature denominator) per minute, ala M.M. (Maezel's Metronome). Do not confuse this attribute with midi.bpm or midi.mspb. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.TEMPOVALUE . [att.mmtempo] @mm.dots *(optional)* Records the number of augmentation dots required by a dotted metronome unit. Value conforms to data.AUGMENTDOT . [att.mmtempo] @mm.unit *(optional)* Captures the metronomic unit. Value conforms to data.DURATION . [att.mmtempo]
Declaration	<attDef ident= "mm" usage= "opt"> <desc>Used to describe tempo in terms of beats (often the meter signature denominator) per minute, ala M.M. (Maezel's Metronome). Do not confuse this attribute with midi.bpm or midi.mspb. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.TEMPOVALUE" /> </datatype> </attDef> <attDef ident= "mm.unit" usage= "opt"> <desc>Captures the metronomic unit. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.DURATION" /> </datatype> </attDef>

	`<attDef ident= "mm.dots" usage= "opt">`
	`<desc>Records the number of augmentation dots required by a dotted metronome unit. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.AUGMENTDOT" />`
	`</datatype>`
	`</attDef>`

att.mordent.anl

att.mordent.anl Analytical domain attributes.	
Module	MEI.cmnOrnaments
Members	mordent (direct member of att.mordent.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.mordent.ges

att.mordent.ges Gestural domain attributes.	
Module	MEI.cmnOrnaments
Members	mordent (direct member of att.mordent.ges)
Attributes	

att.mordent.log

att.mordent.log Logical domain attributes.	
Module	MEI.cmnOrnaments
Members	mordent (direct member of att.mordent.log)
Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @form *(optional)* Traditionally, the 'normal' mordent is written as a short wavy line with a vertical line through it and the inverted mordent is written without the vertical line. However, the meaning of these signs is sometimes reversed. See Read, p. 245-246. Another attribute in the visual domain would be necessary in order to be completely explicit about which visual symbol is actually to be rendered. Allowed values are: " inv" *(Inverted mordent, e.g., performed as the principal note, followed by its upper neighbor, with a return to the principal note.)* , " norm" *("normal" mordent, e.g., performed as the written note, followed by its lower neighbor, with a return to the written note.)* [att.mordent.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @long *(optional)* When the long attribute is set to 'yes', a double or long mordent, consisting of 5 notes, is indicated. Value conforms to data.BOOLEAN . [att.mordent.log]

	@plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	`<classes>` `<memberOf key= " att.controlevent" />` `<memberOf key= " att.startendid" />` `<memberOf key= " att.ornamentaccid" />` `</classes>` `<attDef ident= "form" usage= "opt">` `<desc>Traditionally, the 'normal' mordent is written as a short wavy line with a vertical line through it and the inverted mordent is written without the vertical line. However, the meaning of these signs is sometimes reversed. See Read, p. 245–246. Another attribute in the visual domain would be necessary in order to be completely explicit about which visual symbol is actually to be rendered. </desc>` `<valList type= "closed">` `<valItem ident= "inv">` `<desc>Inverted mordent, e.g., performed as the principal note, followed by its upper neighbor, with a return to the principal note. </desc>` `</valItem>` `<valItem ident= "norm">` `<desc>"normal" mordent, e.g., performed as the written note, followed by its lower neighbor, with a return to the written note.` `</desc>` `</valItem>` `</valList>` `</attDef>`

```
<attDef ident= "long" usage= "opt">
 <desc>When the long attribute is set to 'yes', a double or long
 mordent, consisting of 5 notes, is indicated. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

att.mordent.vis

att.mordent.vis Visual domain attributes.	
Module	MEI.cmnOrnaments
Members	mordent (direct member of att.mordent.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement]

	@to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.extsym" /> <memberOf key=" att.placement" /> <memberOf key=" att.typography" /> <memberOf key=" att.visualoffset" /> </classes>

att.multiRest.anl

att.multiRest.anl Analytical domain attributes.	
Module	MEI.cmn
Members	multiRest (direct member of att.multiRest.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	

```
<classes>
 <memberOf key=" att.common.anl" />
</classes>
```

att.multiRest.ges

att.multiRest.ges Gestural domain attributes.	
Module	MEI.cmn
Members	multiRest (direct member of att.multiRest.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident]
Declaration	

```
<classes>
 <memberOf key=" att.duration.performed" />
 <memberOf key=" att.instrumentident" />
</classes>
```

att.multiRest.log

att.multiRest.log Logical domain attributes.	
Module	MEI.cmn
Members	multiRest (direct member of att.multiRest.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @num *(optional)* Records a number or count accompanying a notational feature. Value of datatype **positiveInteger**. [att.numbered]

	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.event" /> <memberOf key=" att.numbered" /> </classes>

att.multiRest.vis

att.multiRest.vis Visual domain attributes.	
Module	MEI.cmn
Members	multiRest (direct member of att.multiRest.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @block *(optional)* When the block attribute is used, combinations of the 1, 2, and 4 measure rest forms (Read, p. 104) should be rendered instead of the modern form or an alternative symbol. Value conforms to data.BOOLEAN . [att.multiRest.vis] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography]

	@fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.extsym" />`
	`<memberOf key=" att.staffloc" />`
	`<memberOf key=" att.staffloc.pitched" />`
	`<memberOf key=" att.typography" />`
	`</classes>`
	
	`<attDef ident= "block" usage= "opt">`
	`<desc>When the block attribute is used, combinations of the 1, 2, and 4 measure rest forms (Read, p. 104) should be rendered instead of the modern form or an alternative symbol. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`

att.multiRpt.anl

att.multiRpt.anl Analytical domain attributes.	
Module	MEI.cmn
Members	multiRpt (direct member of att.multiRpt.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl]

	@corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.multiRpt.ges

att.multiRpt.ges Gestural domain attributes.	
Module	MEI.cmn
Members	multiRpt (direct member of att.multiRpt.ges)
Attributes	

att.multiRpt.log

att.multiRpt.log Logical domain attributes.	
Module	MEI.cmn
Members	multiRpt (direct member of att.multiRpt.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident]

	@num *(optional)* Records a number or count accompanying a notational feature. Value of datatype **positiveInteger**. [att.numbered] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<classes>`
	`<memberOf key=" att.event" />`
	`<memberOf key=" att.numbered" />`
	`</classes>`

att.multiRpt.vis

att.multiRpt.vis Visual domain attributes.	
Module	MEI.cmn
Members	multiRpt (direct member of att.multiRpt.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @expand *(optional)* Indicates whether to render a repeat symbol or the source material to which it refers. A value of 'true' renders the source material, while 'false' displays the repeat symbol. Value conforms to data.BOOLEAN . [att.expandable] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography]

	@fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.expandable" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> </classes>

att.multinummeasures

att.multinummeasures Attributes that indicate programmatic numbering.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis) staffDef (via att.staffDef.vis)
Attributes	@multi.number *(optional)* Indicates whether programmatically calculated counts of multiple measures of rest (mRest) and whole measure repeats (mRpt) in parts should be rendered. Value conforms to data.BOOLEAN . [att.multinummeasures]
Declaration	<attDef ident="multi.number" usage="opt"> <desc>Indicates whether programmatically calculated counts of multiple measures of rest (mRest) and whole measure repeats (mRpt) in parts should be rendered. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.BOOLEAN" /> </datatype> </attDef>

att.name

att.name Attributes shared by names.	
Module	MEI.shared
Members	addName, bloc, corpName, country, district, famName, foreName, genName, geogFeat, geogName, name, nameLink, periodName, persName, region, repository, roleName, settlement, styleName (direct members of att.name)
Attributes	@authURI *(optional)* The web-accessible location of the controlled vocabulary from which the value is taken. Value conforms to data.URI . [att.authorized] @authority *(optional)* A name or label associated with the controlled vocabulary from which the value is taken. Value of datatype **string**. [att.authorized] @codedval *(optional)* a value that represents or identifies the element content. May serve as a primary key in a web-accessible database identified by the authURI attribute. One or more values of datatype **NMTOKEN**, separated by spaces. [att.canonical] @enddate *(optional)* Contains the end point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable] @isodate *(optional)* Provides the value of a textual date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @nonfiling *(optional)* Holds the number of initial characters (such as those constituing an article or preposition) that should not be used for sorting a title or name. Value of datatype **positiveInteger**. [att.filing] @notafter *(optional)* Contains an upper boundary for an uncertain date in standard ISO form. Value conforms to data.ISODATE . [att.datable] @notbefore *(optional)* Contains a lower boundary, in standard ISO form, for an uncertain date. Value conforms to data.ISODATE . [att.datable] @nymref *(optional)* Used to record a pointer to the regularized form of the name elsewhere in the document. Value conforms to data.URI . [att.name] @role *(optional)* Used to specify further information about the entity referenced by this name, for example, the occupation of a person or the status of a place. Use a standard value whenever possible. Value is plain text. [att.name] @startdate *(optional)* Contains the starting point of a date range in standard ISO form. Value conforms to data.ISODATE . [att.datable]
Declaration	`<classes> <memberOf key=" att.authorized" /> <memberOf key=" att.canonical" /> <memberOf key=" att.datable" />`

```
  <memberOf key= " att.filing" />
</classes>
```

```
<attDef ident= "nymref" usage= "opt">
 <desc>Used to record a pointer to the regularized form of the name
 elsewhere in the document. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.URI" />
 </datatype>
 <constraintSpec ident= "check_nymrefTarget" scheme= "isoschematron">
   <constraint>
     <sch:rule context= "@nymref">
       <sch:assert role= "warning" test= "not(normalize-space(.) eq
       '')"> @nymref attribute should have content. </sch:assert>
       <sch:assert role= "warning" test= "every $i in tokenize(.,
       '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> The value in
       @nymref should correspond to the @xml:id attribute of an
       element. </sch:assert>
     </sch:rule>
   </constraint>
 </constraintSpec>
</attDef>
```

```
<attDef ident= "role" usage= "opt">
 <desc>Used to specify further information about the entity referenced
 by this name, for example, the occupation of a person or the status of
 a place. Use a standard value whenever possible. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:text/>
 </datatype>
</attDef>
```

Constraints

@nymref attribute should have content.
The value in @nymref should correspond to the @xml:id attribute of an element.

```
<sch:rule context= "@nymref">
 <sch:assert role= "warning" test= "not(normalize-space(.) eq '')">
 @nymref attribute should have content. </sch:assert>
 <sch:assert role= "warning" test= "every $i in tokenize(., '\s+')
 satisfies substring($i,2)=//mei:*/@xml:id"> The value in @nymref should
 correspond to the @xml:id attribute of an element. </sch:assert>
</sch:rule>
```

att.notationstyle

att.notationstyle Attributes that capture music font name and size.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis)
Attributes	@music.name *(optional)* Sets the default music font name. Value conforms to data.MUSICFONT . [att.notationstyle] @music.size *(optional)* Sets the default music font size. Value conforms to data.FONTSIZE . [att.notationstyle]
Declaration	<attDef ident= "music.name" usage= "opt"> <desc>Sets the default music font name. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.MUSICFONT" /> </datatype> </attDef> <attDef ident= "music.size" usage= "opt"> <desc>Sets the default music font size. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.FONTSIZE" /> </datatype> </attDef>

att.notationtype

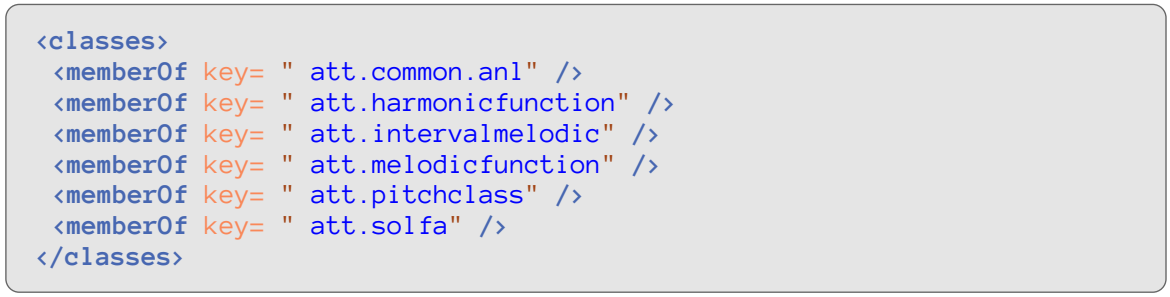
att.notationtype Attributes that provide for classification of notation.	
Module	MEI
Members	staffDef (via att.staffDef.log)
Attributes	@notationsubtype *(optional)* Provides any sub-classification of the notation contained or described by the element, additional to that given by its notationtype attribute. Value of datatype NMTOKEN. [att.notationtype] @notationtype *(optional)* Contains classification of the notation contained or described by the element bearing this attribute. Value conforms to data.NOTATIONTYPE . [att.notationtype]

Declaration	`<attDef ident= "notationtype" usage= "opt">`
	`<desc>Contains classification of the notation contained or described by the element bearing this attribute. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.NOTATIONTYPE" />`
	`</datatype>`
	`</attDef>`
	`<attDef ident= "notationsubtype" usage= "opt">`
	`<desc>Provides any sub-classification of the notation contained or described by the element, additional to that given by its notationtype attribute. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "NMTOKEN"/>`
	`</datatype>`
	`<constraintSpec ident= "When_notationsubtype" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "mei:*[@notationsubtype]">`
	`<sch:assert test= "@notationtype"> An element with a notationsubtype attribute must have a notationtype attribute.`
	`</sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	An element with a notationsubtype attribute must have a notationtype attribute.
	`<sch:rule context= "mei:*[@notationsubtype]">`
	`<sch:assert test= "@notationtype"> An element with a notationsubtype attribute must have a notationtype attribute. </sch:assert>`
	`</sch:rule>`

att.note.anl

att.note.anl Analytical domain attributes.	
Module	MEI.shared
Members	note (direct member of att.note.anl)

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @deg *(optional)* Captures relative scale degree information using Humdrum **deg syntax -- an optional indicator of melodic approach (^ = ascending approach, v = descending approach), a scale degree value (1 = tonic ... 7 = leading tone), and an optional indication of chromatic alteration. The amount of chromatic alternation is not indicated. Value conforms to data.SCALEDEGREE . [att.harmonicfunction] @intm *(optional)* Encodes the melodic interval from the previous pitch. The value may be a general directional indication (u, d, s), an indication of diatonic interval direction, quality, and size, or a precise numeric value in half steps. Value conforms to data.INTERVAL.MELODIC . [att.intervalmelodic] @mfunc *(optional)* Describes melodic function using Humdrum **embel syntax. Value conforms to data.MELODICFUNCTION . [att.melodicfunction] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @pclass *(optional)* Holds pitch class information. Value conforms to data.PITCHCLASS . [att.pitchclass] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @psolfa *(optional)* Contains sol-fa designation, e.g., do, re, mi, etc., in either a fixed or movable Do system. Value of datatype NMTOKEN. [att.solfa] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	

att.note.ges

att.note.ges Gestural domain attributes.	
Module	MEI.shared
Members	note (direct member of att.note.ges)
Attributes	@accid.ges *(optional)* Records the performed pitch inflection. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.accidental.performed] @artic.ges *(optional)* Records performed articulation that differs from the written value. One or more values from data.ARTICULATION , separated by spaces. [att.articulation.performed] @dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @gliss *(optional)* Indicates that this element participates in a glissando. Value conforms to data.GLISSANDO . [att.note.ges.cmn] @grace *(optional)* Marks a note or chord as a "grace" (without a definitive written duration) and records from which other note/chord it should "steal" time. Value conforms to data.GRACE . [att.graced] @grace.time *(optional)* Records the amount of time to be "stolen" from a non-grace note/chord. Value conforms to data.PERCENT . [att.graced] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @oct.ges *(optional)* Records performed octave information that differs from the written value. Value conforms to data.OCTAVE . [att.note.ges] @pname.ges *(optional)* Contains a performed pitch name that differs from the written value. Value conforms to data.PITCHNAME.GES . [att.note.ges] @pnum *(optional)* Holds a pitch-to-number mapping, a base-40 or MIDI note number, for example. Value conforms to data.PITCHNUMBER . [att.note.ges] @tab.fret *(optional)* Records the fret at which a string should be stopped. Value conforms to data.FRETNUMBER . [att.note.ges.tablature] @tab.string *(optional)* Records which string is to be played. Value conforms to data.STRINGNUMBER . [att.note.ges.tablature] @vel *(optional)* MIDI Note-on/off velocity. Value conforms to data.MIDIVALUE . [att.midivelocity]

Declaration	

```
<classes>
 <memberOf key= " att.accidental.performed" />
 <memberOf key= " att.articulation.performed" />
 <memberOf key= " att.duration.performed" />
 <memberOf key= " att.instrumentident" />
 <memberOf key= " att.midivelocity" />
 <memberOf key= " att.note.ges.cmn" />
 <memberOf key= " att.note.ges.mensural" />
 <memberOf key= " att.note.ges.tablature" />
</classes>
```

```
<attDef ident= "oct.ges" usage= "opt">
 <desc>Records performed octave information that differs from the
 written value. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.OCTAVE" />
 </datatype>
</attDef>
```

```
<attDef ident= "pname.ges" usage= "opt">
 <desc>Contains a performed pitch name that differs from the written
 value. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.PITCHNAME.GES" />
 </datatype>
</attDef>
```

```
<attDef ident= "pnum" usage= "opt">
 <desc>Holds a pitch-to-number mapping, a base-40 or MIDI note number,
 for example. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.PITCHNUMBER" />
 </datatype>
</attDef>
```

att.note.ges.cmn

att.note.ges.cmn Gestural domain attributes.	
Module	MEI.cmn
Members	note (via att.note.ges)

Attributes	@gliss *(optional)* Indicates that this element participates in a glissando. Value conforms to data.GLISSANDO . [att.note.ges.cmn] @grace *(optional)* Marks a note or chord as a "grace" (without a definitive written duration) and records from which other note/chord it should "steal" time. Value conforms to data.GRACE . [att.graced] @grace.time *(optional)* Records the amount of time to be "stolen" from a non-grace note/chord. Value conforms to data.PERCENT . [att.graced]
Declaration	`<classes> <memberOf key=" att.graced" /> </classes>` `<attDef ident="gliss" usage="opt"> <desc>Indicates that this element participates in a glissando. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.GLISSANDO" /> </datatype> </attDef>`

att.note.ges.mensural

att.note.ges.mensural Gestural domain attributes.	
Module	MEI.mensural
Members	note (via att.note.ges)
Attributes	@num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio]
Declaration	`<classes> <memberOf key=" att.duration.ratio" /> </classes>`

att.note.ges.tablature

att.note.ges.tablature Gestural domain attributes.	
Module	MEI.tablature
Members	note (via att.note.ges)
Attributes	@tab.fret *(optional)* Records the fret at which a string should be stopped. Value conforms to data.FRETNUMBER . [att.note.ges.tablature] @tab.string *(optional)* Records which string is to be played. Value conforms to data.STRINGNUMBER . [att.note.ges.tablature]
Declaration	<attDef ident= "tab.fret" usage= "opt"> <desc>Records the fret at which a string should be stopped. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.FRETNUMBER" /> </datatype> </attDef> <attDef ident= "tab.string" usage= "opt"> <desc>Records which string is to be played. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.STRINGNUMBER" /> </datatype> </attDef>

att.note.log

att.note.log Logical domain attributes.	
Module	MEI.shared
Members	note (direct member of att.note.log)
Attributes	@accid *(optional)* Captures a written accidental. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.accidental] @artic *(optional)* Encodes the written articulation(s). Articulations are normally encoded in order from the note head outward; that is, away from the stem. See additional notes at att.vis.note. Only articulations should be encoded in the artic attribute; for example, fingerings should be

	encoded using the <fingering> element. One or more values from data.ARTICULATION , separated by spaces. [att.articulation] @beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @lig *(optional)* Indicates this element's participation in a ligature. Allowed values are: " **recta**" , " **obliqua**" [att.note.log.mensural] @lv *(optional)* Indicates the attachment of an l.v. (laissez vibrer) sign to this element. Value conforms to data.BOOLEAN . [att.lvpresent] @oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @ornam *(optional)* Indicates that this element has an attached ornament. If visual information about the ornament is needed, then one of the elements that represents an ornament (mordent, trill, or turn) should be employed. One or more values from data.ORNAM.cmn , separated by spaces. [att.ornam] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch] @slur *(optional)* Indicates that this element participates in a slur. If visual information about the slur needs to be recorded, then a <slur> element should be employed. One or more values from data.SLUR , separated by spaces. [att.slurpresent] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @syl *(optional)* Holds an associated sung text syllable. Value of datatype **string**. [att.syltext] @tie *(optional)* Indicates that this element participates in a tie. If visual information about the tie needs to be recorded, then a <tie> element should be employed. One or more values from data.TIE , separated by spaces. [att.tiepresent] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed]

	@tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent]
Declaration	<classes> <memberOf key=" att.event" /> <memberOf key=" att.accidental" /> <memberOf key=" att.articulation" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.musical" /> <memberOf key=" att.fermatapresent" /> <memberOf key=" att.pitched" /> <memberOf key=" att.syltext" /> <memberOf key=" att.slurpresent" /> <memberOf key=" att.tiepresent" /> <memberOf key=" att.tupletpresent" /> <memberOf key=" att.note.log.cmn" /> <memberOf key=" att.note.log.mensural" /> </classes>

att.note.log.cmn

att.note.log.cmn Logical domain attributes.	
Module	MEI.cmn
Members	note (via att.note.log)
Attributes	@beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] @lv *(optional)* Indicates the attachment of an l.v. (laissez vibrer) sign to this element. Value conforms to data.BOOLEAN . [att.lvpresent] @ornam *(optional)* Indicates that this element has an attached ornament. If visual information about the ornament is needed, then one of the elements that represents an ornament (mordent, trill, or turn) should be employed. One or more values from data.ORNAM.cmn , separated by spaces. [att.ornam]
Declaration	<classes>

	<memberOf key=" att.beamed" /> <memberOf key=" att.lvpresent" /> <memberOf key=" att.ornam" /> </classes>

att.note.log.mensural

att.note.log.mensural Logical domain attributes.	
Module	MEI.mensural
Members	note (via att.note.log)
Attributes	@lig *(optional)* Indicates this element's participation in a ligature. Allowed values are: " recta" , " obliqua" [att.note.log.mensural]
Declaration	<attDef ident= "lig" usage= "opt"> <desc>Indicates this element's participation in a ligature. </desc> <valList type= "closed"> <valItem ident= "recta"/> <valItem ident= "obliqua"/> </valList> </attDef>

att.note.vis

att.note.vis Visual domain attributes.	
Module	MEI.shared
Members	note (direct member of att.note.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @breaksec *(optional)* Presence of this attribute indicates that the secondary beam should be broken following this note/chord. The value of the attribute records the number of beams which should remain unbroken. Value of datatype **positiveInteger**. [att.beamsecondary]

	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @colored *(optional)* Indicates this feature is 'colored'; that is, it is a participant in a change in rhythmic values. In mensural notation, coloration is indicated by colored notes (red, black, etc.) where void notes would otherwise occur. In CMN, coloration is indicated by an inverse color; that is, the note head is void when it would otherwise be filled and vice versa. Value conforms to data.BOOLEAN . [att.coloration] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @head.color *(optional)* Captures the overall color of a notehead. Value conforms to data.COLOR . [att.noteheads] @head.fill *(optional)* Describes how/if the notehead is filled. Value conforms to data.FILL . [att.noteheads] @head.fillcolor *(optional)* Captures the fill color of a notehead if different from the overall note color. Value conforms to data.COLOR . [att.noteheads] @head.mod *(optional)* Records any additional symbols applied to the notehead. One or more values from data.NOTEHEADMODIFIER , separated by spaces. [att.noteheads] @head.rotation *(optional)* Describes rotation applied to the basic notehead shape. A positive value rotates the notehead in a counter-clockwise fashion, while negative values produce clockwise rotation. Value conforms to data.ROTATION . [att.noteheads] @head.shape *(optional)* Used to override the head shape normally used for the given duration. Value conforms to data.HEADSHAPE . [att.noteheads]

	@head.visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.noteheads] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @stem.dir *(optional)* Describes the direction of a stem. Value conforms to data.STEMDIRECTION . [att.stems] @stem.len *(optional)* Encodes the stem length. Value conforms to data.MEASUREMENTABS . [att.stems] @stem.mod *(optional)* Encodes any stem "modifiers"; that is, symbols rendered on the stem, such as tremolo or Sprechstimme indicators. Value conforms to data.STEMMODIFIER . [att.stems] @stem.pos *(optional)* Records the position of the stem in relation to the note head(s). Value conforms to data.STEMPOSITION . [att.stems] @stem.with *(optional)* Contains an indication of which staff a note or chord that logically belongs to the current staff should be visually placed on; that is, the one above or the one below. Value conforms to data.OTHERSTAFF . [att.stems.cmn] @stem.x *(optional)* Records the output x coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems] @stem.y *(optional)* Records the output y coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.coloration" /> <memberOf key=" att.enclosingchars" /> <memberOf key=" att.extsym" /> <memberOf key=" att.noteheads" /> <memberOf key=" att.relativesize" /> <memberOf key=" att.staffloc" /> <memberOf key=" att.stems" /> <memberOf key=" att.typography" /> <memberOf key=" att.visibility" /> <memberOf key=" att.visualoffset.ho" /> <memberOf key=" att.visualoffset.to" /> <memberOf key=" att.xy" /> <memberOf key=" att.note.vis.cmn" /> </classes>`

att.note.vis.cmn

att.note.vis.cmn Visual domain attributes.	
Module	MEI.cmn
Members	note (via att.note.vis)
Attributes	@breaksec *(optional)* Presence of this attribute indicates that the secondary beam should be broken following this note/chord. The value of the attribute records the number of beams which should remain unbroken. Value of datatype **positiveInteger**. [att.beamsecondary]
Declaration	`<classes> <memberOf key=" att.beamsecondary" /> </classes>`

att.noteheads

att.noteheads Attributes pertaining to the notehead part of a note.	
Module	MEI.shared

Members	note (via att.note.vis)
Attributes	@head.color *(optional)* Captures the overall color of a notehead. Value conforms to data.COLOR . [att.noteheads] @head.fill *(optional)* Describes how/if the notehead is filled. Value conforms to data.FILL . [att.noteheads] @head.fillcolor *(optional)* Captures the fill color of a notehead if different from the overall note color. Value conforms to data.COLOR . [att.noteheads] @head.mod *(optional)* Records any additional symbols applied to the notehead. One or more values from data.NOTEHEADMODIFIER , separated by spaces. [att.noteheads] @head.rotation *(optional)* Describes rotation applied to the basic notehead shape. A positive value rotates the notehead in a counter-clockwise fashion, while negative values produce clockwise rotation. Value conforms to data.ROTATION . [att.noteheads] @head.shape *(optional)* Used to override the head shape normally used for the given duration. Value conforms to data.HEADSHAPE . [att.noteheads] @head.visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.noteheads]
Declaration	

```
<attDef ident= "head.color" usage= "opt">
 <desc>Captures the overall color of a notehead. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.COLOR" />
 </datatype>
</attDef>
```

```
<attDef ident= "head.fill" usage= "opt">
 <desc>Describes how/if the notehead is filled. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FILL" />
 </datatype>
</attDef>
```

```
<attDef ident= "head.fillcolor" usage= "opt">
 <desc>Captures the fill color of a notehead if different from the
 overall note color. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.COLOR" />
 </datatype>
</attDef>
```

```
<attDef ident= "head.mod" usage= "opt">
 <desc>Records any additional symbols applied to the notehead. </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
  <rng:ref name= " data.NOTEHEADMODIFIER" />
 </datatype>
</attDef>
```

```
<attDef ident= "head.rotation" usage= "opt">
 <desc>Describes rotation applied to the basic notehead shape. A
 positive value rotates the notehead in a counter-clockwise fashion,
 while negative values produce clockwise rotation. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
  <rng:ref name= " data.ROTATION" />
 </datatype>
</attDef>
```

```
<attDef ident= "head.shape" usage= "opt">
 <desc>Used to override the head shape normally used for the given
 duration. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
  <rng:ref name= " data.HEADSHAPE" />
 </datatype>
</attDef>
```

```
<attDef ident= "head.visible" usage= "opt">
 <desc>Indicates if a feature should be rendered when the notation is
 presented graphically or sounded when it is presented in an aural form.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
  <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

att.numbered

att.numbered Attributes that record numbers to be displayed with a feature.	
Module	MEI.cmn
Members	bTrem (via att.bTrem.log) multiRest (via att.multiRest.log) multiRpt (via att.multiRpt.log)

Attributes	@num *(optional)* Records a number or count accompanying a notational feature. Value of datatype **positiveInteger**. [att.numbered]

Declaration	`<attDef ident= "num" usage= "opt">`
	`<desc>Records a number or count accompanying a notational feature.`
	`</desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "positiveInteger"/>`
	`</datatype>`
	`</attDef>`

att.numberplacement

att.numberplacement Attributes that record the placement and visibility of numbers that accompany a bowed tremolo or tuplet.	
Module	MEI.cmn
Members	bTrem (via att.bTrem.vis) tuplet (via att.tuplet.vis) tupletSpan (via att.tupletSpan.vis)
Attributes	@num.place *(optional)* States where the tuplet number will be placed in relation to the note heads. Value conforms to data.PLACE . [att.numberplacement] @num.visible *(optional)* Determines if the tuplet number is visible. Value conforms to data.BOOLEAN . [att.numberplacement]

Declaration	`<attDef ident= "num.place" usage= "opt">`
	`<desc>States where the tuplet number will be placed in relation to the note heads. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.PLACE" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "num.visible" usage= "opt">`
	`<desc>Determines if the tuplet number is visible. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`

	`</attDef>`

att.octave

att.octave Attributes that record written octave.	
Module	MEI.shared
Members	clef (via att.clef.log) chordMember (via att.pitched) custos (via att.custos.log) keyAccid (via att.keyAccid.log) note (via att.note.log)
Attributes	@oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave]

Declaration	`<attDef ident= "oct" usage= "opt">`
	`<desc>Captures written octave information. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.OCTAVE" />`
	`</datatype>`
	`</attDef>`

att.octave.anl

att.octave.anl Analytical domain attributes.	
Module	MEI.cmn
Members	octave (direct member of att.octave.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.octave.ges

att.octave.ges Gestural domain attributes.	
Module	MEI.cmn
Members	octave (direct member of att.octave.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	<classes> <memberOf key=" att.duration.performed" /> </classes>

att.octave.log

att.octave.log Logical domain attributes.	
Module	MEI.cmn

Members	octave (direct member of att.octave.log)
Attributes	@coll *(optional)* Indicates whether the octave displacement should be performed simultaneously with the written notes, i.e., "coll' ottava". Unlike other octave signs which are indicated by broken lines, coll' ottava typically uses an unbroken line or a series of longer broken lines, ending with a short vertical stroke. See Read, p. 47-48. Allowed values are: " **coll**" *(Coll' ottava (with the octave).)* [att.octave.log] @dis *(optional)* Records the amount of octave displacement. Value conforms to data.OCTAVE.DIS . [att.octavedisplacement] @dis.place *(optional)* Records the direction of octave displacement. Value conforms to data.PLACE . [att.octavedisplacement] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " **all**" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " **one**" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " **none**" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed]

	@tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.octavedisplacement" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes> <attDef ident= "coll" usage= "opt"> <desc>Indicates whether the octave displacement should be performed simultaneously with the written notes, i.e., "coll' ottava". Unlike other octave signs which are indicated by broken lines, coll' ottava typically uses an unbroken line or a series of longer broken lines, ending with a short vertical stroke. See Read, p. 47–48. </desc> <valList type= "closed"> <valItem ident= "coll"> <desc>Coll' ottava (with the octave). </desc> </valItem> </valList> </attDef>

att.octave.vis

att.octave.vis Visual domain attributes.	
Module	MEI.cmn
Members	octave (direct member of att.octave.vis)
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to]

	@extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.extender" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.visualoffset2.ho" />`
	`<memberOf key=" att.visualoffset2.to" />`
	`<memberOf key=" att.xy" />

	`</classes>`

att.octavedefault

att.octavedefault Attributes that record a default value for octave.	
Module	MEI.shared
Members	layerDef (via att.layerDef.log) scoreDef (via att.scoreDef.log) staffDef (via att.staffDef.log)
Attributes	@octave.default *(optional)* Contains a default octave specification for use when the first note, rest, chord, etc. in a measure does not have an octave value specified. Value conforms to data.OCTAVE . [att.octavedefault]

Declaration	`<attDef ident= "octave.default" usage= "opt">`
	`<desc>Contains a default octave specification for use when the first note, rest, chord, etc. in a measure does not have an octave value specified. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.OCTAVE" />`
	`</datatype>`
	`</attDef>`

att.octavedisplacement

att.octavedisplacement Attributes describing the amount and direction of octave displacement.	
Module	MEI.shared
Members	clef (via att.clef.log) cpMark (via att.cpMark.log) octave (via att.octave.log)
Attributes	@dis *(optional)* Records the amount of octave displacement. Value conforms to data.OCTAVE.DIS . [att.octavedisplacement]

	@dis.place *(optional)* Records the direction of octave displacement. Value conforms to data.PLACE . [att.octavedisplacement]
Declaration	<attDef ident= "dis" usage= "opt"> <desc>Records the amount of octave displacement. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.OCTAVE.DIS" /> </datatype> </attDef> <attDef ident= "dis.place" usage= "opt"> <desc>Records the direction of octave displacement. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.PLACE" /> </datatype> </attDef>

att.onelinestaff

att.onelinestaff Attributes that record placement of notes on a single-line staff.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis) staffDef (via att.staffDef.vis)
Attributes	@ontheline *(optional)* Determines the placement of notes on a 1-line staff. A value of 'true' places all notes on the line, while a value of 'false' places stems-up notes above the line and stems-down notes below the line. Value conforms to data.BOOLEAN . [att.onelinestaff]
Declaration	<attDef ident= "ontheline" usage= "opt"> <desc>Determines the placement of notes on a 1-line staff. A value of 'true' places all notes on the line, while a value of 'false' places stems-up notes above the line and stems-down notes below the line. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>

att.optimization

att.optimization Attributes pertaining to layout optimization.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis)
Attributes	@optimize *(optional)* Indicates whether staves without notes, rests, etc. should be displayed. When the value is 'true', empty staves are displayed. Value conforms to data.BOOLEAN . [att.optimization]
Declaration	<attDef ident= "optimize" usage= "opt"> <desc>Indicates whether staves without notes, rests, etc. should be displayed. When the value is 'true', empty staves are displayed. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>

att.origin.layerident

att.origin.layerident Attributes that identify the layer associated with a distant feature.	
Module	MEI.shared
Members	cpMark (via att.cpMark.log)
Attributes	@origin.layer *(optional)* identifies the layer on which referenced notation occurs. One or more of positiveInteger. [att.origin.layerident]
Declaration	<attDef ident= "origin.layer" usage= "opt"> <desc>identifies the layer on which referenced notation occurs. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:list> <rng:oneOrMore> <rng:data type= "positiveInteger"/> </rng:oneOrMore> </rng:list> </datatype>

	`</attDef>`

att.origin.staffident

att.origin.staffident Attributes for identifying the staff associated with a distant feature.	
Module	MEI.shared
Members	cpMark (via att.cpMark.log)
Attributes	@origin.staff *(rec)* signifies the staff on which referenced notation occurs. Defaults to the same value as the local staff. Mandatory when applicable. One or more of **positiveInteger**. [att.origin.staffident]

Declaration	`<attDef ident= "origin.staff" usage= "rec">`
	`<desc>signifies the staff on which referenced notation occurs. Defaults to the same value as the local staff. Mandatory when applicable.`
	`</desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:list>`
	`<rng:oneOrMore>`
	`<rng:data type= "positiveInteger"/>`
	`</rng:oneOrMore>`
	`</rng:list>`
	`</datatype>`
	`</attDef>`

att.origin.startendid

att.origin.startendid Attributes recording the identifiers of the first and last elements of a sequence of distant elements.	
Module	MEI.shared
Members	cpMark (via att.cpMark.log)
Attributes	@origin.endid *(optional)* indicates the final element in a sequence of events. Value conforms to data.URI . [att.origin.startendid]

	@origin.startid *(optional)* indicates the first element in a sequence of events. Value conforms to data.URI . [att.origin.startendid]

Declaration	`<attDef ident= "origin.startid" usage= "opt">`
	`<desc>indicates the first element in a sequence of events. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.URI" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "origin.endid" usage= "opt">`
	`<desc>indicates the final element in a sequence of events. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.URI" />`
	`</datatype>`
	`</attDef>`

att.origin.timestamp.musical

att.origin.timestamp.musical Attributes that identify a musical range in terms of musical time.	
Module	MEI.shared
Members	cpMark (via att.cpMark.log)
Attributes	@origin.tstamp *(optional)* encodes the starting point of musical material in terms of musical time, i.e., a (potentially negative) count of measures plus a beat location. Value conforms to data.MEASUREBEATOFFSET . [att.origin.timestamp.musical] @origin.tstamp2 *(rec)* encodes the ending point of musical material in terms of musical time, i.e., a count of measures plus a beat location. The values are relative to the measure identified by @origin.tstamp. Value conforms to data.MEASUREBEAT . [att.origin.timestamp.musical]

Declaration	`<attDef ident= "origin.tstamp" usage= "opt">`
	`<desc>encodes the starting point of musical material in terms of musical time, i.e., a (potentially negative) count of measures plus a beat location. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREBEATOFFSET" />`
	`</datatype>`
	`</attDef>`

	`<attDef ident= "origin.tstamp2" usage= "rec">`
	`<desc>encodes the ending point of musical material in terms of musical time, i.e., a count of measures plus a beat location. The values are relative to the measure identified by @origin.tstamp. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREBEAT" />`
	`</datatype>`
	`<constraintSpec ident= "origin.tstamp2_requires_origin.tstamp" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "mei:*[@origin.tstamp2]">`
	`<sch:assert test= "@origin.tstamp"> When @origin.tstamp2 is used @origin.tstamp must also be present. </sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	When @origin.tstamp2 is used @origin.tstamp must also be present.
	`<sch:rule context= "mei:*[@origin.tstamp2]">`
	`<sch:assert test= "@origin.tstamp"> When @origin.tstamp2 is used @origin.tstamp must also be present. </sch:assert>`
	`</sch:rule>`

att.ornam

att.ornam Attributes for marking the presence of an ornament.	
Module	MEI.cmnOrnaments
Members	att.chord.log.cmn (no elements directly inheriting from this class) chord (via att.chord.log) att.note.log.cmn (no elements directly inheriting from this class) note (via att.note.log)
Attributes	@ornam *(optional)* Indicates that this element has an attached ornament. If visual information about the ornament is needed, then one of the elements that represents an ornament (mordent, trill, or turn) should be employed. One or more values from data.ORNAM.cmn , separated by spaces. [att.ornam]

Declaration	`<attDef ident= "ornam" usage= "opt">`
	`<desc>Indicates that this element has an attached ornament. If visual information about the ornament is needed, then one of the elements that represents an ornament (mordent, trill, or turn) should be employed.`
	`</desc>`
	`<datatype maxOccurs= "unbounded" minOccurs= "1">`
	`<rng:ref name= " data.ORNAM.cmn" />`
	`</datatype>`
	`</attDef>`

att.ornam.anl

att.ornam.anl Analytical domain attributes.	
Module	MEI.shared
Members	ornam (direct member of att.ornam.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.ornam.ges

att.ornam.ges Gestural domain attributes.	
Module	MEI.shared
Members	ornam (direct member of att.ornam.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	`<classes> <memberOf key= " att.duration.performed" /> </classes>`

att.ornam.log

att.ornam.log Logical domain attributes.	
Module	MEI.shared
Members	ornam (direct member of att.ornam.log)
Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of*

	this pointer.) , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.ornamentaccid" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.ornam.vis

att.ornam.vis Visual domain attributes.	
Module	MEI.shared
Members	ornam (direct member of att.ornam.vis)

Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.visualoffset2.ho" />`
	`<memberOf key=" att.visualoffset2.to" />`
	`<memberOf key=" att.xy" />`
	`</classes>`

att.ornamentaccid

att.ornamentaccid Accidentals associated with ornaments.	
Module	MEI.cmnOrnaments
Members	mordent (via att.mordent.log) ornam (via att.ornam.log) trill (via att.trill.log) turn (via att.turn.log)
Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid]
Declaration	<attDef ident= "accidupper" usage= "opt"> <desc>Records the written accidental associated with an upper neighboring note. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.ACCIDENTAL.EXPLICIT" /> </datatype> </attDef> <attDef ident= "accidlower" usage= "opt"> <desc>Records the written accidental associated with a lower neighboring note. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.ACCIDENTAL.EXPLICIT" /> </datatype> </attDef>

att.ossia.anl

att.ossia.anl Analytical domain attributes.	
Module	MEI.cmn
Members	ossia (direct member of att.ossia.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl]

	@corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.ossia.ges

att.ossia.ges Gestural domain attributes.	
Module	MEI.cmn
Members	ossia (direct member of att.ossia.ges)
Attributes	

att.ossia.log

att.ossia.log Logical domain attributes.	
Module	MEI.cmn
Members	ossia (direct member of att.ossia.log)
Attributes	

att.ossia.vis

att.ossia.vis Visual domain attributes.	
Module	MEI.cmn
Members	ossia (direct member of att.ossia.vis)
Attributes	

att.pad.anl

att.pad.anl Analytical domain attributes.	
Module	MEI.shared
Members	pad (direct member of att.pad.anl)
Attributes	

att.pad.ges

att.pad.ges Gestural domain attributes.	
Module	MEI.shared
Members	pad (direct member of att.pad.ges)
Attributes	

att.pad.log

att.pad.log Logical domain attributes.	
Module	MEI.shared
Members	pad (direct member of att.pad.log)
Attributes	@layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @num *(required)* Amount of "padding" to be added, in interline units; that is, in units of 1/2 the distance between adjacent staff lines. Value of datatype **decimal**. [att.pad.log]

	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.event" /> </classes> <attDef ident="num" usage="req"> <desc>Amount of "padding" to be added, in interline units; that is, in units of 1/2 the distance between adjacent staff lines. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:data type="decimal"/> </datatype> </attDef>

att.pad.vis

att.pad.vis Visual domain attributes.	
Module	MEI.shared
Members	pad (direct member of att.pad.vis)
Attributes	

att.pages

att.pages Attributes that record page-level layout information.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis)

Attributes	@page.botmar *(optional)* Indicates the amount of whitespace at the bottom of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.height *(optional)* Specifies the height of the page; may be expressed in real-world units or staff steps. Value conforms to data.MEASUREMENTABS . [att.pages] @page.leftmar *(optional)* Indicates the amount of whitespace at the left side of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.panels *(optional)* Indicates the number of logical pages to be rendered on a single physical page. Value conforms to data.PAGE.PANELS . [att.pages] @page.rightmar *(optional)* Indicates the amount of whitespace at the right side of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.scale *(optional)* Indicates how the page should be scaled when rendered. Value conforms to data.PGSCALE . [att.pages] @page.topmar *(optional)* Indicates the amount of whitespace at the top of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.width *(optional)* Describes the width of the page; may be expressed in real-world units or staff steps. Value conforms to data.MEASUREMENTABS . [att.pages]
Declaration	

```
<attDef ident= "page.height" usage= "opt">
 <desc>Specifies the height of the page; may be expressed in real-world
 units or staff steps. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

```
<attDef ident= "page.width" usage= "opt">
 <desc>Describes the width of the page; may be expressed in real-world
 units or staff steps. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

```
<attDef ident= "page.topmar" usage= "opt">
 <desc>Indicates the amount of whitespace at the top of a page. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

```
<attDef ident= "page.botmar" usage= "opt">
 <desc>Indicates the amount of whitespace at the bottom of a page.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

```
<attDef ident= "page.leftmar" usage= "opt">
 <desc>Indicates the amount of whitespace at the left side of a page.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

```
<attDef ident= "page.rightmar" usage= "opt">
 <desc>Indicates the amount of whitespace at the right side of a page.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

```
<attDef ident= "page.panels" usage= "opt">
 <desc>Indicates the number of logical pages to be rendered on a single
 physical page. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.PAGE.PANELS" />
 </datatype>
</attDef>
```

```
<attDef ident= "page.scale" usage= "opt">
 <desc>Indicates how the page should be scaled when rendered. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.PGSCALE" />
 </datatype>
</attDef>
```

att.part.anl

att.part.anl Analytical domain attributes.

Module	MEI.shared
Members	part (direct member of att.part.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.part.ges

att.part.ges Gestural domain attributes.	
Module	MEI.shared
Members	part (direct member of att.part.ges)
Attributes	

att.part.log

att.part.log Logical domain attributes.

Module	MEI.shared
Members	part (direct member of att.part.log)
Attributes	

att.part.vis

att.part.vis Visual domain attributes.	
Module	MEI.shared
Members	part (direct member of att.part.vis)
Attributes	

att.parts.anl

att.parts.anl Analytical domain attributes.	
Module	MEI.shared
Members	parts (direct member of att.parts.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	

```
<classes>
 <memberOf key= " att.common.anl" />
</classes>
```

att.parts.ges

att.parts.ges Gestural domain attributes.	
Module	MEI.shared
Members	parts (direct member of att.parts.ges)
Attributes	

att.parts.log

att.parts.log Logical domain attributes.	
Module	MEI.shared
Members	parts (direct member of att.parts.log)
Attributes	

att.parts.vis

att.parts.vis Visual domain attributes.	
Module	MEI.shared
Members	parts (direct member of att.parts.vis)
Attributes	

att.pb.anl

att.pb.anl Analytical domain attributes.	
Module	MEI.shared

Members	pb (direct member of att.pb.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.pb.ges

att.pb.ges Gestural domain attributes.	
Module	MEI.shared
Members	pb (direct member of att.pb.ges)
Attributes	

att.pb.log

att.pb.log Logical domain attributes.	
Module	MEI.shared

Members	pb (direct member of att.pb.log)
Attributes	

att.pb.vis

att.pb.vis Visual domain attributes.	
Module	MEI.shared
Members	pb (direct member of att.pb.vis)
Attributes	@folium *(optional)* States the side of a leaf (as in a manuscript) on which the content following the <pb> element occurs. Allowed values are: " verso" , " recto" [att.pb.vis]
Declaration	<attDef ident= "folium" usage= "opt"> <desc>States the side of a leaf (as in a manuscript) on which the content following the <pb> element occurs. </desc> <valList type= "closed"> <valItem ident= "verso"/> <valItem ident= "recto"/> </valList> </attDef>

att.pedal.anl

att.pedal.anl Analytical domain attributes.	
Module	MEI.cmn
Members	pedal (direct member of att.pedal.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key= " att.common.anl" /> </classes>`

att.pedal.ges

att.pedal.ges Gestural domain attributes.	
Module	MEI.cmn
Members	pedal (direct member of att.pedal.ges)
Attributes	

att.pedal.log

att.pedal.log Logical domain attributes.	
Module	MEI.cmn
Members	pedal (direct member of att.pedal.log)
Attributes	@dir *(required)* Records the position of the piano damper pedal. Allowed values are: " down" *(Depress the pedal.)*, " up" *(Release the pedal.)*, " half" *(Half pedal.)*, " bounce" *(Release then immediately depress the pedal.)* [att.pedal.log] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an*

	element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.) , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key= " att.controlevent" /> <memberOf key= " att.startendid" /> </classes> <attDef ident= "dir" usage= "req"> <desc>Records the position of the piano damper pedal. </desc> <valList type= "closed"> <valItem ident= "down"> <desc>Depress the pedal. </desc> </valItem> <valItem ident= "up"> <desc>Release the pedal. </desc> </valItem> <valItem ident= "half"> <desc>Half pedal. </desc> </valItem> <valItem ident= "bounce"> <desc>Release then immediately depress the pedal. </desc> </valItem> </valList>

	`</attDef>`

att.pedal.vis

att.pedal.vis Visual domain attributes. The place attribute captures the placement of the pedal marking with respect to the staff with which it is associated. Modern publishing standards require the place to be 'below'; however, for transcriptions of manuscript works, this attribute class allows the full range of values.	
Module	MEI.cmn
Members	pedal (direct member of att.pedal.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " line" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " pedstar" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , " altpedstar" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pedal.vis] @glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym]

	@ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	

```
<classes>
 <memberOf key=" att.altsym" />
 <memberOf key=" att.color" />
 <memberOf key=" att.extsym" />
 <memberOf key=" att.linerend" />
 <memberOf key=" att.placement" />
 <memberOf key=" att.typography" />
 <memberOf key=" att.visualoffset" />
 <memberOf key=" att.xy" />
</classes>
```

```
<attDef ident= "form" usage= "opt">
 <desc>Determines whether piano pedal marks should be rendered as lines
 or as terms. </desc>
 <valList type= "closed">
   <valItem ident= "line">
     <desc>Continuous line with start and end positions rendered by
     vertical bars and bounces shown by upward-pointing "blips". </desc>
   </valItem>
   <valItem ident= "pedstar">
     <desc>Pedal down and half pedal rendered with "Ped.", pedal up
     rendered by "*", pedal "bounce" rendered with "* Ped.". </desc>
   </valItem>
   <valItem ident= "altpedstar">
     <desc>Pedal up and down indications same as with "pedstar", but
     bounce is rendered with "Ped." only. </desc>
   </valItem>
 </valList>
</attDef>
```

att.phrase.anl

att.phrase.anl Analytical domain attributes.	
Module	MEI.shared
Members	phrase (direct member of att.phrase.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @join *(optional)* Used for linking visually separate entities that form a single logical entity, for example, multiple slurs broken across a system break that form a single musical phrase. Also used to indicate a measure which metrically completes the current one. Record the identifiers of the separately encoded components, excluding the one carrying the attribute. One or more values from data.URI , separated by spaces. [att.joined] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl]

	@sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`<memberOf key=" att.joined" />`
	`</classes>`

att.phrase.ges

att.phrase.ges Gestural domain attributes.	
Module	MEI.shared
Members	phrase (direct member of att.phrase.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]

Declaration	`<classes>`
	`<memberOf key=" att.duration.performed" />`
	`</classes>`

att.phrase.log

att.phrase.log Logical domain attributes.	
Module	MEI.shared
Members	phrase (direct member of att.phrase.log)

Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	`<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" />`

	<memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.phrase.vis

att.phrase.vis Visual domain attributes.	
Module	MEI.shared
Members	phrase (direct member of att.phrase.vis)
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend]

	@startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]

Declaration	`<classes>`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.visualoffset2" />`
	`<memberOf key=" att.xy" />`
	`<memberOf key=" att.xy2" />`
	`<memberOf key=" att.phrase.vis.cmn" />`
	`</classes>`

att.phrase.vis.cmn

att.phrase.vis.cmn Visual domain attributes.	
Module	MEI.cmn
Members	phrase (via att.phrase.vis)

Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend]
Declaration	`<classes> <memberOf key=" att.curvature" /> <memberOf key=" att.curverend" /> </classes>`

att.pianopedals

att.pianopedals Used by scoreDef and staffDef to provide default description of piano pedal rendition.	
Module	MEI.cmn
Members	att.scoreDef.vis.cmn (no elements directly inheriting from this class) scoreDef (via att.scoreDef.vis) att.staffDef.vis.cmn (no elements directly inheriting from this class) staffDef (via att.staffDef.vis)
Attributes	@pedal.style *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " **line**" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " **pedstar**" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , " **altpedstar**" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pianopedals]

Declaration	`<attDef ident= "pedal.style" usage= "opt">`
	`<desc>Determines whether piano pedal marks should be rendered as lines or as terms. </desc>`
	`<valList type= "closed">`
	`<valItem ident= "line">`
	`<desc>Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips". </desc>`
	`</valItem>`
	`<valItem ident= "pedstar">`
	`<desc>Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.". </desc>`
	`</valItem>`
	`<valItem ident= "altpedstar">`
	`<desc>Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only. </desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`

att.pitch

att.pitch Attributes that record written pitch name.	
Module	MEI.shared
Members	key, keySig (via att.keySig.log) chordMember (via att.pitched) custos (via att.custos.log) keyAccid (via att.keyAccid.log) note (via att.note.log)
Attributes	@pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch]

Declaration	`<attDef ident= "pname" usage= "opt">`
	`<desc>Contains a written pitch name. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.PITCHNAME" />`
	`</datatype>`
	`</attDef>`

att.pitchclass

att.pitchclass Attributes that describe pitch class.	
Module	MEI.analysis
Members	note (via att.note.anl)
Attributes	@pclass *(optional)* Holds pitch class information. Value conforms to data.PITCHCLASS . [att.pitchclass]
Declaration	<attDef ident= "pclass" usage= "opt"> <desc>Holds pitch class information. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.PITCHCLASS" /> </datatype> </attDef>

att.pitched

att.pitched Attributes that record written pitch name and octave number.	
Module	MEI.shared
Members	chordMember (direct member of att.pitched) custos (via att.custos.log) keyAccid (via att.keyAccid.log) note (via att.note.log)
Attributes	@oct *(optional)* Captures written octave information. Value conforms to data.OCTAVE . [att.octave] @pname *(optional)* Contains a written pitch name. Value conforms to data.PITCHNAME . [att.pitch]
Declaration	<classes> <memberOf key= " att.pitch" /> <memberOf key= " att.octave" /> </classes>

att.placement

att.placement Attributes capturing placement information.	
Module	MEI.shared
Members	accid (via att.accid.vis) artic (via att.artic.vis) breath (via att.breath.vis) cpMark (via att.cpMark.vis) dir (via att.dir.vis) dynam (via att.dynam.vis) f (via att.f.vis) fermata (via att.fermata.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) hairpin (via att.hairpin.vis) harm (via att.harm.vis) harpPedal (via att.harpPedal.vis) line (via att.line.vis) lyrics (via att.lyrics.vis) mordent (via att.mordent.vis) ornam (via att.ornam.vis) pedal (via att.pedal.vis) reh (via att.reh.vis) tempo (via att.tempo.vis) trill (via att.trill.vis) turn (via att.turn.vis)
Attributes	@place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement]

Declaration	`<attDef ident= "place" usage= "opt">`
	`<desc>Captures the placement of the item with respect to the staff with which it is associated. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.STAFFREL" />`
	`</datatype>`
	`</attDef>`

att.plist

att.plist Attributes listing the active participants in a user-defined collection.	
Module	MEI.shared
Members	annot, beatRpt, expansion (direct members of att.plist) att.controlevent (no elements directly inheriting from this class) accid (via att.accid.log) arpeg (via att.arpeg.log) artic (via att.artic.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dot (via att.dot.log) dynam (via att.dynam.log) f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log) octave (via att.octave.log) ornam (via att.ornam.log) pedal (via att.pedal.log) phrase (via att.phrase.log) slur (via att.slur.log) tempo (via att.tempo.log) tie (via att.tie.log) trill (via att.trill.log) tupletSpan (via att.tupletSpan.log) turn (via att.turn.log)
Attributes	@plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist]

Declaration	`<attDef ident= "plist" usage= "opt"> <desc>Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". </desc> <datatype maxOccurs= "unbounded" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> <constraintSpec ident= "check_plistTarget" scheme= "isoschematron"> <constraint> <sch:rule context= "@plist"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @plist attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @plist should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>`
Constraints	@plist attribute should have content. Each value in @plist should correspond to the @xml:id attribute of an element. `<sch:rule context= "@plist"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @plist attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> Each value in @plist should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>`

att.pointing

att.pointing Attributes common to all pointing/linking elements.	
Module	MEI.shared
Members	avFile, barLine, bibl, contents, ending, graphic, incipCode, incipText, item, lem, measure, pb, ptr, rdg, ref, relatedItem, relation, section, source (direct members of att.pointing)

Attributes	@target *(optional)* Allows the use of one or more previously-undeclared URIs to identify passive participants in a relationship; that is, the entities pointed "to". One or more values from data.URI , separated by spaces. [att.pointing] @targettype *(optional)* Characterization of target resource(s) using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.pointing] @xlink:actuate *(optional)* Defines whether a link occurs automatically or must be requested by the user. Allowed values are: " onLoad" *(Load the target resource(s) immediately.)*, " onRequest" *(Load the target resource(s) upon user request.)*, " none" *(Do not permit loading of the target resource(s).)*, " other" *(Behavior other than allowed by the other values of this attribute.)* [att.pointing] @xlink:role *(optional)* Characterization of the relationship between resources. The value of the role attribute must be a URI. Value conforms to data.URI . [att.pointing] @xlink:show *(optional)* Defines how a remote resource is rendered. Allowed values are: " new" *(Open in a new window.)*, " replace" *(Load the referenced resource in the same window.)*, " embed" *(Embed the referenced resource at the point of the link.)*, " none" *(Do not permit traversal to the referenced resource.)*, " other" *(Behavior other than permitted by the other values of this attribute.)* [att.pointing]
Declaration	

```
<attDef ident= "xlink:actuate" usage= "opt">
 <desc>Defines whether a link occurs automatically or must be requested
 by the user. </desc>
 <valList type= "closed">
   <valItem ident= "onLoad">
     <desc>Load the target resource(s) immediately. </desc>
   </valItem>
   <valItem ident= "onRequest">
     <desc>Load the target resource(s) upon user request. </desc>
   </valItem>
   <valItem ident= "none">
     <desc>Do not permit loading of the target resource(s). </desc>
   </valItem>
   <valItem ident= "other">
     <desc>Behavior other than allowed by the other values of this
     attribute. </desc>
   </valItem>
 </valList>
</attDef>
```

```
<attDef ident= "xlink:role" usage= "opt">
 <desc>Characterization of the relationship between resources. The value
 of the role attribute must be a URI. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.URI" />
 </datatype>
```

```
</attDef>
```

```
<attDef ident= "xlink:show" usage= "opt">
 <desc>Defines how a remote resource is rendered. </desc>
 <valList type= "closed">
   <valItem ident= "new">
     <desc>Open in a new window. </desc>
   </valItem>
   <valItem ident= "replace">
     <desc>Load the referenced resource in the same window. </desc>
   </valItem>
   <valItem ident= "embed">
     <desc>Embed the referenced resource at the point of the link.
     </desc>
   </valItem>
   <valItem ident= "none">
     <desc>Do not permit traversal to the referenced resource. </desc>
   </valItem>
   <valItem ident= "other">
     <desc>Behavior other than permitted by the other values of this
     attribute. </desc>
   </valItem>
 </valList>
</attDef>
```

```
<attDef ident= "target" usage= "opt">
 <desc>Allows the use of one or more previously-undeclared URIs to
 identify passive participants in a relationship; that is, the entities
 pointed "to". </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
   <rng:ref name= " data.URI" />
 </datatype>
</attDef>
```

```
<attDef ident= "targettype" usage= "opt">
 <desc>Characterization of target resource(s) using any convenient
 classification scheme or typology. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:data type= "NMTOKEN"/>
 </datatype>
</attDef>
```

att.proport.anl

att.proport.anl Analytical domain attributes.	
Module	MEI.mensural
Members	proport (direct member of att.proport.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.proport.ges

att.proport.ges Gestural domain attributes.	
Module	MEI.mensural
Members	proport (direct member of att.proport.ges)
Attributes	

att.proport.log

att.proport.log Logical domain attributes. These attributes describe augmentation or diminution of the normal value of the notes in mensural notation as a ratio.	
Module	MEI.mensural
Members	proport (direct member of att.proport.log)
Attributes	@num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio]

Declaration	`<classes>`
	`  <memberOf key= " att.duration.ratio" />`
	`</classes>`

att.proport.vis

att.proport.vis Visual domain attributes.	
Module	MEI.mensural
Members	proport (direct member of att.proport.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym]

	@glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> </classes>

att.quantity

att.quantity Attributes that specify a measurement in numerical terms.	
Module	MEI.shared
Members	depth, height, width (direct members of att.quantity)
Attributes	@quantity *(optional)* Numeric value capturing a measurement or count. Can only be interpreted in combination with the unit or currency attribute. Value of datatype a decimal number no smaller than 0 . [att.quantity]
Declaration	<attDef ident= "quantity" usage= "opt"> <desc>Numeric value capturing a measurement or count. Can only be interpreted in combination with the unit or currency attribute. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "decimal"> <rng:param name= "minInclusive"> 0 </rng:param> </rng:data> </datatype> </attDef>

att.rdg.anl

att.rdg.anl Analytical domain attributes.	
Module	MEI.critapp
Members	lem, rdg (direct members of att.rdg.anl)

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key= " att.common.anl" /> </classes>`

att.rdg.ges

att.rdg.ges Gestural domain attributes.	
Module	MEI.critapp
Members	lem, rdg (direct members of att.rdg.ges)
Attributes	

att.rdg.log

att.rdg.log Logical domain attributes.	
Module	MEI.critapp
Members	lem, rdg (direct members of att.rdg.log)

Attributes	

att.rdg.vis

att.rdg.vis Visual domain attributes.	
Module	MEI.critapp
Members	lem, rdg (direct members of att.rdg.vis)
Attributes	

att.reasonident

att.reasonident Attributes that identify the reason why an editorial feature is used.	
Module	MEI.edittrans
Members	gap, supplied, unclear (direct members of att.reasonident)
Attributes	@reason *(optional)* Holds a short phrase describing the reason for missing textual material (gap), why material is supplied (supplied), or why transcription is difficult (unclear). Value of datatype string. [att.reasonident]
Declaration	<attDef ident= "reason" usage= "opt"> <desc>Holds a short phrase describing the reason for missing textual material (gap), why material is supplied (supplied), or why transcription is difficult (unclear). </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:data type= "string"/> </datatype> </attDef>

att.regularized

att.regularized Attributes that hold a controlled value.	
Module	MEI.shared
Members	

Attributes	@reg *(optional)* Provides a regularized, authorized value. Value of datatype string. [att.regularized]

Declaration	`<attDef ident= "reg" usage= "opt">`
	`<desc>Provides a regularized, authorized value. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string"/>`
	`</datatype>`
	`</attDef>`

att.regularmethod

att.regularmethod Attributes that describe correction and normalization methods.	
Module	MEI.header
Members	correction, normalization (direct members of att.regularmethod)
Attributes	@method *(optional)* Indicates the method employed to mark corrections and normalizations. Allowed values are: " silent" *(Corrections and normalizations made silently.)*, " tags" *(Corrections and normalizations indicated using elements.)* [att.regularmethod]

Declaration	`<attDef ident= "method" usage= "opt">`
	`<desc>Indicates the method employed to mark corrections and`
	`normalizations. </desc>`
	`<valList type= "closed">`
	`<valItem ident= "silent">`
	`<desc>Corrections and normalizations made silently. </desc>`
	`</valItem>`
	`<valItem ident= "tags">`
	`<desc>Corrections and normalizations indicated using elements.`
	`</desc>`
	`</valItem>`
	`</valList>`
	`</attDef>`

att.reh.anl

att.reh.anl Analytical domain attributes.

Module	MEI.cmn
Members	reh (direct member of att.reh.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key=" att.common.anl" /> </classes>`

att.reh.ges

att.reh.ges Gestural domain attributes.	
Module	MEI.cmn
Members	reh (direct member of att.reh.ges)
Attributes	

att.reh.log

att.reh.log Logical domain attributes.

Module	MEI.cmn
Members	reh (direct member of att.reh.log)
Attributes	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.staffident" /> <memberOf key=" att.startid" /> <memberOf key=" att.timestamp.musical" /> <memberOf key=" att.timestamp.performed" /> </classes>

att.reh.vis

att.reh.vis Visual domain attributes.	
Module	MEI.cmn
Members	reh (direct member of att.reh.vis)
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography]

	@fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.xy" />`
	`</classes>`

att.rehearsal

att.rehearsal Attributes used by scoreDef and staffDef to provide default information about rehearsal numbers/ letters.	
Module	MEI.cmn

Members	att.scoreDef.vis.cmn (no elements directly inheriting from this class) scoreDef (via att.scoreDef.vis) att.staffDef.vis.cmn (no elements directly inheriting from this class) staffDef (via att.staffDef.vis)
Attributes	@reh.enclose *(optional)* Describes the enclosing shape for rehearsal marks. Allowed values are: " box" *(Enclosed by box.)*, " circle" *(Enclosed by circle.)*, " none" *(No enclosing shape.)* [att.rehearsal]
Declaration	<attDef ident= "reh.enclose" usage= "opt"> <desc>Describes the enclosing shape for rehearsal marks. </desc> <valList type= "closed"> <valItem ident= "box"> <desc>Enclosed by box. </desc> </valItem> <valItem ident= "circle"> <desc>Enclosed by circle. </desc> </valItem> <valItem ident= "none"> <desc>No enclosing shape. </desc> </valItem> </valList> </attDef>

att.rel

att.rel Attributes specific to bibliographic entity relationships.	
Module	MEI.frbr
Members	relation (direct member of att.rel)
Attributes	@rel *(required)* Describes the relationship between the current entity and the target entity. Value conforms to data.FRBRRELATIONSHIP . [att.rel]
Declaration	<attDef ident= "rel" usage= "req"> <desc>Describes the relationship between the current entity and the target entity. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.FRBRRELATIONSHIP" /> </datatype> </attDef>

att.relativesize

att.relativesize Attributes that record relative size.	
Module	MEI.shared
Members	chord (via att.chord.vis) mensur (via att.mensur.vis) mRest (via att.mRest.vis) note (via att.note.vis) rest (via att.rest.vis) uneume (via att.uneume.vis)
Attributes	@size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize]

Declaration	`<attDef ident= "size" usage= "opt">`
	`<desc>Describes the relative size of a feature. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.SIZE" />`
	`</datatype>`
	`</attDef>`

att.responsibility

att.responsibility Attributes capturing information regarding responsibility for some aspect of the text's creation, transcription, editing, or encoding.	
Module	MEI.shared
Members	annot, change, hand, mapping (direct members of att.responsibility) lem, rdg (via att.crit) abbr, add, addName, bloc, corpName, corr, country, date, district, event, expan, famName, foreName, gap, genName, geogFeat, geogName, handShift, name, nameLink, orig, perfRes, perfResList, periodName, persName, reg, region, relation, restore, roleName, settlement, styleName, subst, supplied, unclear (via att.edit)
Attributes	@resp *(optional)* Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. One or more values from data.URI , separated by spaces. [att.responsibility]

Declaration	<attDef ident= "resp" usage= "opt"> <desc>Indicates the agent(s) responsible for some aspect of the text's creation, transcription, editing, or encoding. Its value must point to one or more identifiers declared in the document header. </desc> <datatype maxOccurs= "unbounded" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> <constraintSpec ident= "check_respTarget" scheme= "isoschematron"> <constraint> <sch:rule context= "@resp"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @resp attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*[ancestor::mei:meiHead]/@xml:id"> The value in @resp should correspond to the @xml:id attribute of an element within the metadata header. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>
Constraints	@resp attribute should have content. The value in @resp should correspond to the @xml:id attribute of an element within the metadata header. <sch:rule context= "@resp"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @resp attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*[ancestor::mei:meiHead]/@xml:id"> The value in @resp should correspond to the @xml:id attribute of an element within the metadata header. </sch:assert> </sch:rule>

att.rest.anl

att.rest.anl Analytical domain attributes.	
Module	MEI.shared
Members	rest (direct member of att.rest.anl)

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.rest.ges

att.rest.ges Gestural domain attributes.	
Module	MEI.shared
Members	rest (direct member of att.rest.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed] @instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio]

	@numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio]
Declaration	<classes> <memberOf key=" att.duration.performed" /> <memberOf key=" att.instrumentident" /> <memberOf key=" att.rest.ges.mensural" /> </classes>

att.rest.ges.mensural

att.rest.ges.mensural Gestural domain attributes.	
Module	MEI.mensural
Members	rest (via att.rest.ges)
Attributes	@num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio]
Declaration	<classes> <memberOf key=" att.duration.ratio" /> </classes>

att.rest.log

att.rest.log Logical domain attributes.	
Module	MEI.shared
Members	rest (direct member of att.rest.log)
Attributes	@beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots]

	@dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent]
Declaration	<classes> <memberOf key=" att.augmentdots" /> <memberOf key=" att.event" /> <memberOf key=" att.duration.musical" /> <memberOf key=" att.fermatapresent" /> <memberOf key=" att.tupletpresent" /> <memberOf key=" att.rest.log.cmn" /> </classes>

att.rest.log.cmn

att.rest.log.cmn Logical domain attributes.	
Module	MEI.cmn
Members	rest (via att.rest.log)
Attributes	@beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed]

Declaration	

```
<classes>
 <memberOf key=" att.beamed" />
</classes>
```

att.rest.vis

att.rest.vis Visual domain attributes.	
Module	MEI.shared
Members	rest (direct member of att.rest.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @enclose *(optional)* Records the characters often used to mark accidentals, articulations, and sometimes notes as having a cautionary or editorial function. For an example of cautionary accidentals enclosed in parentheses, see Read, p. 131, ex. 9-14. Value conforms to data.ENCLOSURE . [att.enclosingchars] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched]

	@ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize] @spaces *(optional)* States how many spaces are covered by the rest. Value of datatype **positiveInteger**. [att.rest.vis.mensural] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.enclosingchars" />`
	`<memberOf key=" att.relativesize" />`
	`<memberOf key=" att.rest.vis.cmn" />`
	`<memberOf key=" att.rest.vis.mensural" />`
	`<memberOf key=" att.staffloc" />`
	`<memberOf key=" att.staffloc.pitched" />`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.xy" />`
	`</classes>`

att.rest.vis.cmn

att.rest.vis.cmn Visual domain attributes.	
Module	MEI.cmn
Members	rest (via att.rest.vis)

Attributes	

att.rest.vis.mensural

att.rest.vis.mensural Visual domain attributes.	
Module	MEI.mensural
Members	rest (via att.rest.vis)
Attributes	@spaces *(optional)* States how many spaces are covered by the rest. Value of datatype positiveInteger. [att.rest.vis.mensural]
Declaration	<attDef ident= "spaces" usage= "opt"><desc>States how many spaces are covered by the rest. </desc><datatype maxOccurs= "1" minOccurs= "1"><rng:data type= "positiveInteger"/></datatype></attDef>

att.sb.anl

att.sb.anl Analytical domain attributes.	
Module	MEI.shared
Members	sb (direct member of att.sb.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	`<classes> <memberOf key=" att.common.anl" /> </classes>`

att.sb.ges

att.sb.ges Gestural domain attributes.	
Module	MEI.shared
Members	sb (direct member of att.sb.ges)
Attributes	

att.sb.log

att.sb.log Logical domain attributes.	
Module	MEI.shared
Members	sb (direct member of att.sb.log)
Attributes	

att.sb.vis

att.sb.vis Visual domain attributes.	
Module	MEI.shared
Members	sb (direct member of att.sb.vis)

Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @form *(optional)* Indicates whether hash marks should be rendered between systems. See Read, p. 436, ex. 26-3. Allowed values are: " hash" *(Display hash marks between systems.)* [att.sb.vis] @glyphname *(optional)* Glyph name. Value of datatype string. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype a string matching the following regular expression: "(#x|U\+)[A-F0-9]+" . [att.extsym]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.extsym" /> <memberOf key=" att.typography" /> </classes> <attDef ident="form" usage="opt"> <desc>Indicates whether hash marks should be rendered between systems. See Read, p. 436, ex. 26-3. </desc> <valList type="closed"> <valItem ident="hash"> <desc>Display hash marks between systems. </desc> </valItem> </valList> </attDef>

att.scalable

att.scalable Attributes that describe relative size.

Module	MEI.shared
Members	symbol (direct member of att.scalable) staffDef (via att.staffDef.vis)
Attributes	@scale *(optional)* Scale factor to be applied to the feature to make it the desired display size. Value conforms to data.PERCENT . [att.scalable]
Declaration	<attDef ident= "scale" usage= "opt"> <desc>Scale factor to be applied to the feature to make it the desired display size. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.PERCENT" /> </datatype> </attDef>

att.score.anl

att.score.anl Analytical domain attributes.	
Module	MEI.shared
Members	score (direct member of att.score.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	

```
<classes>
 <memberOf key= " att.common.anl" />
</classes>
```

att.score.ges

att.score.ges Gestural domain attributes.	
Module	MEI.shared
Members	score (direct member of att.score.ges)
Attributes	

att.score.log

att.score.log Logical domain attributes.	
Module	MEI.shared
Members	score (direct member of att.score.log)
Attributes	

att.score.vis

att.score.vis Visual domain attributes.	
Module	MEI.shared
Members	score (direct member of att.score.vis)
Attributes	

att.scoreDef.anl

att.scoreDef.anl Analytical domain attributes.	
Module	MEI.shared

Members	scoreDef (direct member of att.scoreDef.anl)
Attributes	

att.scoreDef.ges

att.scoreDef.ges Gestural domain attributes for scoreDef. The values set in these attributes act as score-wide defaults for attributes that are not set in descendant elements. For example, the grace attribute value here applies to all the grace attribute values in the score (or, more accurately, until the next <scoreDef> element) without having to individually set each note's grace attribute value. The midi.* attributes function as default values when creating sounding output. The tune.* attributes provide the capability of recording a tuning reference pitch.	
Module	MEI.shared
Members	scoreDef (direct member of att.scoreDef.ges)
Attributes	@midi.bpm *(optional)* Captures the number of *quarter notes* per minute. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.MIDIBPM . [att.miditempo] @midi.channel *(optional)* Records a MIDI channel value. Value conforms to data.MIDICHANNEL . [att.channelized] @midi.duty *(optional)* Specifies the 'on' part of the duty cycle as a percentage of a note's duration. Value conforms to data.PERCENT . [att.channelized] @midi.mspb *(optional)* Records the number of microseconds per *quarter note*. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. At 120 quarter notes per minute, each quarter note will last 500,000 microseconds. Value conforms to data.MIDIMSPB . [att.miditempo] @midi.port *(optional)* Sets the MIDI port value. Value conforms to data.MIDIVALUE . [att.channelized] @midi.track *(optional)* Sets the MIDI track. Value of datatype **positiveInteger**. [att.channelized] @mm *(optional)* Used to describe tempo in terms of beats (often the meter signature denominator) per minute, ala M.M. (Maezel's Metronome). Do not confuse this attribute with midi.bpm or midi.mspb. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.TEMPOVALUE . [att.mmtempo] @mm.dots *(optional)* Records the number of augmentation dots required by a dotted metronome unit. Value conforms to data.AUGMENTDOT . [att.mmtempo] @mm.unit *(optional)* Captures the metronomic unit. Value conforms to data.DURATION . [att.mmtempo] @ppq *(optional)* Indicates the number of pulses (sometimes referred to as ticks or divisions) per quarter note. Unlike MIDI, MEI permits different values for a score and individual staves. Value of datatype **positiveInteger**. [att.timebase]

	@tune.Hz *(optional)* Holds a value for cycles per second, i.e., Hertz, for a tuning reference pitch. Value of datatype **decimal**. [att.scoreDef.ges] @tune.pname *(optional)* Holds the pitch name of a tuning reference pitch. Value conforms to data.PITCHNAME . [att.scoreDef.ges] @tune.temper *(optional)* Provides an indication of the tuning system, 'just', for example. Value conforms to data.TEMPERAMENT . [att.scoreDef.ges]
Declaration	<classes> <memberOf key=" att.channelized" /> <memberOf key=" att.timebase" /> <memberOf key=" att.miditempo" /> <memberOf key=" att.mmtempo" /> </classes> <attDef ident="tune.pname" usage="opt"> <desc>Holds the pitch name of a tuning reference pitch. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.PITCHNAME" /> </datatype> </attDef> <attDef ident="tune.Hz" usage="opt"> <desc>Holds a value for cycles per second, i.e., Hertz, for a tuning reference pitch. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:data type="decimal"/> </datatype> </attDef> <attDef ident="tune.temper" usage="opt"> <desc>Provides an indication of the tuning system, 'just', for example. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.TEMPERAMENT" /> </datatype> </attDef>

att.scoreDef.log

att.scoreDef.log Logical domain attributes for scoreDef in the CMN repertoire. The values set in these attributes act as score-wide defaults for attributes that are not set in descendant elements.

Module	MEI.shared
Members	scoreDef (direct member of att.scoreDef.log)
Attributes	@beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log] @clef.dis *(optional)* Records the amount of octave displacement to be applied to the clef. Value conforms to data.OCTAVE.DIS . [att.cleffing.log] @clef.dis.place *(optional)* Records the direction of octave displacement to be applied to the clef. Value conforms to data.PLACE . [att.cleffing.log] @clef.line *(optional)* Contains a default value for the position of the clef. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. Value conforms to data.CLEFLINE . [att.cleffing.log] @clef.shape *(optional)* Encodes a value for the clef symbol. Value conforms to data.CLEFSHAPE . [att.cleffing.log] @dur.default *(optional)* Contains a default duration in those situations when the first note, rest, chord, etc. in a measure does not have a duration specified. Value conforms to data.DURATION . [att.duration.default] @key.accid *(optional)* Contains an accidental for the tonic key, if one is required, e.g., if key.pname equals 'c' and key.accid equals 's', then a tonic of C# is indicated. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.keySigDefault.log] @key.mode *(optional)* Indicates major, minor, or other tonality. Value conforms to data.MODE . [att.keySigDefault.log] @key.pname *(optional)* Holds the pitch name of the tonic key, e.g. 'c' for the key of C. Value conforms to data.PITCHNAME . [att.keySigDefault.log] @key.sig *(optional)* Indicates where the key lies in the circle of fifths. Value conforms to data.KEYSIGNATURE . [att.keySigDefault.log] @key.sig.mixed *(optional)* Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. One or more values from data.KEYSIGTOKEN , separated by spaces. [att.keySigDefault.log] @mensur.dot *(optional)* Determines if a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensural.log] @mensur.sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensural.log]

	@mensur.slash *(optional)* Indicates the number lines added to the mensuration sign. For example, one slash is added for what we now call 'alla breve'. Value of datatype **positiveInteger**. [att.mensural.log] @meter.count *(optional)* Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3. Value of datatype **a string matching the following regular expression: "\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*"** . [att.meterSigDefault.log] @meter.unit *(optional)* Contains the number indicating the beat unit, that is, the bottom number of the meter signature. Value of datatype **decimal**. [att.meterSigDefault.log] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @num.default *(optional)* Along with numbase.default, describes the default duration as a ratio. num.default is the first value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @numbase.default *(optional)* Along with num.default, describes the default duration as a ratio. numbase.default is the second value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @octave.default *(optional)* Contains a default octave specification for use when the first note, rest, chord, etc. in a measure does not have an octave value specified. Value conforms to data.OCTAVE . [att.octavedefault] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @proport.num *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.num is for the first value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @proport.numbase *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.numbase is for the second value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared] @trans.diat *(optional)* Records the amount of diatonic pitch shift, e.g., C to C♯ = 0, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @trans.semi *(optional)* Records the amount of pitch shift in semitones, e.g., C to C♯ = 1, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition]

Declaration	<classes> <memberOf key=" att.cleffing.log" /> <memberOf key=" att.duration.default" /> <memberOf key=" att.keySigDefault.log" /> <memberOf key=" att.meterSigDefault.log" /> <memberOf key=" att.octavedefault" /> <memberOf key=" att.transposition" /> <memberOf key=" att.scoreDef.log.cmn" /> <memberOf key=" att.scoreDef.log.mensural" /> </classes>

att.scoreDef.log.cmn

att.scoreDef.log.cmn Logical domain attributes.	
Module	MEI.cmn
Members	scoreDef (via att.scoreDef.log)
Attributes	@beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log]
Declaration	<classes> <memberOf key=" att.beaming.log" /> </classes>

att.scoreDef.log.mensural

att.scoreDef.log.mensural Logical domain attributes for a score in the mensural repertoire. The values set in these attributes act as score-wide defaults for attributes that are not set in descendant elements.	
Module	MEI.mensural
Members	scoreDef (via att.scoreDef.log)
Attributes	@mensur.dot *(optional)* Determines if a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensural.log]

	@mensur.sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensural.log] @mensur.slash *(optional)* Indicates the number lines added to the mensuration sign. For example, one slash is added for what we now call 'alla breve'. Value of datatype **positiveInteger**. [att.mensural.log] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @proport.num *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.num is for the first value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @proport.numbase *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.numbase is for the second value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared]

Declaration	`<classes>`
	`<memberOf key=" att.mensural.log" />`
	`</classes>`

att.scoreDef.vis

att.scoreDef.vis Visual domain attributes for scoreDef in the CMN repertoire.	
Module	MEI.shared
Members	scoreDef (direct member of att.scoreDef.vis)
Attributes	@barplace *(optional)* Records the location of a bar line. Value conforms to data.BARPLACE . [att.barplacement] @beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " **acc**" *(Beam lines grow farther apart from left to right.)*, " **rit**" *(Beam lines grow closer*

	together from left to right.), " **norm**" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis] @clef.color *(optional)* Describes the color of the clef. Value conforms to data.COLOR . [att.cleffing.vis] @clef.visible *(optional)* Determines whether the clef is to be displayed. Value conforms to data.BOOLEAN . [att.cleffing.vis] @dynam.dist *(optional)* Records the default distance from the staff for dynamic marks. Value conforms to data.MEASUREMENTREL . [att.distances] @ending.rend *(optional)* Describes where ending marks should be displayed. Allowed values are: " **top**" *(Ending rendered only above top staff.)*, " **barred**" *(Ending rendered above staves that have bar lines drawn across them.)*, " **grouped**" *(Endings rendered above staff groups.)* [att.endings] @grid.show *(optional)* Determines whether to display guitar chord grids. Value conforms to data.BOOLEAN . [att.scoreDef.vis.cmn] @harm.dist *(optional)* Records the default distance from the staff of harmonic indications, such as guitar chord grids or functional labels. Value conforms to data.MEASUREMENTREL . [att.distances] @key.sig.show *(optional)* Indicates whether the key signature should be displayed. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @key.sig.showchange *(optional)* Determines whether cautionary accidentals should be displayed at a key change. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @lyric.align *(optional)* Describes the alignment of lyric syllables associated with a note or chord. Value conforms to data.MEASUREMENTREL . [att.lyricstyle] @lyric.fam *(optional)* Sets the font family default value for lyrics. Value conforms to data.FONTFAMILY . [att.lyricstyle] @lyric.name *(optional)* Sets the font name default value for lyrics. Value conforms to data.FONTNAME . [att.lyricstyle] @lyric.size *(optional)* Sets the default font size value for lyrics. Value conforms to data.FONTSIZE . [att.lyricstyle] @lyric.style *(optional)* Sets the default font style value for lyrics. Value conforms to data.FONTSTYLE . [att.lyricstyle] @lyric.weight *(optional)* Sets the default font weight value for lyrics. Value conforms to data.FONTWEIGHT . [att.lyricstyle] @mensur.color *(optional)* Records the color of the mensuration sign. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.mensural.vis] @mensur.form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " **horizontal**" , " **vertical**" [att.mensural.vis] @mensur.loc *(optional)* Holds the staff location of the mensuration sign. Value conforms to data.STAFFLOC . [att.mensural.vis]

	@mensur.orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensural.vis] @mensur.size *(optional)* Describes the relative size of the mensuration sign. Value conforms to data.SIZE . [att.mensural.vis] @meter.rend *(optional)* Contains an indication of how the meter signature should be rendered. Allowed values are: " num" *(Show only the number of beats.)*, " denomsym" *(The lower number in the meter signature is replaced by a note symbol.)*, " norm" *(Meter signature rendered using traditional numeric values.)*, " invis" *(Meter signature not rendered.)* [att.meterSigDefault.vis] @meter.showchange *(optional)* Determines whether a new meter signature should be displayed when the meter signature changes. Value conforms to data.BOOLEAN . [att.meterSigDefault.vis] @meter.sym *(optional)* Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. Value conforms to data.METERSIGN . [att.meterSigDefault.vis] @mnum.visible *(optional)* Indicates whether measure numbers should be displayed. Value conforms to data.BOOLEAN . [att.measurenumbers] @multi.number *(optional)* Indicates whether programmatically calculated counts of multiple measures of rest (mRest) and whole measure repeats (mRpt) in parts should be rendered. Value conforms to data.BOOLEAN . [att.multinummeasures] @music.name *(optional)* Sets the default music font name. Value conforms to data.MUSICFONT . [att.notationstyle] @music.size *(optional)* Sets the default music font size. Value conforms to data.FONTSIZE . [att.notationstyle] @ontheline *(optional)* Determines the placement of notes on a 1-line staff. A value of 'true' places all notes on the line, while a value of 'false' places stems-up notes above the line and stems-down notes below the line. Value conforms to data.BOOLEAN . [att.onelinestaff] @optimize *(optional)* Indicates whether staves without notes, rests, etc. should be displayed. When the value is 'true', empty staves are displayed. Value conforms to data.BOOLEAN . [att.optimization] @page.botmar *(optional)* Indicates the amount of whitespace at the bottom of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.height *(optional)* Specifies the height of the page; may be expressed in real-world units or staff steps. Value conforms to data.MEASUREMENTABS . [att.pages] @page.leftmar *(optional)* Indicates the amount of whitespace at the left side of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.panels *(optional)* Indicates the number of logical pages to be rendered on a single physical page. Value conforms to data.PAGE.PANELS . [att.pages] @page.rightmar *(optional)* Indicates the amount of whitespace at the right side of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.scale *(optional)* Indicates how the page should be scaled when rendered. Value conforms to data.PGSCALE . [att.pages]

	@page.topmar *(optional)* Indicates the amount of whitespace at the top of a page. Value conforms to data.MEASUREMENTABS . [att.pages] @page.width *(optional)* Describes the width of the page; may be expressed in real-world units or staff steps. Value conforms to data.MEASUREMENTABS . [att.pages] @pedal.style *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " **line**" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " **pedstar**" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , " **altpedstar**" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pianopedals] @reh.enclose *(optional)* Describes the enclosing shape for rehearsal marks. Allowed values are: " **box**" *(Enclosed by box.)*, " **circle**" *(Enclosed by circle.)*, " **none**" *(No enclosing shape.)* [att.rehearsal] @slur.lform *(optional)* Value conforms to data.LINEFORM . [att.slurrend] @slur.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.slurrend] @spacing.packexp *(optional)* Describes a note's spacing relative to its time value. Value of datatype **decimal**. [att.spacing] @spacing.packfact *(optional)* Describes the note spacing of output. Value of datatype **decimal**. [att.spacing] @spacing.staff *(optional)* Specifies the minimum amount of space between adjacent staves in the same system; measured from the bottom line of the staff above to the top line of the staff below. Value conforms to data.MEASUREMENTREL . [att.spacing] @spacing.system *(optional)* Describes the space between adjacent systems; a pair of space-separated values (minimum and maximum, respectively) provides a range between which a rendering system-supplied value may fall, while a single value indicates a fixed amount of space; that is, the minimum and maximum values are equal. One or two values from data.MEASUREMENTREL , separated by a space. [att.spacing] @system.leftline *(optional)* Indicates whether the staves are joined at the left by a continuous line. The default value is "true". Do not confuse this with the heavy vertical line used as a grouping symbol. Value conforms to data.BOOLEAN . [att.systems] @system.leftmar *(optional)* Describes the amount of whitespace at the left system margin relative to page.leftmar. Value conforms to data.MEASUREMENTABS . [att.systems] @system.rightmar *(optional)* Describes the amount of whitespace at the right system margin relative to page.rightmar. Value conforms to data.MEASUREMENTABS . [att.systems] @system.topmar *(optional)* Describes the distance from page's top edge to the first system; used for first page only. Value conforms to data.MEASUREMENTABS . [att.systems] @taktplace *(optional)* If takt bar lines are to be used, then the taktplace attribute may be used to denote the staff location of the shortened bar line. The location may include staff lines, spaces, and the spaces directly above and below the staff. The value ranges between 0 (just below the staff) to 2 * number of staff lines (directly above the staff). For example, on a 5-line staff the lines would be numbered 1,3,5,7, and 9 while the spaces would be numbered 0,2,4,6,8,10. For

	example, a value of '9' puts the bar line through the top line of a 5-line staff. Value conforms to data.STAFFLOC . [att.barplacement] @text.dist *(optional)* Determines how far from the staff to render text elements. Value conforms to data.MEASUREMENTREL . [att.distances] @text.fam *(optional)* Provides a default value for the font family name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTFAMILY . [att.textstyle] @text.name *(optional)* Provides a default value for the font name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTNAME . [att.textstyle] @text.size *(optional)* Provides a default value for the font size of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSIZE . [att.textstyle] @text.style *(optional)* Provides a default value for the font style of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSTYLE . [att.textstyle] @text.weight *(optional)* Provides a default value for the font weight for text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTWEIGHT . [att.textstyle] @tie.lform *(optional)* Value conforms to data.LINEFORM . [att.tierend] @tie.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.tierend] @vu.height *(optional)* Defines the height of a "virtual unit" (vu) in terms of real-world units. A single vu is half the distance between the vertical center point of a staff line and that of an adjacent staff line. Value of datatype **a string matching the following regular expression: "\d+(\.\d+)?(cm|mm|in|pt|pc)"** . [att.scoreDef.vis]

Declaration	`<classes>`
	`<memberOf key=" att.barplacement" />`
	`<memberOf key=" att.cleffing.vis" />`
	`<memberOf key=" att.distances" />`
	`<memberOf key=" att.endings" />`
	`<memberOf key=" att.keySigDefault.vis" />`
	`<memberOf key=" att.lyricstyle" />`
	`<memberOf key=" att.measurenumbers" />`
	`<memberOf key=" att.meterSigDefault.vis" />`
	`<memberOf key=" att.multinummeasures" />`
	`<memberOf key=" att.notationstyle" />`
	`<memberOf key=" att.onelinestaff" />`
	`<memberOf key=" att.optimization" />`
	`<memberOf key=" att.pages" />`
	`<memberOf key=" att.spacing" />`
	`<memberOf key=" att.systems" />`

```
  <memberOf key=" att.textstyle" />
  <memberOf key=" att.scoreDef.vis.cmn" />
  <memberOf key=" att.scoreDef.vis.mensural" />
</classes>
```

```
<attDef ident="vu.height" usage="opt">
 <desc>Defines the height of a "virtual unit" (vu) in terms of real-
 world units. A single vu is half the distance between the vertical
 center point of a staff line and that of an adjacent staff line.
 </desc>
 <datatype maxOccurs="1" minOccurs="1">
   <rng:data type="token">
     <!-- px and vu are *not* allowed here because they're not real-
     world units -->
     <rng:param name="pattern"> \d+(\.\d+)?(cm|mm|in|pt|pc)
     </rng:param>
   </rng:data>
 </datatype>
</attDef>
```

att.scoreDef.vis.cmn

att.scoreDef.vis.cmn Visual domain attributes.	
Module	MEI.cmn
Members	scoreDef (via att.scoreDef.vis)
Attributes	@beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " **acc**" *(Beam lines grow farther apart from left to right.)*, " **rit**" *(Beam lines grow closer together from left to right.)*, " **norm**" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis] @grid.show *(optional)* Determines whether to display guitar chord grids. Value conforms to data.BOOLEAN . [att.scoreDef.vis.cmn] @pedal.style *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " **line**" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " **pedstar**" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , "

	altpedstar" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pianopedals] @reh.enclose *(optional)* Describes the enclosing shape for rehearsal marks. Allowed values are: " box" *(Enclosed by box.)*, " circle" *(Enclosed by circle.)*, " none" *(No enclosing shape.)* [att.rehearsal] @slur.lform *(optional)* Value conforms to data.LINEFORM . [att.slurrend] @slur.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.slurrend] @tie.lform *(optional)* Value conforms to data.LINEFORM . [att.tierend] @tie.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.tierend]
Declaration	<classes> <memberOf key=" att.beaming.vis" /> <memberOf key=" att.pianopedals" /> <memberOf key=" att.rehearsal" /> <memberOf key=" att.slurrend" /> <memberOf key=" att.tierend" /> </classes> <attDef ident="grid.show" usage="opt"> <desc>Determines whether to display guitar chord grids. </desc> <datatype maxOccurs="1" minOccurs="1"> <rng:ref name=" data.BOOLEAN" /> </datatype> </attDef>

att.scoreDef.vis.mensural

att.scoreDef.vis.mensural Visual domain attributes for scoreDef in the mensural repertoire.	
Module	MEI.mensural
Members	scoreDef (via att.scoreDef.vis)
Attributes	@mensur.color *(optional)* Records the color of the mensuration sign. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.mensural.vis] @mensur.form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " horizontal" , " vertical" [att.mensural.vis] @mensur.loc *(optional)* Holds the staff location of the mensuration sign. Value conforms to data.STAFFLOC . [att.mensural.vis]

	@mensur.orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensural.vis] @mensur.size *(optional)* Describes the relative size of the mensuration sign. Value conforms to data.SIZE . [att.mensural.vis]

Declaration	`<classes>`
	`<memberOf key=" att.mensural.vis" />`
	`</classes>`

att.section.anl

att.section.anl Analytical domain attributes.	
Module	MEI.shared
Members	section (direct member of att.section.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.section.ges

att.section.ges Gestural domain attributes.	
Module	MEI.shared
Members	section (direct member of att.section.ges)
Attributes	

att.section.log

att.section.log Logical domain attributes.	
Module	MEI.shared
Members	section (direct member of att.section.log)
Attributes	

att.section.vis

att.section.vis Visual domain attributes.	
Module	MEI.shared
Members	section (direct member of att.section.vis)
Attributes	@restart *(optional)* Indicates that staves begin again with this section. Value conforms to data.BOOLEAN . [att.section.vis]
Declaration	<attDef ident= "restart" usage= "opt"> <desc>Indicates that staves begin again with this section. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>

att.sequence

att.sequence Attributes that describe order within a collection of features.	
Module	MEI.shared
Members	lem, rdg (via att.crit) abbr, add, corr, del, expan, restore, subst (via att.trans)
Attributes	@seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype positiveInteger. [att.sequence]

Declaration	`<attDef ident= "seq" usage= "opt">`
	`<desc>Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "positiveInteger"/>`
	`</datatype>`
	`</attDef>`

att.slashcount

att.slashcount Attributes for recording the number of slashes that accompany a feature.	
Module	MEI.shared
Members	fTrem (via att.fTrem.vis) mensur, mensuration (via att.mensur.log)
Attributes	@slash *(optional)* Indicates the number of slashes present. Value conforms to data.SLASH . [att.slashcount]

Declaration	`<attDef ident= "slash" usage= "opt">`
	`<desc>Indicates the number of slashes present. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.SLASH" />`
	`</datatype>`
	`</attDef>`

att.slur.anl

att.slur.anl Analytical domain attributes.	
Module	MEI.cmn
Members	slur (direct member of att.slur.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @join *(optional)* Used for linking visually separate entities that form a single logical entity, for example, multiple slurs broken across a system break that form a single musical phrase. Also used to indicate a measure which metrically completes the current one. Record the identifiers of the separately encoded components, excluding the one carrying the attribute. One or more values from data.URI , separated by spaces. [att.joined] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`<memberOf key=" att.joined" />`
	`</classes>`

att.slur.ges

att.slur.ges Gestural domain attributes.	
Module	MEI.cmn

Members	slur (direct member of att.slur.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	`<classes> <memberOf key=" att.duration.performed" /> </classes>`

att.slur.log

att.slur.log Logical domain attributes.	
Module	MEI.cmn
Members	slur (direct member of att.slur.log)
Attributes	@dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist]

	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.slur.vis

att.slur.vis Visual domain attributes for slur. The vo attribute is the vertical offset (from its normal position) of the entire rendered slur/phrase mark.	
Module	MEI.cmn
Members	slur (direct member of att.slur.vis)
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the

	line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend] @lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]

Declaration	

```
<classes>
 <memberOf key= " att.color" />
 <memberOf key= " att.visualoffset" />
 <memberOf key= " att.visualoffset2" />
 <memberOf key= " att.xy" />
 <memberOf key= " att.xy2" />
 <memberOf key= " att.curvature" />
 <memberOf key= " att.curverend" />
</classes>
```

att.slurpresent

att.slurpresent Attributes for marking the presence of a slur.	
Module	MEI.shared
Members	chord (via att.chord.log) note (via att.note.log)
Attributes	@slur *(optional)* Indicates that this element participates in a slur. If visual information about the slur needs to be recorded, then a <slur> element should be employed. One or more values from data.SLUR , separated by spaces. [att.slurpresent]
Declaration	

```
<attDef ident= "slur" usage= "opt">
 <desc>Indicates that this element participates in a slur. If visual
 information about the slur needs to be recorded, then a <slur> element
 should be employed. </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
   <rng:ref name= " data.SLUR" />
 </datatype>
</attDef>
```

att.slurrend

att.slurrend Attributes that describe the rendition of slurs.	
Module	MEI.cmn
Members	att.scoreDef.vis.cmn (no elements directly inheriting from this class) scoreDef (via att.scoreDef.vis)

	att.staffDef.vis.cmn (no elements directly inheriting from this class) staffDef (via att.staffDef.vis)
Attributes	@slur.lform *(optional)* Value conforms to data.LINEFORM . [att.slurrend] @slur.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.slurrend]

Declaration	`<attDef ident= "slur.lform" usage= "opt">`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINEFORM" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "slur.lwidth" usage= "opt">`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINEWIDTH" />`
	`</datatype>`
	`</attDef>`

att.solfa

att.solfa Attributes that specify pitch using sol-fa.	
Module	MEI.analysis
Members	note (via att.note.anl) uneume (via att.uneume.anl)
Attributes	@psolfa *(optional)* Contains sol-fa designation, e.g., do, re, mi, etc., in either a fixed or movable Do system. Value of datatype NMTOKEN. [att.solfa]

Declaration	`<attDef ident= "psolfa" usage= "opt">`
	`<desc>Contains sol-fa designation, e.g., do, re, mi, etc., in either a fixed or movable Do system. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "NMTOKEN"/>`
	`</datatype>`
	`</attDef>`

att.source

att.source Attributes common to elements that may refer to a source.	
Module	MEI.critapp
Members	annot, custos, desc, expansion, label, lb, pb, sb (direct members of att.source) lem, rdg (via att.crit) abbr, add, addName, bloc, corpName, corr, country, date, district, event, expan, famName, foreName, gap, genName, geogFeat, geogName, handShift, name, nameLink, orig, perfRes, perfResList, periodName, persName, reg, region, relation, restore, roleName, settlement, styleName, subst, supplied, unclear (via att.edit)
Attributes	@source *(optional)* Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. One or more values from data.URI , separated by spaces. [att.source]

Declaration	`<attDef ident= "source" usage= "opt">`
	`<desc>Contains a list of one or more pointers indicating the sources which attest to a given reading. Each value should correspond to the ID of a <source> element located in the document header. </desc>`
	`<datatype maxOccurs= "unbounded" minOccurs= "1">`
	`<rng:ref name= " data.URI" />`
	`</datatype>`
	`<constraintSpec ident= "check_sourceTarget" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "@source">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @source attribute should have content. </sch:assert>`
	`<sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:source/@xml:id"> Each value in @source should correspond to the @xml:id attribute of a source element. </sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Constraints	@source attribute should have content.
	Each value in @source should correspond to the @xml:id attribute of a source element.
	`<sch:rule context= "@source">`
	`<sch:assert role= "warning" test= "not(normalize-space(.) eq '')">`
	`@source attribute should have content. </sch:assert>`

	<sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:source/@xml:id"> Each value in @source should correspond to the @xml:id attribute of a source element. </sch:assert> </sch:rule>

att.space.anl

att.space.anl Analytical domain attributes.	
Module	MEI.shared
Members	space (direct member of att.space.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key= " att.common.anl" /> </classes>

att.space.ges

att.space.ges Gestural domain attributes.	
Module	MEI.shared
Members	space (direct member of att.space.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]

Declaration	`<classes>`
	`<memberOf key= " att.duration.performed" />`
	`</classes>`

att.space.log

att.space.log Logical domain attributes.	
Module	MEI.shared
Members	space (direct member of att.space.log)
Attributes	@beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records the duration of a feature using the relative durational values provided by the data.DURATION datatype. Value conforms to data.DURATION . [att.duration.musical] @fermata *(optional)* Indicates the attachment of a fermata to this element. If visual information about the fermata needs to be recorded, then a <fermata> element should be employed instead. Value conforms to data.PLACE . [att.fermatapresent] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]

	@tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent]
Declaration	<classes> <memberOf key=" att.augmentdots" /> <memberOf key=" att.event" /> <memberOf key=" att.duration.musical" /> <memberOf key=" att.fermatapresent" /> <memberOf key=" att.tupletpresent" /> <memberOf key=" att.space.log.cmn" /> </classes>

att.space.log.cmn

att.space.log.cmn Logical domain attributes for CMN features.	
Module	MEI.cmn
Members	space (via att.space.log)
Attributes	@beam *(optional)* Indicates that this event is "under a beam". One or more values from data.BEAM , separated by spaces. [att.beamed]
Declaration	<classes> <memberOf key=" att.beamed" /> </classes>

att.space.vis

att.space.vis Visual domain attributes.

Module	MEI.shared
Members	space (direct member of att.space.vis)
Attributes	@compressable *(optional)* Indicates whether a space is 'compressible', i.e., if it may be removed at the discretion of processing software. Value conforms to data.BOOLEAN . [att.space.vis]
Declaration	<attDef ident= "compressable" usage= "opt"> <desc>Indicates whether a space is 'compressible', i.e., if it may be removed at the discretion of processing software. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>

att.spacing

att.spacing Attributes that capture notation spacing information.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis)
Attributes	@spacing.packexp *(optional)* Describes a note's spacing relative to its time value. Value of datatype **decimal**. [att.spacing] @spacing.packfact *(optional)* Describes the note spacing of output. Value of datatype **decimal**. [att.spacing] @spacing.staff *(optional)* Specifies the minimum amount of space between adjacent staves in the same system; measured from the bottom line of the staff above to the top line of the staff below. Value conforms to data.MEASUREMENTREL . [att.spacing] @spacing.system *(optional)* Describes the space between adjacent systems; a pair of space-separated values (minimum and maximum, respectively) provides a range between which a rendering system-supplied value may fall, while a single value indicates a fixed amount of space; that is, the minimum and maximum values are equal. One or two values from data.MEASUREMENTREL , separated by a space. [att.spacing]
Declaration	<attDef ident= "spacing.packexp" usage= "opt"> <desc>Describes a note's spacing relative to its time value. </desc> <datatype maxOccurs= "1" minOccurs= "1">

```
    <rng:data type= "decimal"/>
  </datatype>
</attDef>
```

```
<attDef ident= "spacing.packfact" usage= "opt">
  <desc>Describes the note spacing of output. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:data type= "decimal"/>
  </datatype>
</attDef>
```

```
<attDef ident= "spacing.staff" usage= "opt">
  <desc>Specifies the minimum amount of space between adjacent staves in
  the same system; measured from the bottom line of the staff above to
  the top line of the staff below. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:ref name= " data.MEASUREMENTREL" />
  </datatype>
</attDef>
```

```
<attDef ident= "spacing.system" usage= "opt">
  <desc>Describes the space between adjacent systems; a pair of space-
  separated values (minimum and maximum, respectively) provides a range
  between which a rendering system-supplied value may fall, while a
  single value indicates a fixed amount of space; that is, the minimum
  and maximum values are equal. </desc>
  <datatype maxOccurs= "2" minOccurs= "1">
    <rng:ref name= " data.MEASUREMENTREL" />
  </datatype>
</attDef>
```

att.staff.anl

att.staff.anl Analytical domain attributes.	
Module	MEI.shared
Members	staff (direct member of att.staff.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl]

	@corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.staff.ges

att.staff.ges Gestural domain attributes.	
Module	MEI.shared
Members	staff (direct member of att.staff.ges)
Attributes	

att.staff.log

att.staff.log Logical domain attributes.	
Module	MEI.shared
Members	staff (direct member of att.staff.log)
Attributes	@def *(optional)* Provides a mechanism for linking the staff to a staffDef element. Value conforms to data.URI . [att.staff.log]

	@metcon *(optional)* Indicates the relationship between the content of a staff or layer and the prevailing meter. Allowed values are: " c" *(Complete; i.e., conformant with the prevailing meter.)*, " i" *(Incomplete; i.e., not enough beats.)*, " o" *(Overfull; i.e., too many beats.)* [att.meterconformance]
Declaration	<classes> <memberOf key= " att.meterconformance" /> </classes> <attDef ident= "def" usage= "opt"> <desc>Provides a mechanism for linking the staff to a staffDef element. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> <constraintSpec ident= "check_defTarget_staff" scheme= "isoschematron"> <constraint> <sch:rule context= "mei:staff/@def"> <sch:assert role= "warning" test= "not(normalize-space(.) eq ''')"> @def attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:staffDef/@xml:id"> The value in @def should correspond to the @xml:id attribute of a staffDef element. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>
Constraints	@def attribute should have content. The value in @def should correspond to the @xml:id attribute of a staffDef element. <sch:rule context= "mei:staff/@def"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @def attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:staffDef/@xml:id"> The value in @def should correspond to the @xml:id attribute of a staffDef element. </sch:assert> </sch:rule>

att.staff.vis

att.staff.vis Visual domain attributes.	
Module	MEI.shared
Members	staff (direct member of att.staff.vis)
Attributes	@visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility]
Declaration	<classes> <memberOf key= " att.visibility" /> </classes>

att.staffDef.anl

att.staffDef.anl Analytical domain attributes.	
Module	MEI.shared
Members	staffDef (direct member of att.staffDef.anl)
Attributes	

att.staffDef.ges

att.staffDef.ges Gestural domain attributes for staffDef in the CMN repertoire.	
Module	MEI.shared
Members	staffDef (direct member of att.staffDef.ges)
Attributes	@instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident] @ppq *(optional)* Indicates the number of pulses (sometimes referred to as ticks or divisions) per quarter note. Unlike MIDI, MEI permits different values for a score and individual staves. Value of datatype **positiveInteger**. [att.timebase]

	@tab.strings *(optional)* Provides a *written* pitch and octave for each open string or course of strings. One or more values conforming to the pattern " [a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd|1qf|3qf|1qs|3qs)?([a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd|1qf|3qf|1qs|3qs)?)*". [att.staffDef.ges.tablature]
Declaration	<classes> <memberOf key=" att.instrumentident" /> <memberOf key=" att.timebase" /> <memberOf key=" att.staffDef.ges.tablature" /> </classes>

att.staffDef.ges.tablature

att.staffDef.ges.tablature Gestural domain attributes for staffDef in tablature.	
Module	MEI.tablature
Members	staffDef (via att.staffDef.ges)
Attributes	@tab.strings *(optional)* Provides a *written* pitch and octave for each open string or course of strings. One or more values conforming to the pattern " [a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd|1qf|3qf|1qs|3qs)?([a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd|1qf|3qf|1qs|3qs)?)*". [att.staffDef.ges.tablature]
Declaration	<attDef ident= "tab.strings" usage= "opt"> <desc>Provides a *written* pitch and octave for each open string or course of strings. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:list> <rng:oneOrMore> <rng:data type= "token"> <rng:param name= "pattern"> [a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd|1qf|3qf|1qs|3qs)?([a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd|1qf|3qf|1qs|3qs)?)* </rng:param> </rng:data>

	`</rng:oneOrMore>`
	`</rng:list>`
	`</datatype>`
	`</attDef>`

att.staffDef.log

att.staffDef.log Logical domain attributes for staffDef.	
Module	MEI.shared
Members	staffDef (direct member of att.staffDef.log)
Attributes	@beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log] @clef.dis *(optional)* Records the amount of octave displacement to be applied to the clef. Value conforms to data.OCTAVE.DIS . [att.cleffing.log] @clef.dis.place *(optional)* Records the direction of octave displacement to be applied to the clef. Value conforms to data.PLACE . [att.cleffing.log] @clef.line *(optional)* Contains a default value for the position of the clef. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff. Value conforms to data.CLEFLINE . [att.cleffing.log] @clef.shape *(optional)* Encodes a value for the clef symbol. Value conforms to data.CLEFSHAPE . [att.cleffing.log] @dur.default *(optional)* Contains a default duration in those situations when the first note, rest, chord, etc. in a measure does not have a duration specified. Value conforms to data.DURATION . [att.duration.default] @key.accid *(optional)* Contains an accidental for the tonic key, if one is required, e.g., if key.pname equals 'c' and key.accid equals 's', then a tonic of C# is indicated. Value conforms to data.ACCIDENTAL.IMPLICIT . [att.keySigDefault.log] @key.mode *(optional)* Indicates major, minor, or other tonality. Value conforms to data.MODE . [att.keySigDefault.log] @key.pname *(optional)* Holds the pitch name of the tonic key, e.g. 'c' for the key of C. Value conforms to data.PITCHNAME . [att.keySigDefault.log] @key.sig *(optional)* Indicates where the key lies in the circle of fifths. Value conforms to data.KEYSIGNATURE . [att.keySigDefault.log]

	@key.sig.mixed *(optional)* Mixed key signatures, e.g. those consisting of a mixture of flats and sharps (Read, p. 143, ex. 9-39), and key signatures with unorthodox placement of the accidentals (Read, p. 141) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute or in the <keySig> element. It is intended that key.sig.mixed contain a series of tokens with each token containing pitch name, accidental, and octave, such as 'a4 c5s e5f' that indicate what key accidentals should be rendered and where they should be placed. One or more values from data.KEYSIGTOKEN , separated by spaces. [att.keySigDefault.log] @mensur.dot *(optional)* Determines if a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensural.log] @mensur.sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensural.log] @mensur.slash *(optional)* Indicates the number lines added to the mensuration sign. For example, one slash is added for what we now call 'alla breve'. Value of datatype **positiveInteger**. [att.mensural.log] @meter.count *(optional)* Captures the number of beats in a measure, that is, the top number of the meter signature. It must contain a decimal number or an additive expression that evaluates to a decimal number, such as 2+3. Value of datatype **a string matching the following regular expression: "\d+(\.\d+)?(\s*\+\s*\d+(\.\d+)?)*"** . [att.meterSigDefault.log] @meter.unit *(optional)* Contains the number indicating the beat unit, that is, the bottom number of the meter signature. Value of datatype **decimal**. [att.meterSigDefault.log] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @notationsubtype *(optional)* Provides any sub-classification of the notation contained or described by the element, additional to that given by its notationtype attribute. Value of datatype **NMTOKEN**. [att.notationtype] @notationtype *(optional)* Contains classification of the notation contained or described by the element bearing this attribute. Value conforms to data.NOTATIONTYPE . [att.notationtype] @num.default *(optional)* Along with numbase.default, describes the default duration as a ratio. num.default is the first value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @numbase.default *(optional)* Along with num.default, describes the default duration as a ratio. numbase.default is the second value in the ratio. Value of datatype **positiveInteger**. [att.duration.default] @octave.default *(optional)* Contains a default octave specification for use when the first note, rest, chord, etc. in a measure does not have an octave value specified. Value conforms to data.OCTAVE . [att.octavedefault] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared]

	@proport.num *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.num is for the first value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @proport.numbase *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.numbase is for the second value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared] @trans.diat *(optional)* Records the amount of diatonic pitch shift, e.g., C to C♯ = 0, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @trans.semi *(optional)* Records the amount of pitch shift in semitones, e.g., C to C♯ = 1, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition]
Declaration	<classes> <memberOf key=" att.cleffing.log" /> <memberOf key=" att.duration.default" /> <memberOf key=" att.keySigDefault.log" /> <memberOf key=" att.meterSigDefault.log" /> <memberOf key=" att.notationtype" /> <memberOf key=" att.octavedefault" /> <memberOf key=" att.transposition" /> <memberOf key=" att.staffDef.log.cmn" /> <memberOf key=" att.staffDef.log.mensural" /> </classes>

att.staffDef.log.cmn

att.staffDef.log.cmn Logical domain attributes for staffDef in the CMN repertoire.	
Module	MEI.cmn
Members	staffDef (via att.staffDef.log)
Attributes	@beam.group *(optional)* Provides an example of how automated beaming (including secondary beams) is to be performed. Value of datatype **string**. [att.beaming.log] @beam.rests *(optional)* Indicates whether automatically-drawn beams should include rests shorter than a quarter note duration. Value conforms to data.BOOLEAN . [att.beaming.log]

Declaration	`<classes> <memberOf key=" att.beaming.log" /> </classes>`

att.staffDef.log.mensural

att.staffDef.log.mensural Logical domain attributes for staffDef in the mensural repertoire.	
Module	MEI.mensural
Members	staffDef (via att.staffDef.log)
Attributes	@mensur.dot *(optional)* Determines if a dot is to be added to the base symbol. Value conforms to data.BOOLEAN . [att.mensural.log] @mensur.sign *(optional)* The base symbol in the mensuration sign/time signature of mensural notation. Value conforms to data.MENSURATIONSIGN . [att.mensural.log] @mensur.slash *(optional)* Indicates the number lines added to the mensuration sign. For example, one slash is added for what we now call 'alla breve'. Value of datatype **positiveInteger**. [att.mensural.log] @modusmaior *(optional)* Describes the maxima-long relationship. Value conforms to data.MODUSMAIOR . [att.mensural.shared] @modusminor *(optional)* Describes the long-breve relationship. Value conforms to data.MODUSMINOR . [att.mensural.shared] @prolatio *(optional)* Describes the semibreve-minim relationship. Value conforms to data.PROLATIO . [att.mensural.shared] @proport.num *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.num is for the first value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @proport.numbase *(optional)* Together, proport.num and proport.numbase specify a proportional change as a ratio, e.g., 1:3. Proport.numbase is for the second value in the ratio. Value of datatype **positiveInteger**. [att.mensural.log] @tempus *(optional)* Describes the breve-semibreve relationship. Value conforms to data.TEMPUS . [att.mensural.shared]
Declaration	`<classes> <memberOf key=" att.mensural.log" /> </classes>`

att.staffDef.vis

att.staffDef.vis Visual domain attributes for staffDef.	
Module	MEI.shared
Members	staffDef (direct member of att.staffDef.vis)
Attributes	@beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " acc" *(Beam lines grow farther apart from left to right.)*, " rit" *(Beam lines grow closer together from left to right.)*, " norm" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis] @clef.color *(optional)* Describes the color of the clef. Value conforms to data.COLOR . [att.cleffing.vis] @clef.visible *(optional)* Determines whether the clef is to be displayed. Value conforms to data.BOOLEAN . [att.cleffing.vis] @dynam.dist *(optional)* Records the default distance from the staff for dynamic marks. Value conforms to data.MEASUREMENTREL . [att.distances] @grid.show *(optional)* Determines whether to display guitar chord grids. Value conforms to data.BOOLEAN . [att.staffDef.vis] @harm.dist *(optional)* Records the default distance from the staff of harmonic indications, such as guitar chord grids or functional labels. Value conforms to data.MEASUREMENTREL . [att.distances] @key.sig.show *(optional)* Indicates whether the key signature should be displayed. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @key.sig.showchange *(optional)* Determines whether cautionary accidentals should be displayed at a key change. Value conforms to data.BOOLEAN . [att.keySigDefault.vis] @label.abbr *(optional)* Provides a label for a group of staves on pages after the first page. Usually, this label takes an abbreviated form. Value of datatype **string**. [att.labels.addl] @layerscheme *(optional)* Indicates the number of layers and their stem directions. Value conforms to data.LAYERSCHEME . [att.staffDef.vis] @lines *(optional)* Indicates the number of staff lines. Value of datatype **positiveInteger**. [att.staffDef.vis] @lines.color *(optional)* Captures the colors of the staff lines. The value is structured; that is, it should have the same number of space-separated RGB values as the number of lines indicated by the lines attribute. A line can be made invisible by assigning it the same RGB value as the background, usually white. One or more values from data.COLOR , separated by spaces. [att.staffDef.vis]

	@lines.visible *(optional)* Records whether all staff lines are visible. Value conforms to data.BOOLEAN . [att.staffDef.vis] @lyric.align *(optional)* Describes the alignment of lyric syllables associated with a note or chord. Value conforms to data.MEASUREMENTREL . [att.lyricstyle] @lyric.fam *(optional)* Sets the font family default value for lyrics. Value conforms to data.FONTFAMILY . [att.lyricstyle] @lyric.name *(optional)* Sets the font name default value for lyrics. Value conforms to data.FONTNAME . [att.lyricstyle] @lyric.size *(optional)* Sets the default font size value for lyrics. Value conforms to data.FONTSIZE . [att.lyricstyle] @lyric.style *(optional)* Sets the default font style value for lyrics. Value conforms to data.FONTSTYLE . [att.lyricstyle] @lyric.weight *(optional)* Sets the default font weight value for lyrics. Value conforms to data.FONTWEIGHT . [att.lyricstyle] @mensur.color *(optional)* Records the color of the mensuration sign. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.mensural.vis] @mensur.form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " horizontal" , " vertical" [att.mensural.vis] @mensur.loc *(optional)* Holds the staff location of the mensuration sign. Value conforms to data.STAFFLOC . [att.mensural.vis] @mensur.orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensural.vis] @mensur.size *(optional)* Describes the relative size of the mensuration sign. Value conforms to data.SIZE . [att.mensural.vis] @meter.rend *(optional)* Contains an indication of how the meter signature should be rendered. Allowed values are: " num" *(Show only the number of beats.)*, " denomsym" *(The lower number in the meter signature is replaced by a note symbol.)*, " norm" *(Meter signature rendered using traditional numeric values.)*, " invis" *(Meter signature not rendered.)* [att.meterSigDefault.vis] @meter.showchange *(optional)* Determines whether a new meter signature should be displayed when the meter signature changes. Value conforms to data.BOOLEAN . [att.meterSigDefault.vis] @meter.sym *(optional)* Indicates the use of a meter symbol instead of a numeric meter signature, that is, 'C' for common time or 'C' with a slash for cut time. Value conforms to data.METERSIGN . [att.meterSigDefault.vis] @multi.number *(optional)* Indicates whether programmatically calculated counts of multiple measures of rest (mRest) and whole measure repeats (mRpt) in parts should be rendered. Value conforms to data.BOOLEAN . [att.multinummeasures] @ontheline *(optional)* Determines the placement of notes on a 1-line staff. A value of 'true' places all notes on the line, while a value of 'false' places stems-up notes above the line and stems-down notes below the line. Value conforms to data.BOOLEAN . [att.onelinestaff]

	@pedal.style *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " line" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " pedstar" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , " altpedstar" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pianopedals] @reh.enclose *(optional)* Describes the enclosing shape for rehearsal marks. Allowed values are: " box" *(Enclosed by box.)*, " circle" *(Enclosed by circle.)*, " none" *(No enclosing shape.)* [att.rehearsal] @scale *(optional)* Scale factor to be applied to the feature to make it the desired display size. Value conforms to data.PERCENT . [att.scalable] @slur.lform *(optional)* Value conforms to data.LINEFORM . [att.slurrend] @slur.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.slurrend] @spacing *(optional)* Records the absolute distance (as opposed to the relative distances recorded in <scoreDef> elements) between this staff and the preceding one in the same system. This value is meaningless for the first staff in a system since the spacing.system attribute indicates the spacing between systems. Value conforms to data.MEASUREMENTREL . [att.staffDef.vis] @text.dist *(optional)* Determines how far from the staff to render text elements. Value conforms to data.MEASUREMENTREL . [att.distances] @text.fam *(optional)* Provides a default value for the font family name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTFAMILY . [att.textstyle] @text.name *(optional)* Provides a default value for the font name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTNAME . [att.textstyle] @text.size *(optional)* Provides a default value for the font size of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSIZE . [att.textstyle] @text.style *(optional)* Provides a default value for the font style of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSTYLE . [att.textstyle] @text.weight *(optional)* Provides a default value for the font weight for text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTWEIGHT . [att.textstyle] @tie.lform *(optional)* Value conforms to data.LINEFORM . [att.tierend] @tie.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.tierend] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility]

Declaration

```
<classes>
 <memberOf key= " att.cleffing.vis" />
 <memberOf key= " att.distances" />
 <memberOf key= " att.keySigDefault.vis" />
 <memberOf key= " att.labels.addl" />
 <memberOf key= " att.lyricstyle" />
 <memberOf key= " att.meterSigDefault.vis" />
 <memberOf key= " att.multinummeasures" />
 <memberOf key= " att.onelinestaff" />
 <memberOf key= " att.scalable" />
 <memberOf key= " att.textstyle" />
 <memberOf key= " att.visibility" />
 <memberOf key= " att.staffDef.vis.cmn" />
 <memberOf key= " att.staffDef.vis.mensural" />
</classes>
```

```
<attDef ident= "grid.show" usage= "opt">
 <desc>Determines whether to display guitar chord grids. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

```
<attDef ident= "layerscheme" usage= "opt">
 <desc>Indicates the number of layers and their stem directions. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.LAYERSCHEME" />
 </datatype>
</attDef>
```

```
<attDef ident= "lines" usage= "opt">
 <desc>Indicates the number of staff lines. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:data type= "positiveInteger"/>
 </datatype>
</attDef>
```

```
<attDef ident= "lines.color" usage= "opt">
 <desc>Captures the colors of the staff lines. The value is structured;
 that is, it should have the same number of space-separated RGB values
 as the number of lines indicated by the lines attribute. A line can be
 made invisible by assigning it the same RGB value as the background,
 usually white. </desc>
 <datatype maxOccurs= "unbounded" minOccurs= "1">
```

```
    <rng:ref name=" data.COLOR" />
  </datatype>
</attDef>
```

```
<attDef ident= "lines.visible" usage= "opt">
  <desc>Records whether all staff lines are visible. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:ref name=" data.BOOLEAN" />
  </datatype>
</attDef>
```

```
<attDef ident= "spacing" usage= "opt">
  <desc>Records the absolute distance (as opposed to the relative
  distances recorded in <scoreDef> elements) between this staff and the
  preceding one in the same system. This value is meaningless for the
  first staff in a system since the spacing.system attribute indicates
  the spacing between systems. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:ref name=" data.MEASUREMENTREL" />
  </datatype>
</attDef>
```

att.staffDef.vis.cmn

att.staffDef.vis.cmn Visual domain attributes for staffDef in the CMN repertoire.	
Module	MEI.cmn
Members	staffDef (via att.staffDef.vis)
Attributes	@beam.color *(optional)* Color of beams, including those associated with tuplets. Value conforms to data.COLOR . [att.beaming.vis] @beam.rend *(optional)* Encodes whether a beam is "feathered" and in which direction. Allowed values are: " acc" *(Beam lines grow farther apart from left to right.)*, " rit" *(Beam lines grow closer together from left to right.)*, " norm" *(Beam lines are equally-spaced over the entire length of the beam.)* [att.beaming.vis] @beam.slope *(optional)* Captures beam slope. Value of datatype **decimal**. [att.beaming.vis] @pedal.style *(optional)* Determines whether piano pedal marks should be rendered as lines or as terms. Allowed values are: " line" *(Continuous line with start and end positions rendered by vertical bars and bounces shown by upward-pointing "blips".)* , " pedstar" *(Pedal down and half pedal rendered with "Ped.", pedal up rendered by "*", pedal "bounce" rendered with "* Ped.".)* , "

	altpedstar" *(Pedal up and down indications same as with "pedstar", but bounce is rendered with "Ped." only.)* [att.pianopedals] @reh.enclose *(optional)* Describes the enclosing shape for rehearsal marks. Allowed values are: " box" *(Enclosed by box.)*, " circle" *(Enclosed by circle.)*, " none" *(No enclosing shape.)* [att.rehearsal] @slur.lform *(optional)* Value conforms to data.LINEFORM . [att.slurrend] @slur.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.slurrend] @tie.lform *(optional)* Value conforms to data.LINEFORM . [att.tierend] @tie.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.tierend]
Declaration	<classes> <memberOf key=" att.beaming.vis" /> <memberOf key=" att.pianopedals" /> <memberOf key=" att.rehearsal" /> <memberOf key=" att.slurrend" /> <memberOf key=" att.tierend" /> </classes>

att.staffDef.vis.mensural

att.staffDef.vis.mensural Visual domain attributes for the mensural repertoire.	
Module	MEI.mensural
Members	staffDef (via att.staffDef.vis)
Attributes	@mensur.color *(optional)* Records the color of the mensuration sign. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.mensural.vis] @mensur.form *(optional)* Indicates whether the base symbol is written vertically or horizontally. Allowed values are: " horizontal" , " vertical" [att.mensural.vis] @mensur.loc *(optional)* Holds the staff location of the mensuration sign. Value conforms to data.STAFFLOC . [att.mensural.vis] @mensur.orient *(optional)* Describes the rotation or reflection of the base symbol. Value conforms to data.ORIENTATION . [att.mensural.vis] @mensur.size *(optional)* Describes the relative size of the mensuration sign. Value conforms to data.SIZE . [att.mensural.vis]

Declaration	<classes> <memberOf key=" att.mensural.vis" /> </classes>

att.staffGrp.anl

att.staffGrp.anl Analytical domain attributes.	
Module	MEI.shared
Members	staffGrp (direct member of att.staffGrp.anl)
Attributes	

att.staffGrp.ges

att.staffGrp.ges Gestural domain attributes.	
Module	MEI.shared
Members	staffGrp (direct member of att.staffGrp.ges)
Attributes	@instr *(optional)* Provides a way of pointing to a MIDI instrument definition. It must contain the ID of an <instrDef> element elsewhere in the document. Value conforms to data.URI . [att.instrumentident]
Declaration	<classes> <memberOf key=" att.instrumentident" /> </classes>

att.staffGrp.log

att.staffGrp.log Logical domain attributes.	
Module	MEI.shared
Members	staffGrp (direct member of att.staffGrp.log)

Attributes	

att.staffGrp.vis

att.staffGrp.vis Visual domain attributes.	
Module	MEI.shared
Members	staffGrp (direct member of att.staffGrp.vis)
Attributes	@barthru *(optional)* Indicates whether bar lines go across the space between staves (true) or are only drawn across the lines of each staff (false). Value conforms to data.BOOLEAN . [att.staffGrp.vis] @label.abbr *(optional)* Provides a label for a group of staves on pages after the first page. Usually, this label takes an abbreviated form. Value of datatype string. [att.labels.addl] @symbol *(optional)* Specifies the symbol used to group a set of staves. Allowed values are: " brace" *(Curved symbol, i.e., {.)*, " bracket" *(Square symbol, i.e., [, but with curved/angled top and bottom segments.)*, " bracketsq" *(Square symbol, i.e., [, with horizontal top and bottom segments.)*, " line" *(Line symbol, i.e., |, (wide) line without top and bottom curved/horizontal segments.)* , " none" *(Grouping symbol missing.)* [att.staffgroupingsym] @visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility]
Declaration	`<classes> <memberOf key= " att.labels.addl" /> <memberOf key= " att.staffgroupingsym" /> <memberOf key= " att.visibility" /> </classes>` `<attDef ident= "barthru" usage= "opt"> <desc>Indicates whether bar lines go across the space between staves (true) or are only drawn across the lines of each staff (false). </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BOOLEAN" /> </datatype> </attDef>`

att.staffgroupingsym

att.staffgroupingsym Attributes that describe the symbol used to group a set of staves.	
Module	MEI.shared
Members	grpSym (via att.grpSym.log) staffGrp (via att.staffGrp.vis)
Attributes	@symbol *(optional)* Specifies the symbol used to group a set of staves. Allowed values are: " brace" *(Curved symbol, i.e., {.)*, " bracket" *(Square symbol, i.e., [, but with curved/angled top and bottom segments.)*, " bracketsq" *(Square symbol, i.e., [, with horizontal top and bottom segments.)*, " line" *(Line symbol, i.e., |, (wide) line without top and bottom curved/horizontal segments.)* , " none" *(Grouping symbol missing.)* [att.staffgroupingsym]
Declaration	

```
<attDef ident= "symbol" usage= "opt">
 <desc>Specifies the symbol used to group a set of staves. </desc>
 <valList type= "closed">
   <valItem ident= "brace">
     <desc>Curved symbol, i.e., {. </desc>
   </valItem>
   <valItem ident= "bracket">
     <desc>Square symbol, i.e., [, but with curved/angled top and bottom
     segments. </desc>
   </valItem>
   <valItem ident= "bracketsq">
     <desc>Square symbol, i.e., [, with horizontal top and bottom
     segments. </desc>
   </valItem>
   <valItem ident= "line">
     <desc>Line symbol, i.e., |, (wide) line without top and bottom
     curved/horizontal segments. </desc>
   </valItem>
   <valItem ident= "none">
     <desc>Grouping symbol missing. </desc>
   </valItem>
 </valList>
</attDef>
```

att.staffident

att.staffident Attributes for identifying the staff associated with the current feature.	
Module	MEI.shared

Members	annot (via att.annot.log) att.controlevent (no elements directly inheriting from this class) accid (via att.accid.log) arpeg (via att.arpeg.log) artic (via att.artic.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dot (via att.dot.log) dynam (via att.dynam.log) f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log) octave (via att.octave.log) ornam (via att.ornam.log) pedal (via att.pedal.log) phrase (via att.phrase.log) slur (via att.slur.log) tempo (via att.tempo.log) tie (via att.tie.log) trill (via att.trill.log) tupletSpan (via att.tupletSpan.log) turn (via att.turn.log) clef, clefGrp (via att.event) beam (via att.beam.log) beatRpt (via att.beatRpt.log) bTrem (via att.bTrem.log) chord (via att.chord.log) fTrem (via att.fTrem.log) halfmRpt (via att.halfmRpt.log) mRest (via att.mRest.log) mRpt (via att.mRpt.log) mRpt2 (via att.mRpt2.log) mSpace (via att.mSpace.log) multiRest (via att.multiRest.log)

	multiRpt (via att.multiRpt.log) note (via att.note.log) pad (via att.pad.log) rest (via att.rest.log) space (via att.space.log) tuplet (via att.tuplet.log) uneume (via att.uneume.log) lyrics (via att.lyrics.log) cc, chan, chanPr, cue, hex, marker, metaText, noteOff, noteOn, port, prog, seqNum, trkName, vel (via att.midi.event) midi (via att.midi.log) reh (via att.reh.log)
Attributes	@staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident]
Declaration	<attDef ident= "staff" usage= "opt"> <desc>Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. </desc> <datatype maxOccurs= "unbounded" minOccurs= "1"> <rng:data type= "positiveInteger"/> </datatype> </attDef>

att.staffloc

att.staffloc Attributes that identify location on a staff in terms of lines and spaces.	
Module	MEI.shared
Members	accid (via att.accid.vis) artic (via att.artic.vis) custos (via att.custos.vis) dot (via att.dot.vis) ineume (via att.ineume.vis) keyAccid (via att.keyAccid.vis) mensur (via att.mensur.vis) mRest (via att.mRest.vis) multiRest (via att.multiRest.vis) note (via att.note.vis) rest (via att.rest.vis)

	uneume (via att.uneume.vis)
Attributes	@loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc]
Declaration	<attDef ident= "loc" usage= "opt"> <desc>Holds the staff location of the feature. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.STAFFLOC" /> </datatype> </attDef>

att.staffloc.pitched

att.staffloc.pitched Attributes that identify location on a staff in terms of pitch and octave.	
Module	MEI.shared
Members	att.accid.vis.mensural (no elements directly inheriting from this class) accid (via att.accid.vis) att.dot.vis.mensural (no elements directly inheriting from this class) dot (via att.dot.vis) mRest (via att.mRest.vis) multiRest (via att.multiRest.vis) rest (via att.rest.vis)
Attributes	@oloc *(optional)* Records staff location in terms of written octave. Value conforms to data.OCTAVE . [att.staffloc.pitched] @ploc *(optional)* Captures staff location in terms of written pitch name. Value conforms to data.PITCHNAME . [att.staffloc.pitched]
Declaration	<attDef ident= "ploc" usage= "opt"> <desc>Captures staff location in terms of written pitch name. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.PITCHNAME" /> </datatype> </attDef> <attDef ident= "oloc" usage= "opt">

	<desc>Records staff location in terms of written octave. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.OCTAVE" /> </datatype> </attDef>

att.startendid

att.startendid Attributes recording the identifiers of the first and last elements of a sequence of elements to which the current element is associated.	
Module	MEI.shared
Members	barre, curve (direct members of att.startendid) annot (via att.annot.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dynam (via att.dynam.log) f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) grpSym (via att.grpSym.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log) octave (via att.octave.log) ornam (via att.ornam.log) pedal (via att.pedal.log) phrase (via att.phrase.log) slur (via att.slur.log) tie (via att.tie.log) trill (via att.trill.log) tuplet (via att.tuplet.log) tupletSpan (via att.tupletSpan.log)

Attributes	@endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid]
Declaration	`<classes> <memberOf key= " att.startid" /> </classes>` `<attDef ident= "endid" usage= "opt"> <desc>Indicates the final element in a sequence of events to which the feature applies. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> <constraintSpec ident= "check_endidTarget" scheme= "isoschematron"> <constraint> <sch:rule context= "@endid"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @endid attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> The value in @endid should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>`
Constraints	@endid attribute should have content. The value in @endid should correspond to the @xml:id attribute of an element. `<sch:rule context= "@endid"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @endid attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> The value in @endid should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>`

att.startid

att.startid Attributes that identify a relative starting point.	
Module	MEI.shared
Members	anchoredText, clip, graphic, recording, surface, symbol (direct members of att.startid) arpeg (via att.arpeg.log) reh (via att.reh.log) barre, curve (via att.startendid) annot (via att.annot.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dynam (via att.dynam.log) f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) grpSym (via att.grpSym.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log) octave (via att.octave.log) ornam (via att.ornam.log) pedal (via att.pedal.log) phrase (via att.phrase.log) slur (via att.slur.log) tie (via att.tie.log) trill (via att.trill.log) tuplet (via att.tuplet.log) tupletSpan (via att.tupletSpan.log) tempo (via att.tempo.log) turn (via att.turn.log)
Attributes	@startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid]

Declaration	`<attDef ident= "startid" usage= "opt"> <desc>Holds a reference to the first element in a sequence of events to which the feature applies. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.URI" /> </datatype> <constraintSpec ident= "check_startidTarget" scheme= "isoschematron"> <constraint> <sch:rule context= "@startid"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @startid attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> The value in @startid should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule> </constraint> </constraintSpec> </attDef>`
Constraints	@startid attribute should have content. The value in @startid should correspond to the @xml:id attribute of an element. `<sch:rule context= "@startid"> <sch:assert role= "warning" test= "not(normalize-space(.) eq '')"> @startid attribute should have content. </sch:assert> <sch:assert role= "warning" test= "every $i in tokenize(., '\s+') satisfies substring($i,2)=//mei:*/@xml:id"> The value in @startid should correspond to the @xml:id attribute of an element. </sch:assert> </sch:rule>`

att.stems

att.stems Attributes that describe the properties of stemmed features; that is, chords and notes.	
Module	MEI.shared
Members	chord (via att.chord.vis) note (via att.note.vis)
Attributes	@stem.dir *(optional)* Describes the direction of a stem. Value conforms to data.STEMDIRECTION . [att.stems]

	@stem.len *(optional)* Encodes the stem length. Value conforms to data.MEASUREMENTABS . [att.stems] @stem.mod *(optional)* Encodes any stem "modifiers"; that is, symbols rendered on the stem, such as tremolo or Sprechstimme indicators. Value conforms to data.STEMMODIFIER . [att.stems] @stem.pos *(optional)* Records the position of the stem in relation to the note head(s). Value conforms to data.STEMPOSITION . [att.stems] @stem.with *(optional)* Contains an indication of which staff a note or chord that logically belongs to the current staff should be visually placed on; that is, the one above or the one below. Value conforms to data.OTHERSTAFF . [att.stems.cmn] @stem.x *(optional)* Records the output x coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems] @stem.y *(optional)* Records the output y coordinate of the stem's attachment point. Value of datatype **decimal**. [att.stems]

Declaration	`<classes>`
	`<memberOf key= " att.stems.cmn" />`
	`</classes>`
	
	`<attDef ident= "stem.dir" usage= "opt">`
	`<desc>Describes the direction of a stem. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.STEMDIRECTION" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "stem.len" usage= "opt">`
	`<desc>Encodes the stem length. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTABS" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "stem.mod" usage= "opt">`
	`<desc>Encodes any stem "modifiers"; that is, symbols rendered on the stem, such as tremolo or Sprechstimme indicators. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.STEMMODIFIER" />`
	`</datatype>`
	`</attDef>`

```
<attDef ident= "stem.pos" usage= "opt">
 <desc>Records the position of the stem in relation to the note head(s).
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.STEMPOSITION" />
 </datatype>
</attDef>
```

```
<attDef ident= "stem.x" usage= "opt">
 <desc>Records the output x coordinate of the stem's attachment point.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:data type= "decimal"/>
 </datatype>
</attDef>
```

```
<attDef ident= "stem.y" usage= "opt">
 <desc>Records the output y coordinate of the stem's attachment point.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:data type= "decimal"/>
 </datatype>
</attDef>
```

att.stems.cmn

att.stems.cmn Attributes that describe the properties of stemmed features; that is, chords and notes.	
Module	MEI.cmn
Members	att.stems (no elements directly inheriting from this class) chord (via att.chord.vis) note (via att.note.vis)
Attributes	@stem.with *(optional)* Contains an indication of which staff a note or chord that logically belongs to the current staff should be visually placed on; that is, the one above or the one below. Value conforms to data.OTHERSTAFF . [att.stems.cmn]
Declaration	

```
<attDef ident= "stem.with" usage= "opt">
```

	`<desc>Contains an indication of which staff a note or chord that logically belongs to the current staff should be visually placed on; that is, the one above or the one below. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.OTHERSTAFF" />`
	`</datatype>`
	`</attDef>`

att.syl.anl

att.syl.anl Analytical domain attributes.	
Module	MEI.shared
Members	syl (direct member of att.syl.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.syl.ges

att.syl.ges Gestural domain attributes.	
Module	MEI.shared
Members	syl (direct member of att.syl.ges)
Attributes	

att.syl.log

att.syl.log Logical domain attributes.	
Module	MEI.shared
Members	syl (direct member of att.syl.log)
Attributes	@con *(optional)* Describes the symbols typically used to indicate breaks between syllables and their functions. Allowed values are: " s" *(Space (word separator).)*, " d" *(Dash (syllable separator).)*, " u" *(Underscore (syllable extension).)*, " t" *(Tilde (syllable elision).)*, " c" *(Circumflex [angled line above] (syllable elision).)*, " v" *(Caron [angled line below] (syllable elision).)*, " i" *(Inverted breve [curved line above] (syllable elision).)*, " b" *(Breve [curved line below] (syllable elision).)* [att.syl.log] @wordpos *(optional)* Records the position of a syllable within a word. Allowed values are: " i" *((initial) first syllable.)*, " m" *((medial) neither first nor last syllable.)*, " t" *((terminal) last syllable.)* [att.syl.log]

Declaration	`<attDef ident= "con" usage= "opt">`
	`<desc>Describes the symbols typically used to indicate breaks between syllables and their functions. </desc>`
	`<valList type= "closed">`
	`<valItem ident= "s">`
	`<desc>Space (word separator). </desc>`
	`</valItem>`
	`<valItem ident= "d">`
	`<desc>Dash (syllable separator). </desc>`
	`</valItem>`
	`<valItem ident= "u">`
	`<desc>Underscore (syllable extension). </desc>`
	`</valItem>`
	`<valItem ident= "t">`
	`<desc>Tilde (syllable elision). </desc>`
	`</valItem>`

```
    <valItem ident= "c">
      <desc>Circumflex [angled line above] (syllable elision). </desc>
    </valItem>
    <valItem ident= "v">
      <desc>Caron [angled line below] (syllable elision). </desc>
    </valItem>
    <valItem ident= "i">
      <desc>Inverted breve [curved line above] (syllable elision).
      </desc>
    </valItem>
    <valItem ident= "b">
      <desc>Breve [curved line below] (syllable elision). </desc>
    </valItem>
  </valList>
</attDef>
```

```
<attDef ident= "wordpos" usage= "opt">
 <desc>Records the position of a syllable within a word. </desc>
 <valList type= "closed">
   <valItem ident= "i">
     <desc>(initial) first syllable. </desc>
   </valItem>
   <valItem ident= "m">
     <desc>(medial) neither first nor last syllable. </desc>
   </valItem>
   <valItem ident= "t">
     <desc>(terminal) last syllable. </desc>
   </valItem>
 </valList>
</attDef>
```

att.syl.vis

att.syl.vis Visual domain attributes.	
Module	MEI.shared
Members	syl (direct member of att.syl.vis)
Attributes	@fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography]

	@fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @halign *(optional)* Records horizontal alignment. Value conforms to data.HORIZONTALALIGNMENT . [att.horizontalalign] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.xy" />`
	`<memberOf key=" att.horizontalalign" />`
	`</classes>`

att.syltext

att.syltext Attributes that hold associated sung text syllables.	
Module	MEI.shared
Members	chord (via att.chord.log) note (via att.note.log)

	uneume (via att.uneume.log)
Attributes	@syl *(optional)* Holds an associated sung text syllable. Value of datatype **string**. [att.syltext]

Declaration	`<attDef ident= "syl" usage= "opt">`
	`<desc>Holds an associated sung text syllable. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "string"/>`
	`</datatype>`
	`</attDef>`

att.systems

att.systems Attributes that capture system layout information.	
Module	MEI.shared
Members	scoreDef (via att.scoreDef.vis)
Attributes	@system.leftline *(optional)* Indicates whether the staves are joined at the left by a continuous line. The default value is "true". Do not confuse this with the heavy vertical line used as a grouping symbol. Value conforms to data.BOOLEAN . [att.systems] @system.leftmar *(optional)* Describes the amount of whitespace at the left system margin relative to page.leftmar. Value conforms to data.MEASUREMENTABS . [att.systems] @system.rightmar *(optional)* Describes the amount of whitespace at the right system margin relative to page.rightmar. Value conforms to data.MEASUREMENTABS . [att.systems] @system.topmar *(optional)* Describes the distance from page's top edge to the first system; used for first page only. Value conforms to data.MEASUREMENTABS . [att.systems]

Declaration	`<attDef ident= "system.leftline" usage= "opt">`
	`<desc>Indicates whether the staves are joined at the left by a continuous line. The default value is "true". Do not confuse this with the heavy vertical line used as a grouping symbol. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.BOOLEAN" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "system.leftmar" usage= "opt">`

```
 <desc>Describes the amount of whitespace at the left system margin
 relative to page.leftmar. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

```
<attDef ident= "system.rightmar" usage= "opt">
 <desc>Describes the amount of whitespace at the right system margin
 relative to page.rightmar. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

```
<attDef ident= "system.topmar" usage= "opt">
 <desc>Describes the distance from page's top edge to the first system;
 used for first page only. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.MEASUREMENTABS" />
 </datatype>
</attDef>
```

att.tabular

att.tabular Attributes shared by table cells.	
Module	MEI.figtable
Members	td, th (direct members of att.tabular)
Attributes	@colspan *(optional)* The number of columns spanned by this cell. Value of datatype **positiveInteger**. [att.tabular] @rowspan *(optional)* The number of rows spanned by this cell. Value of datatype **positiveInteger**. [att.tabular]
Declaration	

```
<attDef ident= "colspan" usage= "opt">
 <desc>The number of columns spanned by this cell. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:data type= "positiveInteger"/>
```

```
  </datatype>
</attDef>
```

```
<attDef ident= "rowspan" usage= "opt">
 <desc>The number of rows spanned by this cell. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
  <rng:data type= "positiveInteger"/>
 </datatype>
</attDef>
```

att.targeteval

att.targeteval Attributes that deal with resolution of values in plist or target attributes.	
Module	MEI.shared
Members	annot, barLine, beatRpt, ending, expansion, item, lem, measure, ptr, rdg, ref, relatedItem, relation, section, source (direct members of att.targeteval) att.controlevent (no elements directly inheriting from this class) accid (via att.accid.log) arpeg (via att.arpeg.log) artic (via att.artic.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dot (via att.dot.log) dynam (via att.dynam.log) f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log) octave (via att.octave.log) ornam (via att.ornam.log)

	pedal (via att.pedal.log) phrase (via att.phrase.log) slur (via att.slur.log) tempo (via att.tempo.log) tie (via att.tie.log) trill (via att.trill.log) tupletSpan (via att.tupletSpan.log) turn (via att.turn.log)
Attributes	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval]
Declaration	

```
<attDef ident= "evaluate" usage= "opt">
 <desc>Specifies the intended meaning when a participant in a
 relationship is itself a pointer. </desc>
 <valList type= "closed">
   <valItem ident= "all">
     <desc>If an element pointed to is itself a pointer, then the target
     of that pointer will be taken, and so on, until an element is found
     which is not a pointer. </desc>
   </valItem>
   <valItem ident= "one">
     <desc>If an element pointed to is itself a pointer, then its target
     (whether a pointer or not) is taken as the target of this pointer.
     </desc>
   </valItem>
   <valItem ident= "none">
     <desc>No further evaluation of targets is carried out beyond that
     needed to find the element(s) specified in plist or target
     attribute. </desc>
   </valItem>
 </valList>
 <remarks>
   <p part= "N"> If no value is given, the application program is
   responsible for deciding (possibly on the basis of user input) how
   far to trace a chain of pointers. </p>
 </remarks>
</attDef>
```

att.tempo.anl

att.tempo.anl Analytical domain attributes.	
Module	MEI.shared
Members	tempo (direct member of att.tempo.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

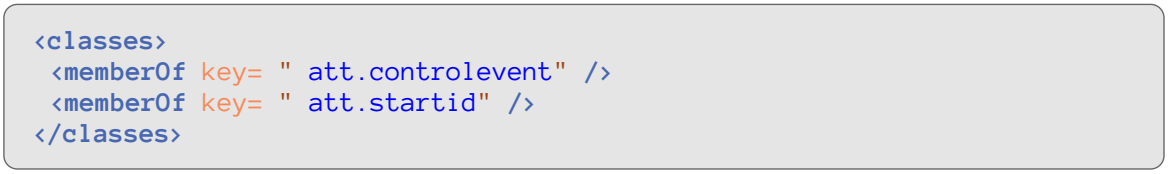
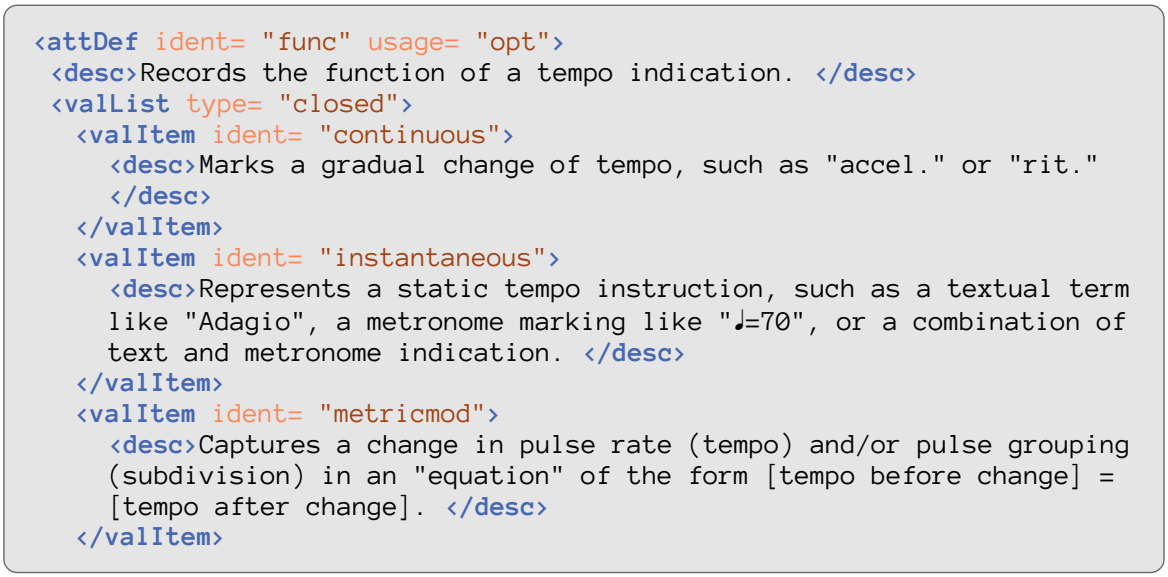
att.tempo.ges

att.tempo.ges Gestural domain attributes.	
Module	MEI.shared
Members	tempo (direct member of att.tempo.ges)
Attributes	@midi.bpm *(optional)* Captures the number of *quarter notes* per minute. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.MIDIBPM . [att.miditempo]

	@midi.mspb *(optional)* Records the number of microseconds per *quarter note*. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. At 120 quarter notes per minute, each quarter note will last 500,000 microseconds. Value conforms to data.MIDIMSPB . [att.miditempo] @mm *(optional)* Used to describe tempo in terms of beats (often the meter signature denominator) per minute, ala M.M. (Maezel's Metronome). Do not confuse this attribute with midi.bpm or midi.mspb. In MIDI, a beat is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*. Value conforms to data.TEMPOVALUE . [att.mmtempo] @mm.dots *(optional)* Records the number of augmentation dots required by a dotted metronome unit. Value conforms to data.AUGMENTDOT . [att.mmtempo] @mm.unit *(optional)* Captures the metronomic unit. Value conforms to data.DURATION . [att.mmtempo]
Declaration	<classes> <memberOf key=" att.miditempo" /> <memberOf key=" att.mmtempo" /> </classes>

att.tempo.log

att.tempo.log Logical domain attributes.	
Module	MEI.shared
Members	tempo (direct member of att.tempo.log)
Attributes	@evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @func *(optional)* Records the function of a tempo indication. Allowed values are: " continuous" *(Marks a gradual change of tempo, such as "accel." or "rit.")*, " instantaneous" *(Represents a static tempo instruction, such as a textual term like "Adagio", a metronome marking like "♩=70", or a combination of text and metronome indication.)* , " metricmod" *(Captures a change in pulse rate (tempo) and/or pulse grouping (subdivision) in an "equation" of the form [tempo before change] = [tempo after change].)* , " precedente" *(Indicates a change in pulse rate (tempo) and/or pulse grouping (subdivision) in an "equation" of the form [tempo after change] = [tempo before change].*

	The term "precedente" often appears following the "equation" to distinquish this kind of historical usage from the modern metric modulation form.) [att.tempo.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	 

	<valItem ident= "precedente"><desc>Indicates a change in pulse rate (tempo) and/or pulse grouping (subdivision) in an "equation" of the form [tempo after change] = [tempo before change]. The term "precedente" often appears following the "equation" to distinquish this kind of historical usage from the modern metric modulation form. </desc></valItem></valList></attDef>

att.tempo.vis

att.tempo.vis Visual domain attributes.	
Module	MEI.shared
Members	tempo (direct member of att.tempo.vis)
Attributes	@endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

	@y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<classes>`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.visualoffset2.ho" />`
	`<memberOf key=" att.visualoffset2.to" />`
	`<memberOf key=" att.xy" />`
	`</classes>`

att.textstyle

att.textstyle Attributes that describe default text typography.	
Module	MEI.shared
Members	layerDef (via att.layerDef.vis) scoreDef (via att.scoreDef.vis) staffDef (via att.staffDef.vis)
Attributes	@text.fam *(optional)* Provides a default value for the font family name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTFAMILY . [att.textstyle] @text.name *(optional)* Provides a default value for the font name of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTNAME . [att.textstyle] @text.size *(optional)* Provides a default value for the font size of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSIZE . [att.textstyle] @text.style *(optional)* Provides a default value for the font style of text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTSTYLE . [att.textstyle] @text.weight *(optional)* Provides a default value for the font weight for text (other than lyrics) when this information is not provided on the individual elements. Value conforms to data.FONTWEIGHT . [att.textstyle]

Declaration

```
<attDef ident= "text.fam" usage= "opt">
 <desc>Provides a default value for the font family name of text (other
 than lyrics) when this information is not provided on the individual
 elements. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTFAMILY" />
 </datatype>
</attDef>
```

```
<attDef ident= "text.name" usage= "opt">
 <desc>Provides a default value for the font name of text (other than
 lyrics) when this information is not provided on the individual
 elements. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTNAME" />
 </datatype>
</attDef>
```

```
<attDef ident= "text.size" usage= "opt">
 <desc>Provides a default value for the font size of text (other than
 lyrics) when this information is not provided on the individual
 elements. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTSIZE" />
 </datatype>
</attDef>
```

```
<attDef ident= "text.style" usage= "opt">
 <desc>Provides a default value for the font style of text (other than
 lyrics) when this information is not provided on the individual
 elements. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTSTYLE" />
 </datatype>
</attDef>
```

```
<attDef ident= "text.weight" usage= "opt">
 <desc>Provides a default value for the font weight for text (other than
 lyrics) when this information is not provided on the individual
 elements. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTWEIGHT" />
 </datatype>
</attDef>
```

att.tie.anl

att.tie.anl Analytical domain attributes.	
Module	MEI.cmn
Members	tie (direct member of att.tie.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key= " att.common.anl" />`
	`</classes>`

att.tie.ges

att.tie.ges Gestural domain attributes.	
Module	MEI.cmn
Members	tie (direct member of att.tie.ges)
Attributes	

att.tie.log

att.tie.log Logical domain attributes.	
Module	MEI.cmn
Members	tie (direct member of att.tie.log)
Attributes	@endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]

Declaration	`<classes>`
	`<memberOf key=" att.controlevent" />`
	`<memberOf key=" att.startendid" />`

	<memberOf key=" att.timestamp2.musical" /> </classes>

att.tie.vis

att.tie.vis Visual domain attributes. The vo attribute is the vertical offset (from its normal position) of the entire rendered tie. The startho, startvo, endho, and endvo attributes describe the horizontal and vertical offsets of the start and end points of the tie in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Startto and endto describe the start and end points in terms of time; that is, beats.	
Module	MEI.cmn
Members	tie (direct member of att.tie.vis)
Attributes	@bezier *(optional)* Records the placement of Bezier control points as a series of pairs of space-separated values; e.g., 19 45 -32 118. One or more values, each consisting of a sequence of **decimal** and **decimal** sub-values. [att.curvature] @bulge *(optional)* Describes a curve as one or more pairs of values with respect to an imaginary line connecting the starting and ending points of the curve. The first value captures a distance to the left (positive value) or right (negative value) of the line, expressed in virtual units. The second value of each pair represents a point along the line, expressed as a percentage of the line's length. N.B. An MEI virtual unit (VU) is half the distance between adjacent staff lines. One or more of **decimal**. [att.curvature] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @curvedir *(optional)* Describes a curve with a generic term indicating the direction of curvature. Allowed values are: " **above**" *(Upward curve.)*, " **below**" *(Downward curve.)*, " **mixed**" *(A "meandering" curve, both above and below the items it pertains to.)* [att.curvature] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lform *(optional)* Describes the line style of a curve. Value conforms to data.LINEFORM . [att.curverend]

	@lwidth *(optional)* Width of a curved line. Value conforms to data.LINEWIDTH . [att.curverend] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]

Declaration	`<classes>`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.visualoffset2" />`
	`<memberOf key=" att.xy" />`
	`<memberOf key=" att.xy2" />`
	`<memberOf key=" att.curvature" />`
	`<memberOf key=" att.curverend" />`
	`</classes>`

att.tiepresent

att.tiepresent Attributes that indicate the presence of a tie.	
Module	MEI.shared
Members	chord (via att.chord.log) note (via att.note.log)

Attributes	@tie *(optional)* Indicates that this element participates in a tie. If visual information about the tie needs to be recorded, then a <tie> element should be employed. One or more values from data.TIE , separated by spaces. [att.tiepresent]

Declaration	`<attDef ident= "tie" usage= "opt">`
	`<desc>Indicates that this element participates in a tie. If visual information about the tie needs to be recorded, then a <tie> element should be employed. </desc>`
	`<datatype maxOccurs= "unbounded" minOccurs= "1">`
	`<rng:ref name= " data.TIE" />`
	`</datatype>`
	`</attDef>`

att.tierend

att.tierend Attributes that describe the rendition of ties.	
Module	MEI.cmn
Members	att.scoreDef.vis.cmn (no elements directly inheriting from this class) scoreDef (via att.scoreDef.vis) att.staffDef.vis.cmn (no elements directly inheriting from this class) staffDef (via att.staffDef.vis)
Attributes	@tie.lform *(optional)* Value conforms to data.LINEFORM . [att.tierend] @tie.lwidth *(optional)* Value conforms to data.LINEWIDTH . [att.tierend]

Declaration	`<attDef ident= "tie.lform" usage= "opt">`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINEFORM" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "tie.lwidth" usage= "opt">`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.LINEWIDTH" />`
	`</datatype>`
	`</attDef>`

att.timebase

att.timebase Attributes that record time-base information.	
Module	MEI.midi
Members	scoreDef (via att.scoreDef.ges) staffDef (via att.staffDef.ges)
Attributes	@ppq *(optional)* Indicates the number of pulses (sometimes referred to as ticks or divisions) per quarter note. Unlike MIDI, MEI permits different values for a score and individual staves. Value of datatype **positiveInteger**. [att.timebase]

Declaration	`<attDef ident= "ppq" usage= "opt">`
	`<desc>Indicates the number of pulses (sometimes referred to as ticks or divisions) per quarter note. Unlike MIDI, MEI permits different values for a score and individual staves. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "positiveInteger"/>`
	`</datatype>`
	`</attDef>`

att.timestamp.musical

att.timestamp.musical Attributes that record a time stamp in terms of musical time, i.e., beats[.fractional beat part].	
Module	MEI.shared
Members	annot (via att.annot.log) barLine (via att.barLine.ges) att.controlevent (no elements directly inheriting from this class) accid (via att.accid.log) arpeg (via att.arpeg.log) artic (via att.artic.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dot (via att.dot.log) dynam (via att.dynam.log)

	f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log) octave (via att.octave.log) ornam (via att.ornam.log) pedal (via att.pedal.log) phrase (via att.phrase.log) slur (via att.slur.log) tempo (via att.tempo.log) tie (via att.tie.log) trill (via att.trill.log) tupletSpan (via att.tupletSpan.log) turn (via att.turn.log) clef, clefGrp (via att.event) beam (via att.beam.log) beatRpt (via att.beatRpt.log) bTrem (via att.bTrem.log) chord (via att.chord.log) fTrem (via att.fTrem.log) halfmRpt (via att.halfmRpt.log) mRest (via att.mRest.log) mRpt (via att.mRpt.log) mRpt2 (via att.mRpt2.log) mSpace (via att.mSpace.log) multiRest (via att.multiRest.log) multiRpt (via att.multiRpt.log) note (via att.note.log) pad (via att.pad.log) rest (via att.rest.log) space (via att.space.log) tuplet (via att.tuplet.log) uneume (via att.uneume.log) cc, chan, chanPr, cue, hex, marker, metaText, noteOff, noteOn, port, prog, seqNum, trkName, vel (via att.midi.event) reh (via att.reh.log)

Attributes	@tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical]
Declaration	<attDef ident= "tstamp" usage= "opt"> <desc>Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name= " data.BEAT" /> </datatype> </attDef>

att.timestamp.performed

att.timestamp.performed Attributes that record a performed (as opposed to notated) time stamp.	
Module	MEI.shared
Members	annot (via att.annot.log) att.controlevent (no elements directly inheriting from this class) accid (via att.accid.log) arpeg (via att.arpeg.log) artic (via att.artic.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dot (via att.dot.log) dynam (via att.dynam.log) f (via att.f.log) fermata (via att.fermata.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) harpPedal (via att.harpPedal.log) line (via att.line.log) mordent (via att.mordent.log) octave (via att.octave.log) ornam (via att.ornam.log) pedal (via att.pedal.log)

	phrase (via att.phrase.log) slur (via att.slur.log) tempo (via att.tempo.log) tie (via att.tie.log) trill (via att.trill.log) tupletSpan (via att.tupletSpan.log) turn (via att.turn.log) clef, clefGrp (via att.event) beam (via att.beam.log) beatRpt (via att.beatRpt.log) bTrem (via att.bTrem.log) chord (via att.chord.log) fTrem (via att.fTrem.log) halfmRpt (via att.halfmRpt.log) mRest (via att.mRest.log) mRpt (via att.mRpt.log) mRpt2 (via att.mRpt2.log) mSpace (via att.mSpace.log) multiRest (via att.multiRest.log) multiRpt (via att.multiRpt.log) note (via att.note.log) pad (via att.pad.log) rest (via att.rest.log) space (via att.space.log) tuplet (via att.tuplet.log) uneume (via att.uneume.log) measure (via att.measure.ges) reh (via att.reh.log)
Attributes	@tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]

Declaration	`<attDef ident= "tstamp.ges" usage= "opt">`
	`<desc>Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.DURATION.gestural" />`
	`</datatype>`
	`</attDef>`

	`<attDef ident= "tstamp.real" usage= "opt">`
	`<desc>Used to record the onset time in terms of ISO time. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.ISOTIME" />`
	`</datatype>`
	`</attDef>`

att.timestamp2.musical

att.timestamp2.musical Attributes that record a time stamp for the end of an event in terms of musical time.	
Module	MEI.shared
Members	annot (via att.annot.log) beamSpan (via att.beamSpan.log) bend (via att.bend.log) breath (via att.breath.log) cpMark (via att.cpMark.log) dir (via att.dir.log) dynam (via att.dynam.log) f (via att.f.log) fing (via att.fing.log) fingGrp (via att.fingGrp.log) gliss (via att.gliss.log) hairpin (via att.hairpin.log) harm (via att.harm.log) line (via att.line.log) octave (via att.octave.log) ornam (via att.ornam.log) phrase (via att.phrase.log) slur (via att.slur.log) tie (via att.tie.log) trill (via att.trill.log) tupletSpan (via att.tupletSpan.log)
Attributes	@tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]

Declaration	`<attDef ident= "tstamp2" usage= "opt">`
	`<desc>Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREBEAT" />`
	`</datatype>`
	`</attDef>`

att.trans

att.trans Attributes for elements encoding authorial or scribal intervention when transcribing manuscript or similar sources.	
Module	MEI.edittrans
Members	abbr, add, corr, del, expan, restore, subst (direct members of att.trans)
Attributes	@hand *(optional)* Signifies the hand responsible for an action. The value must be the ID of a <hand> element declared in the header. Value conforms to data.URI . [att.handident] @seq *(optional)* Used to assign a sequence number related to the order in which the encoded features carrying this attribute are believed to have occurred. Value of datatype positiveInteger. [att.sequence]

Declaration	`<classes>`
	`<memberOf key= " att.handident" />`
	`<memberOf key= " att.sequence" />`
	`</classes>`

att.transposition

att.transposition Attributes that describe transposition.	
Module	MEI.shared
Members	layerDef (via att.layerDef.log) scoreDef (via att.scoreDef.log) staffDef (via att.staffDef.log)

Attributes	@trans.diat *(optional)* Records the amount of diatonic pitch shift, e.g., C to C♯ = 0, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition] @trans.semi *(optional)* Records the amount of pitch shift in semitones, e.g., C to C♯ = 1, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. Value of datatype **decimal**. [att.transposition]

Declaration	`<attDef ident= "trans.diat" usage= "opt">`
	`<desc>Records the amount of diatonic pitch shift, e.g., C to C♯ = 0, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "decimal"/>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "trans.semi" usage= "opt">`
	`<desc>Records the amount of pitch shift in semitones, e.g., C to C♯ = 1, C to D♭ = 1, necessary to calculate the sounded pitch from the written one. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "decimal"/>`
	`</datatype>`
	`</attDef>`

Remarks	Diatonic transposition requires both @trans.diat and @trans.semi attributes in order to distinguish the difference, for example, between a transposition from C to C♯ and one from C to D♭.

att.tremmeasured

att.tremmeasured Attributes that describe measured tremolandi.	
Module	MEI.cmn
Members	bTrem (via att.bTrem.ges) fTrem (via att.fTrem.ges)
Attributes	@measperf *(optional)* The performed duration of an individual note in a measured tremolo. Value conforms to data.DURATION.cmn . [att.tremmeasured]

Declaration	

```
<attDef ident= "measperf" usage= "opt">
 <desc>The performed duration of an individual note in a measured
 tremolo. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.DURATION.cmn" />
 </datatype>
</attDef>
```

att.trill.anl

att.trill.anl Analytical domain attributes.	
Module	MEI.cmnOrnaments
Members	trill (direct member of att.trill.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	

```
<classes>
 <memberOf key= " att.common.anl" />
</classes>
```

att.trill.ges

att.trill.ges Gestural domain attributes.	
Module	MEI.cmnOrnaments
Members	trill (direct member of att.trill.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	`<classes> <memberOf key= " att.duration.performed" /> </classes>`

att.trill.log

att.trill.log Logical domain attributes.	
Module	MEI.cmnOrnaments
Members	trill (direct member of att.trill.log)
Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of*

	that pointer will be taken, and so on, until an element is found which is not a pointer.) , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.ornamentaccid" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.trill.vis

att.trill.vis Visual domain attributes.	
Module	MEI.cmnOrnaments

Members	trill (direct member of att.trill.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @extender *(optional)* Indicates the presence of an extension symbol, typically a line. Value conforms to data.BOOLEAN . [att.extender] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @lendsym *(optional)* Symbol rendered at end of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lendsymsize *(optional)* Holds the relative size of the line-end symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend] @lform *(optional)* Describes the line style of a line. Value conforms to data.LINEFORM . [att.linerend.base] @lstartsym *(optional)* Symbol rendered at start of line. Value conforms to data.LINESTARTENDSYMBOL . [att.linerend] @lstartsymsize *(optional)* Holds the relative size of the line-start symbol. Value conforms to data.LINESTARTENDSYMBOLSIZE . [att.linerend]

	@lwidth *(optional)* Width of a line. Value conforms to data.LINEWIDTH . [att.linerend.base] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	
	`<classes>`
	`<memberOf key=" att.altsym" />`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.extender" />`
	`<memberOf key=" att.placement" />`
	`<memberOf key=" att.extsym" />`
	`<memberOf key=" att.typography" />`
	`<memberOf key=" att.visualoffset" />`
	`<memberOf key=" att.visualoffset2.ho" />`
	`<memberOf key=" att.visualoffset2.to" />`
	`<memberOf key=" att.xy" />`
	`</classes>`

att.tuplet.anl

att.tuplet.anl Analytical domain attributes.	
Module	MEI.cmn
Members	tuplet (direct member of att.tuplet.anl) tupletSpan (via att.tupletSpan.anl)

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`</classes>`

att.tuplet.ges

att.tuplet.ges Gestural domain attributes.	
Module	MEI.cmn
Members	tuplet (direct member of att.tuplet.ges) tupletSpan (via att.tupletSpan.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]

Declaration	`<classes>`
	`<memberOf key=" att.duration.performed" />`
	`</classes>`

att.tuplet.log

att.tuplet.log Logical domain attributes.	
Module	MEI.cmn
Members	tuplet (direct member of att.tuplet.log)
Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype **positiveInteger**. [att.duration.ratio] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	`<classes>`

	`<memberOf key=" att.event" />`
	`<memberOf key=" att.beamedwith" />`
	`<memberOf key=" att.augmentdots" />`
	`<memberOf key=" att.duration.additive" />`
	`<memberOf key=" att.duration.ratio" />`
	`<memberOf key=" att.startendid" />`
	`</classes>`

att.tuplet.vis

att.tuplet.vis Visual domain attributes.	
Module	MEI.cmn
Members	tuplet (direct member of att.tuplet.vis) tupletSpan (via att.tupletSpan.vis)
Attributes	@bracket.place *(optional)* Used to state where a tuplet bracket will be placed in relation to the note heads. Value conforms to data.PLACE . [att.tuplet.vis] @bracket.visible *(optional)* States whether a bracket should be rendered with a tuplet. Value conforms to data.BOOLEAN . [att.tuplet.vis] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @dur.visible *(optional)* Determines if the tuplet duration is visible. Value conforms to data.BOOLEAN . [att.tuplet.vis] @num.format *(optional)* Controls how the num:numbase ratio is to be displayed. Allowed values are: " count" *(Only the num attribute is displayed, e.g., '7'.)*, " ratio" *(Both the num and numbase attributes are displayed, e.g., '7:4'.)* [att.tuplet.vis] @num.place *(optional)* States where the tuplet number will be placed in relation to the note heads. Value conforms to data.PLACE . [att.numberplacement] @num.visible *(optional)* Determines if the tuplet number is visible. Value conforms to data.BOOLEAN . [att.numberplacement]

Declaration	`<classes>`
	`<memberOf key=" att.color" />`
	`<memberOf key=" att.numberplacement" />`
	`</classes>`

```
<attDef ident= "bracket.place" usage= "opt">
 <desc>Used to state where a tuplet bracket will be placed in relation
 to the note heads. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.PLACE" />
 </datatype>
</attDef>
```

```
<attDef ident= "bracket.visible" usage= "opt">
 <desc>States whether a bracket should be rendered with a tuplet.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

```
<attDef ident= "dur.visible" usage= "opt">
 <desc>Determines if the tuplet duration is visible. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

```
<attDef ident= "num.format" usage= "opt">
 <desc>Controls how the num:numbase ratio is to be displayed. </desc>
 <valList type= "closed">
   <valItem ident= "count">
     <desc>Only the num attribute is displayed, e.g., '7'. </desc>
   </valItem>
   <valItem ident= "ratio">
     <desc>Both the num and numbase attributes are displayed, e.g.,
     '7:4'. </desc>
   </valItem>
 </valList>
</attDef>
```

att.tupletSpan.anl

att.tupletSpan.anl Analytical domain attributes.	
Module	MEI.cmn
Members	tupletSpan (direct member of att.tupletSpan.anl)

Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.tuplet.anl" /> </classes>

att.tupletSpan.ges

att.tupletSpan.ges Gestural domain attributes.	
Module	MEI.cmn
Members	tupletSpan (direct member of att.tupletSpan.ges)
Attributes	@dur.ges *(optional)* Records performed duration information that differs from the written duration. Its value may be expressed in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.duration.performed]
Declaration	<classes> <memberOf key=" att.tuplet.ges" /> </classes>

att.tupletSpan.log

att.tupletSpan.log Logical domain attributes.	
Module	MEI.cmn
Members	tupletSpan (direct member of att.tupletSpan.log)
Attributes	@beam.with *(optional)* In the case of cross-staff beams, the beam.with attribute is used to indicate which staff the beam is connected to; that is, the staff above or the staff below. Value conforms to data.OTHERSTAFF . [att.beamedwith] @dots *(optional)* Records the number of augmentation dots required by a dotted duration. Value conforms to data.AUGMENTDOT . [att.augmentdots] @dur *(optional)* Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used. When dotted values are present, the dots attribute must be ignored. One or more values from data.DURATION.additive , separated by spaces. [att.duration.additive] @endid *(optional)* Indicates the final element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startendid] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @num *(optional)* Along with numbase, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype positiveInteger. [att.duration.ratio] @numbase *(optional)* Along with num, describes duration as a ratio. num is the first value in the ratio, while numbase is the second. Value of datatype positiveInteger. [att.duration.ratio] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical]

	@tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed] @tstamp2 *(optional)* Encodes the ending point of an event in terms of musical time, i.e., a count of measures plus a beat location. Value conforms to data.MEASUREBEAT . [att.timestamp2.musical]
Declaration	<classes> <memberOf key=" att.controlevent" /> <memberOf key=" att.beamedwith" /> <memberOf key=" att.augmentdots" /> <memberOf key=" att.duration.additive" /> <memberOf key=" att.duration.ratio" /> <memberOf key=" att.startendid" /> <memberOf key=" att.timestamp2.musical" /> </classes>

att.tupletSpan.vis

att.tupletSpan.vis Visual domain attributes.	
Module	MEI.cmn
Members	tupletSpan (direct member of att.tupletSpan.vis)
Attributes	@bracket.place *(optional)* Used to state where a tuplet bracket will be placed in relation to the note heads. Value conforms to data.PLACE . [att.tuplet.vis] @bracket.visible *(optional)* States whether a bracket should be rendered with a tuplet. Value conforms to data.BOOLEAN . [att.tuplet.vis] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @dur.visible *(optional)* Determines if the tuplet duration is visible. Value conforms to data.BOOLEAN . [att.tuplet.vis] @num.format *(optional)* Controls how the num:numbase ratio is to be displayed. Allowed values are: " count" *(Only the num attribute is displayed, e.g., '7'.)*, " ratio" *(Both the num and numbase attributes are displayed, e.g., '7:4'.)* [att.tuplet.vis] @num.place *(optional)* States where the tuplet number will be placed in relation to the note heads. Value conforms to data.PLACE . [att.numberplacement]

	@num.visible *(optional)* Determines if the tuplet number is visible. Value conforms to data.BOOLEAN . [att.numberplacement]
Declaration	<classes> <memberOf key=" att.tuplet.vis" /> </classes>

att.tupletpresent

att.tupletpresent Attributes for indicating the presence of a tuplet.	
Module	MEI.shared
Members	chord (via att.chord.log) note (via att.note.log) rest (via att.rest.log) space (via att.space.log)
Attributes	@tuplet *(optional)* Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. One or more values from data.TUPLET , separated by spaces. [att.tupletpresent]
Declaration	<attDef ident= "tuplet" usage= "opt"> <desc>Indicates that this feature participates in a tuplet. If visual information about the tuplet needs to be recorded, then a <tuplet> element should be employed. </desc> <datatype maxOccurs= "unbounded" minOccurs= "1"> <rng:ref name=" data.TUPLET" /> </datatype> </attDef>

att.turn.anl

att.turn.anl Analytical domain attributes.	
Module	MEI.cmnOrnaments
Members	turn (direct member of att.turn.anl)

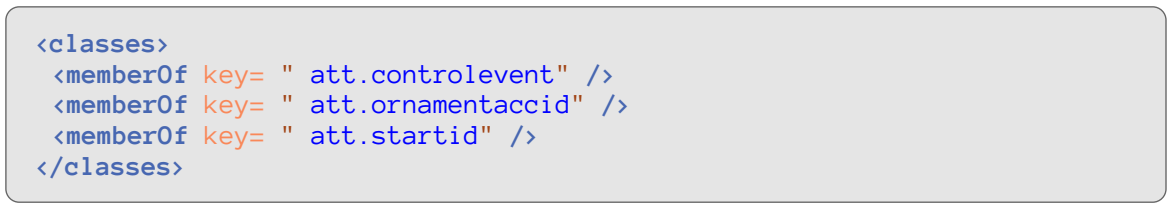
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.turn.ges

att.turn.ges Gestural domain attributes.	
Module	MEI.cmnOrnaments
Members	turn (direct member of att.turn.ges)
Attributes	

att.turn.log

att.turn.log Logical domain attributes.	
Module	MEI.cmnOrnaments
Members	turn (direct member of att.turn.log)

Attributes	@accidlower *(optional)* Records the written accidental associated with a lower neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @accidupper *(optional)* Records the written accidental associated with an upper neighboring note. Value conforms to data.ACCIDENTAL.EXPLICIT . [att.ornamentaccid] @delayed *(optional)* When the delayed attribute is set to 'true', the turn begins on the second half of the beat. See Read, p. 246. Value conforms to data.BOOLEAN . [att.turn.log] @evaluate *(optional)* Specifies the intended meaning when a participant in a relationship is itself a pointer. Allowed values are: " all" *(If an element pointed to is itself a pointer, then the target of that pointer will be taken, and so on, until an element is found which is not a pointer.)* , " one" *(If an element pointed to is itself a pointer, then its target (whether a pointer or not) is taken as the target of this pointer.)* , " none" *(No further evaluation of targets is carried out beyond that needed to find the element(s) specified in plist or target attribute.)* [att.targeteval] @form *(optional)* Indicates the style of the turn. Allowed values are: " inv" *(Inverted turn, e.g., begins on the note below the written note.)*, " norm" *("normal" turn, e.g., begins on the note above the written note.)* [att.turn.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype positiveInteger, separated by spaces. [att.layerident] @plist *(optional)* Contains a space separated list of references that identify active participants in a collection/relationship, such as notes under a phrase mark; that is, the entities pointed "from". One or more values from data.URI , separated by spaces. [att.plist] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype positiveInteger, separated by spaces. [att.staffident] @startid *(optional)* Holds a reference to the first element in a sequence of events to which the feature applies. Value conforms to data.URI . [att.startid] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	

```
<attDef ident= "delayed" usage= "opt">
 <desc>When the delayed attribute is set to 'true', the turn begins on
 the second half of the beat. See Read, p. 246. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.BOOLEAN" />
 </datatype>
</attDef>
```

```
<attDef ident= "form" usage= "opt">
 <desc>Indicates the style of the turn. </desc>
 <valList type= "closed">
   <valItem ident= "inv">
     <desc>Inverted turn, e.g., begins on the note below the written
     note. </desc>
   </valItem>
   <valItem ident= "norm">
     <desc>"normal" turn, e.g., begins on the note above the written
     note. </desc>
   </valItem>
 </valList>
</attDef>
```

att.turn.vis

att.turn.vis Visual domain attributes.	
Module	MEI.cmnOrnaments
Members	turn (direct member of att.turn.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography]

	@fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @place *(optional)* Captures the placement of the item with respect to the staff with which it is associated. Value conforms to data.STAFFREL . [att.placement] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	`<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.extsym" /> <memberOf key=" att.placement" /> <memberOf key=" att.typography" /> <memberOf key=" att.visualoffset" /> <memberOf key=" att.xy" /> </classes>`

att.typed

att.typed Attributes which can be used to classify or sub-classify features.

Module	MEI.shared
Members	abbr, add, addName, altId, anchoredText, annot, app, application, arpeg, arranger, author, avFile, beamSpan, bend, bibl, biblList, bloc, breath, castList, change, composer, corpName, corr, country, cpMark, curve, damage, date, del, desc, dir, district, dynam, editor, ending, event, eventList, expan, expansion, famName, fermata, fig, fing, fingGrp, foreName, genName, geogFeat, geogName, gliss, graphic, hairpin, handList, harm, harpPedal, head, identifier, incip, ineume, itemList, label, lb, lem, lg, librettist, line, lyricist, mapping, mdiv, measure, mordent, nameLink, num, octave, orig, ornam, part, parts, pb, pedal, periodName, persName, pgFoot, pgFoot2, pgHead, pgHead2, phrase, ptr, quote, rdg, ref, region, reh, relatedItem, repository, restore, roleName, score, section, settlement, slur, styleName, surface, symbol, tempo, term, termList, tie, titlePage, trill, tupletSpan, turn, uneume, zone (direct members of att.typed)
Attributes	@subtype *(optional)* Provide any sub-classification for the element, additional to that given by its type attribute. Value of datatype NMTOKEN. [att.typed] @type *(optional)* Characterizes the element in some sense, using any convenient classification scheme or typology. Value of datatype NMTOKEN. [att.typed]

Declaration	`<attDef ident= "type" usage= "opt">`
	`<desc>Characterizes the element in some sense, using any convenient classification scheme or typology. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "NMTOKEN"/>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "subtype" usage= "opt">`
	`<desc>Provide any sub-classification for the element, additional to that given by its type attribute. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "NMTOKEN"/>`
	`</datatype>`
	`<constraintSpec ident= "When_subtype" scheme= "isoschematron">`
	`<constraint>`
	`<sch:rule context= "mei:*[@subtype]">`
	`<sch:assert test= "@type"> An element with a subtype attribute must have a type attribute. </sch:assert>`
	`</sch:rule>`
	`</constraint>`
	`</constraintSpec>`
	`</attDef>`

Remarks	When appropriate, values from an established typology should be used. Alternatively, a typology may be defined in the associated MEI header using the classification element. If values are to be

	taken from a project-specific list, this should be defined using the TEI valList element in a project-specific schema description.
Constraints	An element with a subtype attribute must have a type attribute. `<sch:rule context= "mei:*[@subtype]"> <sch:assert test= "@type"> An element with a subtype attribute must have a type attribute. </sch:assert> </sch:rule>`

att.typography

att.typography Typographical attributes.	
Module	MEI.shared
Members	rend, symbol (direct members of att.typography) accid (via att.accid.vis) arpeg (via att.arpeg.vis) artic (via att.artic.vis) beatRpt (via att.beatRpt.vis) breath (via att.breath.vis) chord (via att.chord.vis) clef (via att.clef.vis) cpMark (via att.cpMark.vis) custos (via att.custos.vis) dot (via att.dot.vis) fermata (via att.fermata.vis) gliss (via att.gliss.vis) grpSym (via att.grpSym.vis) halfmRpt (via att.halfmRpt.vis) harpPedal (via att.harpPedal.vis) ineume (via att.ineume.vis) keyAccid (via att.keyAccid.vis) lyrics (via att.lyrics.vis) mensur (via att.mensur.vis) meterSig (via att.meterSig.vis) mordent (via att.mordent.vis) mRest (via att.mRest.vis) mRpt (via att.mRpt.vis) mRpt2 (via att.mRpt2.vis) multiRest (via att.multiRest.vis)

	multiRpt (via att.multiRpt.vis) note (via att.note.vis) pedal (via att.pedal.vis) proport (via att.proport.vis) reh (via att.reh.vis) rest (via att.rest.vis) sb (via att.sb.vis) syl (via att.syl.vis) trill (via att.trill.vis) turn (via att.turn.vis) uneume (via att.uneume.vis) verse (via att.verse.vis)
Attributes	@fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography]

Declaration	`<attDef ident= "fontfam" usage= "opt">`
	`<desc>Contains the name of a font-family. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.FONTFAMILY" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "fontname" usage= "opt">`
	`<desc>Holds the name of a font. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.FONTNAME" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "fontsize" usage= "opt">`

```
 <desc>Indicates the size of a font expressed in printers' points, i.e.,
 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or
 percentage values relative to "normal" size, e.g., "125%". </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTSIZE" />
 </datatype>
</attDef>
```

```
<attDef ident= "fontstyle" usage= "opt">
 <desc>Records the style of a font, i.e, italic, oblique, or normal.
 </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTSTYLE" />
 </datatype>
</attDef>
```

```
<attDef ident= "fontweight" usage= "opt">
 <desc>Used to indicate bold type. </desc>
 <datatype maxOccurs= "1" minOccurs= "1">
   <rng:ref name= " data.FONTWEIGHT" />
 </datatype>
</attDef>
```

att.uneume.anl

att.uneume.anl Analytical domain attributes.	
Module	MEI.neumes
Members	uneume (direct member of att.uneume.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @deg *(optional)* Captures relative scale degree information using Humdrum **deg syntax -- an optional indicator of melodic approach (^ = ascending approach, v = descending approach), a scale degree value (1 = tonic ... 7 = leading tone), and an optional indication of chromatic alteration. The amount of chromatic alternation is not indicated. Value conforms to data.SCALEDEGREE . [att.harmonicfunction]

	@intm *(optional)* Encodes the melodic interval from the previous pitch. The value may be a general directional indication (u, d, s), an indication of diatonic interval direction, quality, and size, or a precise numeric value in half steps. Value conforms to data.INTERVAL.MELODIC . [att.intervalmelodic] @mfunc *(optional)* Describes melodic function using Humdrum **embel syntax. Value conforms to data.MELODICFUNCTION . [att.melodicfunction] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @psolfa *(optional)* Contains sol-fa designation, e.g., do, re, mi, etc., in either a fixed or movable Do system. Value of datatype NMTOKEN. [att.solfa] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]

Declaration	`<classes>`
	`<memberOf key=" att.common.anl" />`
	`<memberOf key=" att.harmonicfunction" />`
	`<memberOf key=" att.intervalmelodic" />`
	`<memberOf key=" att.melodicfunction" />`
	`<memberOf key=" att.solfa" />`
	`</classes>`

att.uneume.ges

att.uneume.ges Gestural domain attributes.	
Module	MEI.neumes
Members	uneume (direct member of att.uneume.ges)
Attributes	

att.uneume.log

att.uneume.log Logical domain attributes.	
Module	MEI.neumes
Members	uneume (direct member of att.uneume.log)
Attributes	@form *(optional)* Provides a subclass or functional label for the neume. Value conforms to data.UNEUMEFORM . [att.uneume.log] @layer *(optional)* Identifies the layer to which a feature applies. One or more values of datatype **positiveInteger**, separated by spaces. [att.layerident] @name *(optional)* Records the name of the neume. Value conforms to data.UNEUMENAME . [att.uneume.log] @staff *(optional)* Signifies the staff on which a notated event occurs or to which a control event applies. Mandatory when applicable. One or more values of datatype **positiveInteger**, separated by spaces. [att.staffident] @syl *(optional)* Holds an associated sung text syllable. Value of datatype **string**. [att.syltext] @tstamp *(optional)* Encodes the onset time in terms of musical time, i.e., beats[.fractional_beat_part]. Value conforms to data.BEAT . [att.timestamp.musical] @tstamp.ges *(optional)* Captures performed onset time in several forms; that is, ppq (MIDI clicks and MusicXML 'divisions'), Humdrum **recip values, beats, seconds, or mensural duration values. Value conforms to data.DURATION.gestural . [att.timestamp.performed] @tstamp.real *(optional)* Used to record the onset time in terms of ISO time. Value conforms to data.ISOTIME . [att.timestamp.performed]
Declaration	<classes> <memberOf key=" att.event" /> <memberOf key=" att.syltext" /> </classes> <attDef ident= "form" usage= "opt"> <desc>Provides a subclass or functional label for the neume. </desc> <datatype maxOccurs= "1" minOccurs= "1"> <rng:ref name=" data.UNEUMEFORM" /> </datatype> </attDef> <attDef ident= "name" usage= "opt"> <desc>Records the name of the neume. </desc>

	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.UNEUMENAME" />`
	`</datatype>`
	`</attDef>`

att.uneume.vis

att.uneume.vis Visual domain attributes.	
Module	MEI.neumes
Members	uneume (direct member of att.uneume.vis)
Attributes	@altsym *(optional)* Provides a way of pointing to a user-defined symbol. It must contain an ID of a <symbolDef> element elsewhere in the document. Value conforms to data.URI . [att.altsym] @color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @glyphname *(optional)* Glyph name. Value of datatype **string**. [att.extsym] @glyphnum *(optional)* Numeric glyph reference in hexadecimal notation, e.g. "#xE000" or "U+E000". N.B. SMuFL version 1.18 uses the range U+E000 - U+ECBF. Value of datatype **a string matching the following regular expression: "(#x|U\+)[A-F0-9]+"** . [att.extsym] @ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @loc *(optional)* Holds the staff location of the feature. Value conforms to data.STAFFLOC . [att.staffloc] @size *(optional)* Describes the relative size of a feature. Value conforms to data.SIZE . [att.relativesize]

	@visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility] @x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	<classes> <memberOf key=" att.altsym" /> <memberOf key=" att.color" /> <memberOf key=" att.extsym" /> <memberOf key=" att.relativesize" /> <memberOf key=" att.staffloc" /> <memberOf key=" att.typography" /> <memberOf key=" att.visibility" /> <memberOf key=" att.visualoffset.ho" /> <memberOf key=" att.xy" /> </classes>

att.verse.anl

att.verse.anl Analytical domain attributes.	
Module	MEI.lyrics
Members	verse (direct member of att.verse.anl)
Attributes	@copyof *(optional)* Points to an element of which the current element is a copy. Value conforms to data.URI . [att.common.anl] @corresp *(optional)* Used to point to other elements that correspond to this one in a generic fashion. One or more values from data.URI , separated by spaces. [att.common.anl] @next *(optional)* Used to point to the next event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @prev *(optional)* Points to the previous event(s) in a user-defined collection. One or more values from data.URI , separated by spaces. [att.common.anl] @sameas *(optional)* Points to an element that is the same as the current element but is not a literal copy of the current element. One or more values from data.URI , separated by spaces. [att.common.anl]

	@synch *(optional)* Points to elements that are synchronous with the current element. One or more values from data.URI , separated by spaces. [att.common.anl] @when *(optional)* Indicates the point of occurrence of this feature along a time line. Its value must be the ID of a when element elsewhere in the document. Value conforms to data.URI . [att.alignment]
Declaration	<classes> <memberOf key=" att.common.anl" /> </classes>

att.verse.ges

att.verse.ges Gestural domain attributes.	
Module	MEI.lyrics
Members	verse (direct member of att.verse.ges)
Attributes	

att.verse.log

att.verse.log Logical domain attributes. The n attribute should be used for verse numbers. Numbers need not be consecutive; they may also be expressed as ranges, e.g. 2-3,6.	
Module	MEI.lyrics
Members	verse (direct member of att.verse.log)
Attributes	@refrain *(optional)* Used to indicate a common, usually centered, refrain. Value conforms to data.BOOLEAN . [att.verse.log] @rhythm *(optional)* Used to specify a rhythm for the lyric syllables that differs from that of the notes on the staff, e.g. '4,4,4,4' when the rhythm of the notes is '4.,8,4.,8'. Value of datatype string. [att.verse.log]
Declaration	<attDef ident= "refrain" usage= "opt"> <desc>Used to indicate a common, usually centered, refrain. </desc> <datatype maxOccurs= "1" minOccurs= "1">

```
    <rng:ref name=" data.BOOLEAN" />
  </datatype>
</attDef>
```

```
<attDef ident= "rhythm" usage= "opt">
  <desc>Used to specify a rhythm for the lyric syllables that differs
  from that of the notes on the staff, e.g. '4,4,4,4' when the rhythm of
  the notes is '4.,8,4.,8'. </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:data type= "string"/>
  </datatype>
</attDef>
```

att.verse.vis

att.verse.vis Visual domain attributes.	
Module	MEI.lyrics
Members	verse (direct member of att.verse.vis)
Attributes	@color *(optional)* Used to indicate visual appearance. Do not confuse this with the musical term 'color' as used in pre-CMN notation. Value conforms to data.COLOR . [att.color] @fontfam *(optional)* Contains the name of a font-family. Value conforms to data.FONTFAMILY . [att.typography] @fontname *(optional)* Holds the name of a font. Value conforms to data.FONTNAME . [att.typography] @fontsize *(optional)* Indicates the size of a font expressed in printers' points, i.e., 1/72nd of an inch, relative terms, e.g., "small", "larger", etc., or percentage values relative to "normal" size, e.g., "125%". Value conforms to data.FONTSIZE . [att.typography] @fontstyle *(optional)* Records the style of a font, i.e, italic, oblique, or normal. Value conforms to data.FONTSTYLE . [att.typography] @fontweight *(optional)* Used to indicate bold type. Value conforms to data.FONTWEIGHT . [att.typography] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo]

	@x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]
Declaration	<classes> <memberOf key=" att.color" /> <memberOf key=" att.typography" /> <memberOf key=" att.visualoffset.to" /> <memberOf key=" att.visualoffset.vo" /> <memberOf key=" att.xy" /> </classes>

att.visibility

att.visibility Attributes describing whether a feature should be displayed.	
Module	MEI.shared
Members	chord (via att.chord.vis) keySig (via att.keySig.vis) layer (via att.layer.vis) layerDef (via att.layerDef.vis) mRest (via att.mRest.vis) mSpace (via att.mSpace.vis) note (via att.note.vis) staff (via att.staff.vis) staffDef (via att.staffDef.vis) staffGrp (via att.staffGrp.vis) uneume (via att.uneume.vis)
Attributes	@visible *(optional)* Indicates if a feature should be rendered when the notation is presented graphically or sounded when it is presented in an aural form. Value conforms to data.BOOLEAN . [att.visibility]
Declaration	<attDef ident= "visible" usage= "opt">

```
  <desc>Indicates if a feature should be rendered when the notation is
  presented graphically or sounded when it is presented in an aural form.
  </desc>
  <datatype maxOccurs= "1" minOccurs= "1">
    <rng:ref name= " data.BOOLEAN" />
  </datatype>
</attDef>
```

att.visualoffset

att.visualoffset Visual offset attributes. Some items may have their location recorded in terms of offsets from their programmatically-determined location. The ho attribute records the horizontal offset while vo records the vertical. The to attribute holds a timestamp offset, the most common use of which is as an alternative to the ho attribute.	
Module	MEI.shared
Members	anchoredText, curve, graphic, symbol (direct members of att.visualoffset) arpeg (via att.arpeg.vis) artic (via att.artic.vis) bend (via att.bend.vis) breath (via att.breath.vis) cpMark (via att.cpMark.vis) dir (via att.dir.vis) dynam (via att.dynam.vis) f (via att.f.vis) fermata (via att.fermata.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) gliss (via att.gliss.vis) grpSym (via att.grpSym.vis) hairpin (via att.hairpin.vis) halfmRpt (via att.halfmRpt.vis) harm (via att.harm.vis) harpPedal (via att.harpPedal.vis) line (via att.line.vis) mordent (via att.mordent.vis) mRest (via att.mRest.vis) octave (via att.octave.vis) ornam (via att.ornam.vis) pedal (via att.pedal.vis) phrase (via att.phrase.vis)

	reh (via att.reh.vis) rest (via att.rest.vis) slur (via att.slur.vis) syl (via att.syl.vis) tempo (via att.tempo.vis) tie (via att.tie.vis) trill (via att.trill.vis) turn (via att.turn.vis)
Attributes	@ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho] @to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to] @vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo]

Declaration	`<classes>`
	`<memberOf key=" att.visualoffset.ho" />`
	`<memberOf key=" att.visualoffset.to" />`
	`<memberOf key=" att.visualoffset.vo" />`
	`</classes>`

att.visualoffset.ho

att.visualoffset.ho Horizontal offset attributes.	
Module	MEI.shared
Members	accid (via att.accid.vis) chord (via att.chord.vis) dot (via att.dot.vis) note (via att.note.vis) uneume (via att.uneume.vis) anchoredText, curve, graphic, symbol (via att.visualoffset) arpeg (via att.arpeg.vis) artic (via att.artic.vis) bend (via att.bend.vis) breath (via att.breath.vis)

	cpMark (via att.cpMark.vis) dir (via att.dir.vis) dynam (via att.dynam.vis) f (via att.f.vis) fermata (via att.fermata.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) gliss (via att.gliss.vis) grpSym (via att.grpSym.vis) hairpin (via att.hairpin.vis) halfmRpt (via att.halfmRpt.vis) harm (via att.harm.vis) harpPedal (via att.harpPedal.vis) line (via att.line.vis) mordent (via att.mordent.vis) mRest (via att.mRest.vis) octave (via att.octave.vis) ornam (via att.ornam.vis) pedal (via att.pedal.vis) phrase (via att.phrase.vis) reh (via att.reh.vis) rest (via att.rest.vis) slur (via att.slur.vis) syl (via att.syl.vis) tempo (via att.tempo.vis) tie (via att.tie.vis) trill (via att.trill.vis) turn (via att.turn.vis)
Attributes	@ho *(optional)* Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.ho]

Declaration	`<attDef ident= "ho" usage= "opt">`
	`<desc>Records a horizontal adjustment to a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTREL" />`
	`</datatype>`
	`</attDef>`

att.visualoffset.to

att.visualoffset.to Horizontal offset attributes specified in terms of time.	
Module	MEI.shared
Members	chord (via att.chord.vis) note (via att.note.vis) verse (via att.verse.vis) anchoredText, curve, graphic, symbol (via att.visualoffset) arpeg (via att.arpeg.vis) artic (via att.artic.vis) bend (via att.bend.vis) breath (via att.breath.vis) cpMark (via att.cpMark.vis) dir (via att.dir.vis) dynam (via att.dynam.vis) f (via att.f.vis) fermata (via att.fermata.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) gliss (via att.gliss.vis) grpSym (via att.grpSym.vis) hairpin (via att.hairpin.vis) halfmRpt (via att.halfmRpt.vis) harm (via att.harm.vis) harpPedal (via att.harpPedal.vis) line (via att.line.vis) mordent (via att.mordent.vis) mRest (via att.mRest.vis) octave (via att.octave.vis) ornam (via att.ornam.vis) pedal (via att.pedal.vis) phrase (via att.phrase.vis) reh (via att.reh.vis) rest (via att.rest.vis) slur (via att.slur.vis) syl (via att.syl.vis) tempo (via att.tempo.vis) tie (via att.tie.vis) trill (via att.trill.vis) turn (via att.turn.vis)

Attributes	@to *(optional)* Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. Value conforms to data.TSTAMPOFFSET . [att.visualoffset.to]

Declaration	`<attDef ident= "to" usage= "opt">`
	`<desc>Records a timestamp adjustment of a feature's programmatically-determined location in terms of musical time; that is, beats. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.TSTAMPOFFSET" />`
	`</datatype>`
	`</attDef>`

att.visualoffset.vo

att.visualoffset.vo Vertical offset attributes.	
Module	MEI.shared
Members	accid (via att.accid.vis) dot (via att.dot.vis) verse (via att.verse.vis) anchoredText, curve, graphic, symbol (via att.visualoffset) arpeg (via att.arpeg.vis) artic (via att.artic.vis) bend (via att.bend.vis) breath (via att.breath.vis) cpMark (via att.cpMark.vis) dir (via att.dir.vis) dynam (via att.dynam.vis) f (via att.f.vis) fermata (via att.fermata.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) gliss (via att.gliss.vis) grpSym (via att.grpSym.vis) hairpin (via att.hairpin.vis) halfmRpt (via att.halfmRpt.vis) harm (via att.harm.vis) harpPedal (via att.harpPedal.vis) line (via att.line.vis) mordent (via att.mordent.vis) mRest (via att.mRest.vis)

	octave (via att.octave.vis) ornam (via att.ornam.vis) pedal (via att.pedal.vis) phrase (via att.phrase.vis) reh (via att.reh.vis) rest (via att.rest.vis) slur (via att.slur.vis) syl (via att.syl.vis) tempo (via att.tempo.vis) tie (via att.tie.vis) trill (via att.trill.vis) turn (via att.turn.vis)
Attributes	@vo *(optional)* Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. Value conforms to data.MEASUREMENTREL . [att.visualoffset.vo]

Declaration	`<attDef ident= "vo" usage= "opt">`
	`<desc>Records the vertical adjustment of a feature's programmatically-determined location in terms of staff interline distance; that is, in units of 1/2 the distance between adjacent staff lines. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTREL" />`
	`</datatype>`
	`</attDef>`

att.visualoffset2

att.visualoffset2 Visual offset attributes. Some items may have their location recorded in terms of pairs of offsets from their programmatically-determined location. The startho and endho attributes record the horizontal offsets of the start and end points of the item, respectively. Similarly, the startvo and endvo attributes record the vertical offsets of the start and end points of the item. The startto and endto attributes hold timestamp offsets, the most common use of which is as alternatives to the ho attributes.	
Module	MEI.shared
Members	curve (direct member of att.visualoffset2) bend (via att.bend.vis) gliss (via att.gliss.vis) hairpin (via att.hairpin.vis) line (via att.line.vis) phrase (via att.phrase.vis)

	slur (via att.slur.vis) tie (via att.tie.vis)
Attributes	@endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo]
Declaration	<classes> <memberOf key=" att.visualoffset2.ho" /> <memberOf key=" att.visualoffset2.to" /> <memberOf key=" att.visualoffset2.vo" /> </classes>

att.visualoffset2.ho

att.visualoffset2.ho Horizontal offset requiring a pair of attributes.	
Module	MEI.shared
Members	dir (via att.dir.vis) dynam (via att.dynam.vis) harm (via att.harm.vis) octave (via att.octave.vis) ornam (via att.ornam.vis) tempo (via att.tempo.vis) trill (via att.trill.vis) curve (via att.visualoffset2) bend (via att.bend.vis) gliss (via att.gliss.vis) hairpin (via att.hairpin.vis) line (via att.line.vis)

	phrase (via att.phrase.vis) slur (via att.slur.vis) tie (via att.tie.vis)
Attributes	@endho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho] @startho *(optional)* Records the horizontal adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.ho]

Declaration	`<attDef ident= "startho" usage= "opt">`
	`<desc>Records the horizontal adjustment of a feature's programmatically-determined start point. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTREL" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "endho" usage= "opt">`
	`<desc>Records the horizontal adjustment of a feature's programmatically-determined end point. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTREL" />`
	`</datatype>`
	`</attDef>`

att.visualoffset2.to

att.visualoffset2.to Horizontal offset attributes requiring a pair of attributes specified in terms of time.	
Module	MEI.shared
Members	dir (via att.dir.vis) dynam (via att.dynam.vis) harm (via att.harm.vis) octave (via att.octave.vis) ornam (via att.ornam.vis) tempo (via att.tempo.vis) trill (via att.trill.vis) curve (via att.visualoffset2) bend (via att.bend.vis) gliss (via att.gliss.vis) hairpin (via att.hairpin.vis)

	line (via att.line.vis) phrase (via att.phrase.vis) slur (via att.slur.vis) tie (via att.tie.vis)
Attributes	@endto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined end point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to] @startto *(optional)* Records a timestamp adjustment of a feature's programmatically-determined start point. Value conforms to data.TSTAMPOFFSET . [att.visualoffset2.to]

Declaration	`<attDef ident= "startto" usage= "opt">`
	`<desc>Records a timestamp adjustment of a feature's programmatically-determined start point. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.TSTAMPOFFSET" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "endto" usage= "opt">`
	`<desc>Records a timestamp adjustment of a feature's programmatically-determined end point. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.TSTAMPOFFSET" />`
	`</datatype>`
	`</attDef>`

att.visualoffset2.vo

att.visualoffset2.vo Vertical offset attributes requiring a pair of attributes.	
Module	MEI.shared
Members	curve (via att.visualoffset2) bend (via att.bend.vis) gliss (via att.gliss.vis) hairpin (via att.hairpin.vis) line (via att.line.vis) phrase (via att.phrase.vis) slur (via att.slur.vis) tie (via att.tie.vis)

Attributes	@endvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined end point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo] @startvo *(optional)* Records a vertical adjustment of a feature's programmatically-determined start point. Value conforms to data.MEASUREMENTREL . [att.visualoffset2.vo]

Declaration	`<attDef ident= "startvo" usage= "opt">`
	`<desc>Records a vertical adjustment of a feature's programmatically-determined start point. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTREL" />`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "endvo" usage= "opt">`
	`<desc>Records a vertical adjustment of a feature's programmatically-determined end point. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:ref name= " data.MEASUREMENTREL" />`
	`</datatype>`
	`</attDef>`

att.whitespace

att.whitespace Attributes the address whitespacing processing.	
Module	MEI.shared
Members	extMeta, incipCode, rend (direct members of att.whitespace)
Attributes	@xml:space *(optional)* Allows one to signal to an application whether an element's white space is "significant". The behavior of xml:space cascades to all descendant elements, but it can be turned off locally by setting the xml:space attribute to the value "default". Allowed values are: " default" *(Allows the application to handle white space as necessary. Not including an xml:space attribute produces the same result as using the default value.)* , " preserve" *(Instructs the application to maintain white space "as-is", suggesting that it might have meaning.)* [att.whitespace]
Declaration	`<attDef ident= "xml:space" usage= "opt">` `<desc>Allows one to signal to an application whether an element's white space is "significant". The behavior of xml:space cascades to all`

	descendant elements, but it can be turned off locally by setting the xml:space attribute to the value "default". </desc>
<valList type= "closed">
<valItem ident= "default">
<desc>Allows the application to handle white space as necessary. Not including an xml:space attribute produces the same result as using the default value. </desc>
</valItem>
<valItem ident= "preserve">
<desc>Instructs the application to maintain white space "as-is", suggesting that it might have meaning. </desc>
</valItem>
</valList>
</attDef>

att.width

att.width Attributes that describe horizontal size.	
Module	MEI.shared
Members	barLine (via att.barLine.vis) graphic (via att.dimensions) measure (via att.measure.vis)
Attributes	@width *(optional)* Measurement of the horizontal dimension of an entity. Value conforms to data.MEASUREMENTABS . [att.width]
Declaration	<attDef ident= "width" usage= "opt">
<desc>Measurement of the horizontal dimension of an entity. </desc>
<datatype maxOccurs= "1" minOccurs= "1">
<rng:ref name= " data.MEASUREMENTABS" />
</datatype>
</attDef>
Remarks	The width attribute may be used to capture measure width data for interchange with music printing systems that utilize this information for printing. On <barLine> the width attribute captures the width of the preceding measure.

att.xy

att.xy Output coordinate attributes. Some elements may have their exact rendered *output* coordinates recorded. x and y attributes indicate where to place the rendered output. Recording the coordinates of a feature in a facsimile requires the use of the facs attribute.	
Module	MEI.shared
Members	anchoredText, curve, fig, head, lg, list, p, quote, symbol, table, td, th, tr (direct members of att.xy) accid (via att.accid.vis) arpeg (via att.arpeg.vis) artic (via att.artic.vis) bend (via att.bend.vis) breath (via att.breath.vis) chord (via att.chord.vis) cpMark (via att.cpMark.vis) dir (via att.dir.vis) dot (via att.dot.vis) dynam (via att.dynam.vis) f (via att.f.vis) fermata (via att.fermata.vis) fing (via att.fing.vis) fingGrp (via att.fingGrp.vis) gliss (via att.gliss.vis) grpSym (via att.grpSym.vis) hairpin (via att.hairpin.vis) harm (via att.harm.vis) harpPedal (via att.harpPedal.vis) keyAccid (via att.keyAccid.vis) line (via att.line.vis) mRest (via att.mRest.vis) mSpace (via att.mSpace.vis) note (via att.note.vis) octave (via att.octave.vis) ornam (via att.ornam.vis) pedal (via att.pedal.vis) phrase (via att.phrase.vis) reh (via att.reh.vis) rest (via att.rest.vis) slur (via att.slur.vis) syl (via att.syl.vis) tempo (via att.tempo.vis) tie (via att.tie.vis) trill (via att.trill.vis)

	turn (via att.turn.vis) uneume (via att.uneume.vis) verse (via att.verse.vis)
Attributes	@x *(optional)* Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy] @y *(optional)* Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. Value of datatype **decimal**. [att.xy]

Declaration	`<attDef ident= "x" usage= "opt">`
	`<desc>Encodes an x coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "decimal"/>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "y" usage= "opt">`
	`<desc>Encodes an y coordinate for a feature in an output coordinate system. When it is necessary to record the placement of a feature in a facsimile image, use the facs attribute. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "decimal"/>`
	`</datatype>`
	`</attDef>`

att.xy2

att.xy2 Output coordinate attributes. Some elements may need 2 coordinate pairs to record their rendered *output* coordinates. The attributes indicate where to place the rendered output. Recording the coordinates of a feature in a facsimile requires the use of the facs attribute.	
Module	MEI.shared
Members	curve (direct member of att.xy2) bend (via att.bend.vis) gliss (via att.gliss.vis) hairpin (via att.hairpin.vis) line (via att.line.vis)

	phrase (via att.phrase.vis) slur (via att.slur.vis) tie (via att.tie.vis)
Attributes	@x2 *(optional)* Encodes the optional 2nd x coordinate. Value of datatype **decimal**. [att.xy2] @y2 *(optional)* Encodes the optional 2nd y coordinate. Value of datatype **decimal**. [att.xy2]

Declaration	`<attDef ident= "x2" usage= "opt">`
	`<desc>Encodes the optional 2nd x coordinate. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "decimal"/>`
	`</datatype>`
	`</attDef>`
	
	`<attDef ident= "y2" usage= "opt">`
	`<desc>Encodes the optional 2nd y coordinate. </desc>`
	`<datatype maxOccurs= "1" minOccurs= "1">`
	`<rng:data type= "decimal"/>`
	`</datatype>`
	`</attDef>`

Datatypes and Macros

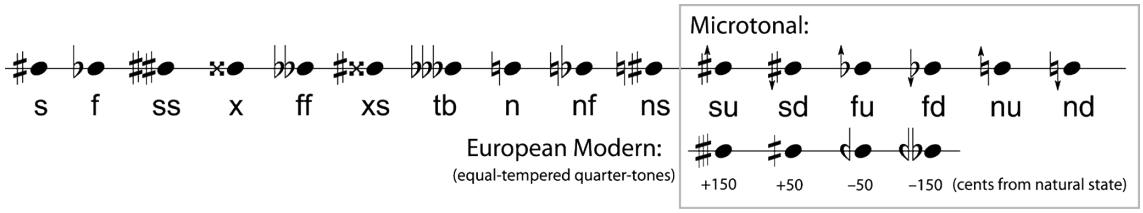
data.ACCIDENTAL.EXPLICIT

data.ACCIDENTAL.EXPLICIT Accidental attribute values.	
Module	MEI
Used by	att.accidental (@accid), att.ornamentaccid (@accidupper)
Allowed values	**s** Sharp. **f** Flat. **ss** Double sharp (written as 2 sharps). **x** Double sharp (written using croix). **ff** Double flat. **xs** Triple sharp (written as a croix followed by a sharp). **sx** Triple sharp (written as a sharp followed by a croix). **ts** Triple sharp (written as 3 sharps). **tf** Triple flat. **n** Natural. **nf** Natural + flat; used to cancel preceding double flat. **ns** Natural + sharp; used to cancel preceding double sharp. **su** Sharp note raised by quarter tone (sharp modified by arrow). **sd** Sharp note lowered by quarter tone (sharp modified by arrow). **fu** Flat note raised by quarter tone (flat modified by arrow).

	fd Flat note lowered by quarter tone (flat modified by arrow). **nu** Natural note raised by quarter tone (natural modified by arrow). **nd** Natural note lowered by quarter tone (natural modified by arrow). **1qf** 1/4-tone flat accidental. **3qf** 3/4-tone flat accidental. **1qs** 1/4-tone sharp accidental. **3qs** 3/4-tone sharp accidental.
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "s">
     <desc>Sharp. </desc>
   </valItem>
   <valItem ident= "f">
     <desc>Flat. </desc>
   </valItem>
   <valItem ident= "ss">
     <desc>Double sharp (written as 2 sharps). </desc>
   </valItem>
   <valItem ident= "x">
     <desc>Double sharp (written using croix). </desc>
   </valItem>
   <valItem ident= "ff">
     <desc>Double flat. </desc>
   </valItem>
   <valItem ident= "xs">
     <desc>Triple sharp (written as a croix followed by a sharp).
     </desc>
   </valItem>
   <valItem ident= "sx">
     <desc>Triple sharp (written as a sharp followed by a croix).
     </desc>
   </valItem>
   <valItem ident= "ts">
     <desc>Triple sharp (written as 3 sharps). </desc>
   </valItem>
   <valItem ident= "tf">
     <desc>Triple flat. </desc>
   </valItem>
```

```
<valItem ident= "n">
  <desc>Natural. </desc>
</valItem>
<valItem ident= "nf">
  <desc>Natural + flat; used to cancel preceding double flat. </desc>
</valItem>
<valItem ident= "ns">
  <desc>Natural + sharp; used to cancel preceding double sharp.
  </desc>
</valItem>
<!-- su, sd, fu, fd are equivalent to usual symbols plus an arrow
(Gould, p. 95)-->
<valItem ident= "su">
  <desc>Sharp note raised by quarter tone (sharp modified by arrow).
  </desc>
</valItem>
<valItem ident= "sd">
  <desc>Sharp note lowered by quarter tone (sharp modified by arrow).
  </desc>
</valItem>
<valItem ident= "fu">
  <desc>Flat note raised by quarter tone (flat modified by arrow).
  </desc>
</valItem>
<valItem ident= "fd">
  <desc>Flat note lowered by quarter tone (flat modified by arrow).
  </desc>
</valItem>
<valItem ident= "nu">
  <desc>Natural note raised by quarter tone (natural modified by
  arrow). </desc>
</valItem>
<valItem ident= "nd">
  <desc>Natural note lowered by quarter tone (natural modified by
  arrow). </desc>
</valItem>
<!-- 1qf, 3qf, 1qs, 3qs represent fixed symbols (Gould, p. 96) -->
<valItem ident= "1qf">
  <desc>1/4-tone flat accidental. </desc>
</valItem>
<valItem ident= "3qf">
  <desc>3/4-tone flat accidental. </desc>
</valItem>
<valItem ident= "1qs">
  <desc>1/4-tone sharp accidental. </desc>
</valItem>
<valItem ident= "3qs">
  <desc>3/4-tone sharp accidental. </desc>
</valItem>
```

	`</valList>` `</content>`
Remarks	

data.ACCIDENTAL.IMPLICIT

data.ACCIDENTAL.IMPLICIT Accidental attribute values.	
Module	MEI
Used by	att.accidental.performed (@accid.ges), att.keySigDefault.log (@key.accid)
Allowed values	**s** Sharp. **f** Flat. **ss** Double sharp. **ff** Double flat. **n** Natural. **su** Three quarter-tones sharp. **sd** Quarter-tone sharp. **fu** Quarter-tone flat. **fd** Three quarter-tones flat.

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "s">`
	`<desc>Sharp. </desc>`
	`</valItem>`

```
    <valItem ident= "f">
      <desc>Flat. </desc>
    </valItem>
    <valItem ident= "ss">
      <desc>Double sharp. </desc>
    </valItem>
    <valItem ident= "ff">
      <desc>Double flat. </desc>
    </valItem>
    <valItem ident= "n">
      <desc>Natural. </desc>
    </valItem>
    <valItem ident= "su">
      <desc>Three quarter-tones sharp. </desc>
    </valItem>
    <valItem ident= "sd">
      <desc>Quarter-tone sharp. </desc>
    </valItem>
    <valItem ident= "fu">
      <desc>Quarter-tone flat. </desc>
    </valItem>
    <valItem ident= "fd">
      <desc>Three quarter-tones flat. </desc>
    </valItem>
  </valList>
</content>
```

data.ARTICULATION

data.ARTICULATION The following list of articulations mostly corresponds to symbols from the Western Musical Symbols portion of the Unicode Standard. The dot and stroke values may be used in cases where interpretation is difficult or undesirable.	
Module	MEI
Used by	att.articulation (@artic), att.articulation.performed (@artic.ges)
Allowed values	**acc** Accent (Unicode 1D17B). **stacc** Staccato (Unicode 1D17C). **ten** Tenuto (Unicode 1D17D). **stacciss** Staccatissimo (Unicode 1D17E). **marc** Marcato (Unicode 1D17F).

	marc-stacc	Marcato + staccato (Unicode 1D180).
	spicc	Spiccato.
	doit	Main note followed by short slide to higher, indeterminate pitch (Unicode 1D185).
	scoop	Main note preceded by short slide from lower, indeterminate pitch (Unicode 1D186).
	rip	Main note preceded by long slide from lower, often indeterminate pitch; also known as "squeeze".
	plop	Main note preceded by "slide" from higher, indeterminate pitch.
	fall	Main note followed by short "slide" to lower, indeterminate pitch.
	longfall	Main note followed by long "slide" to lower, indeterminate pitch.
	bend	"lip slur" to lower pitch, then return to written pitch.
	flip	Main note followed by quick upward rise, then descent in pitch (Unicode 1D187).
	smear	(Unicode 1D188).
	shake	Alternation between written pitch and next highest overtone (brass instruments) or note minor third higher (woodwinds).
	dnbow	Down bow (Unicode 1D1AA).
	upbow	Up bow (Unicode 1D1AB).
	harm	Harmonic (Unicode 1D1AC).
	snap	Snap pizzicato (Unicode 1D1AD).
	fingernail	Fingernail (Unicode 1D1B3).
	ten-stacc	Tenuto + staccato (Unicode 1D182).
	damp	Stop harp string from sounding (Unicode 1D1B4).
	dampall	Stop all harp strings from sounding (Unicode 1D1B5).

	open Full (as opposed to stopped) tone. **stop** "muffled" tone. **dbltongue** Double tongue (Unicode 1D18A). **trpltongue** Triple tongue (Unicode 1D18B). **heel** Use heel (organ pedal). **toe** Use toe (organ pedal). **tap** Percussive effect on guitar string(s). **lhpizz** Left-hand pizzicato. **dot** Uninterpreted dot. **stroke** Uninterpreted stroke.
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "acc">
     <desc>Accent (Unicode 1D17B). </desc>
   </valItem>
   <valItem ident= "stacc">
     <desc>Staccato (Unicode 1D17C). </desc>
   </valItem>
   <valItem ident= "ten">
     <desc>Tenuto (Unicode 1D17D). </desc>
   </valItem>
   <valItem ident= "stacciss">
     <desc>Staccatissimo (Unicode 1D17E). </desc>
   </valItem>
   <valItem ident= "marc">
     <desc>Marcato (Unicode 1D17F). </desc>
   </valItem>
   <valItem ident= "marc-stacc">
     <desc>Marcato + staccato (Unicode 1D180). </desc>
   </valItem>
   <valItem ident= "spicc">
     <desc>Spiccato. </desc>
   </valItem>
   <valItem ident= "doit">
     <desc>Main note followed by short slide to higher, indeterminate
     pitch (Unicode 1D185). </desc>
   </valItem>
   <valItem ident= "scoop">
```

```
      <desc>Main note preceded by short slide from lower, indeterminate
      pitch (Unicode 1D186). </desc>
    </valItem>
    <valItem ident= "rip">
      <desc>Main note preceded by long slide from lower, often
      indeterminate pitch; also known as "squeeze". </desc>
    </valItem>
    <valItem ident= "plop">
      <desc>Main note preceded by "slide" from higher, indeterminate
      pitch. </desc>
    </valItem>
    <valItem ident= "fall">
      <desc>Main note followed by short "slide" to lower, indeterminate
      pitch. </desc>
    </valItem>
    <valItem ident= "longfall">
      <desc>Main note followed by long "slide" to lower, indeterminate
      pitch. </desc>
    </valItem>
    <valItem ident= "bend">
      <desc>"lip slur" to lower pitch, then return to written pitch.
      </desc>
    </valItem>
    <valItem ident= "flip">
      <desc>Main note followed by quick upward rise, then descent in
      pitch (Unicode 1D187). </desc>
    </valItem>
    <valItem ident= "smear">
      <desc>(Unicode 1D188). </desc>
    </valItem>
    <valItem ident= "shake">
      <desc>Alternation between written pitch and next highest overtone
      (brass instruments) or note minor third higher (woodwinds). </desc>
    </valItem>
    <valItem ident= "dnbow">
      <desc>Down bow (Unicode 1D1AA). </desc>
    </valItem>
    <valItem ident= "upbow">
      <desc>Up bow (Unicode 1D1AB). </desc>
    </valItem>
    <valItem ident= "harm">
      <desc>Harmonic (Unicode 1D1AC). </desc>
    </valItem>
    <valItem ident= "snap">
      <desc>Snap pizzicato (Unicode 1D1AD). </desc>
    </valItem>
    <valItem ident= "fingernail">
      <desc>Fingernail (Unicode 1D1B3). </desc>
    </valItem>
```

```
    <valItem ident= "ten-stacc">
      <desc>Tenuto + staccato (Unicode 1D182). </desc>
    </valItem>
    <valItem ident= "damp">
      <desc>Stop harp string from sounding (Unicode 1D1B4). </desc>
    </valItem>
    <valItem ident= "dampall">
      <desc>Stop all harp strings from sounding (Unicode 1D1B5). </desc>
    </valItem>
    <valItem ident= "open">
      <desc>Full (as opposed to stopped) tone. </desc>
    </valItem>
    <valItem ident= "stop">
      <desc>"muffled" tone. </desc>
    </valItem>
    <valItem ident= "dbltongue">
      <desc>Double tongue (Unicode 1D18A). </desc>
    </valItem>
    <valItem ident= "trpltongue">
      <desc>Triple tongue (Unicode 1D18B). </desc>
    </valItem>
    <valItem ident= "heel">
      <desc>Use heel (organ pedal). </desc>
    </valItem>
    <valItem ident= "toe">
      <desc>Use toe (organ pedal). </desc>
    </valItem>
    <valItem ident= "tap">
      <desc>Percussive effect on guitar string(s). </desc>
    </valItem>
    <valItem ident= "lhpizz">
      <desc>Left-hand pizzicato. </desc>
    </valItem>
    <valItem ident= "dot">
      <desc>Uninterpreted dot. </desc>
    </valItem>
    <valItem ident= "stroke">
      <desc>Uninterpreted stroke. </desc>
    </valItem>
  </valList>
</content>
```

data.AUGMENTDOT

data.AUGMENTDOT Dots attribute values (number of augmentation dots) (Read, 113-119, ex. 8-21).	
Module	MEI

Used by	att.augmentdots (@dots), att.mmtempo (@mm.dots)
Declaration	<content> <rng:data type= "nonNegativeInteger"> <rng:param name= "maxInclusive"> 4 </rng:param> </rng:data> </content>

data.BARPLACE

data.BARPLACE Placement of bar lines. The value 'staff' describes the traditional placement of bar lines.	
Module	MEI
Used by	att.barplacement (@barplace)
Allowed values	**mensur** Between staves only. **staff** Between and across staves as necessary. **takt** Short line above staff or through top line.
Declaration	<content> <valList type= "closed"> <valItem ident= "mensur"> <desc>Between staves only. </desc> </valItem> <valItem ident= "staff"> <desc>Between and across staves as necessary. </desc> </valItem> <valItem ident= "takt"> <desc>Short line above staff or through top line. </desc> </valItem> </valList> </content>

data.BARRENDITION

data.BARRENDITION Renderings of bar lines. Some values correspond to the Western Musical Symbols portion of the Unicode Standard.

Module	MEI
Used by	att.barLine.log (@form), att.measure.log (@left)
Allowed values	**dashed** Dashed line (Unicode 1D104). **dotted** Dotted line. **dbl** (Unicode 1D101). **dbldashed** Double dashed line. **dbldotted** Double dotted line. **end** (Unicode 1D102). **invis** Bar line not rendered. **rptstart** Repeat start (Unicode 1D106). **rptboth** Repeat start and end. **rptend** Repeat end (Unicode 1D107). **single** (Unicode 1D100).
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "dashed">
     <desc>Dashed line (Unicode 1D104). </desc>
   </valItem>
   <valItem ident= "dotted">
     <desc>Dotted line. </desc>
   </valItem>
   <valItem ident= "dbl">
     <desc>(Unicode 1D101). </desc>
   </valItem>
   <valItem ident= "dbldashed">
     <desc>Double dashed line. </desc>
   </valItem>
   <valItem ident= "dbldotted">
     <desc>Double dotted line. </desc>
   </valItem>
   <valItem ident= "end">
     <desc>(Unicode 1D102). </desc>
   </valItem>
   <valItem ident= "invis">
     <desc>Bar line not rendered. </desc>
   </valItem>
```

	<content> <valItem ident= "rptstart"> <desc>Repeat start (Unicode 1D106). </desc> </valItem> <valItem ident= "rptboth"> <desc>Repeat start and end. </desc> </valItem> <valItem ident= "rptend"> <desc>Repeat end (Unicode 1D107). </desc> </valItem> <valItem ident= "single"> <desc>(Unicode 1D100). </desc> </valItem> </valList> </content>

data.BEAM

data.BEAM Beam attribute values: initial, medial, terminal. Nested beaming is permitted.	
Module	MEI
Used by	att.beamed (@beam)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> [i|m|t][1-6] </rng:param> </rng:data> </content>

data.BEAT

data.BEAT A beat location, i.e., [0-9]+(\.?[0-9]*)? The value must fall between 0 and the numerator of the time signature + 1, where 0 represents the left bar line and the upper boundary represents the right bar line. For example, in 12/8 the value must be in the range from 0 to 13.	
Module	MEI
Used by	att.timestamp.musical (@tstamp)

Declaration	<content> <rng:data type= "decimal"> <rng:param name= "minInclusive"> 0 </rng:param> </rng:data> </content>

data.BEATRPT.REND

data.BEATRPT.REND Visual and performance information for a repeated beat symbol.	
Module	MEI
Used by	att.beatRpt.vis (@form)
Declaration	<content> <rng:choice> <rng:data type= "positiveInteger"> <rng:param name= "pattern"> 4|8|16|32|64|128 </rng:param> </rng:data> <rng:data type= "token"> <rng:param name= "pattern"> mixed </rng:param> </rng:data> </rng:choice> </content>

data.BEND.AMOUNT

data.BEND.AMOUNT Either an integer value, a decimal value, or a token. Fractional values are limited to .25, .5, .75, while the token value is restricted to 'full'.	
Module	MEI
Used by	att.bend.ges (@amount)
Declaration	<content> <rng:choice> <rng:data type= "decimal"> <rng:param name= "pattern"> \.25|\.5|\.75 </rng:param>

	`</rng:data> <rng:data type= "decimal"> <rng:param name= "pattern"> [0-9](\.25|\.5|\.75)? </rng:param> </rng:data> <rng:data type= "token"> <rng:param name= "pattern"> full </rng:param> </rng:data> </rng:choice> </content>`

data.BETYPE

data.BETYPE Datatypes for values in begin, end, abstype and inttype attributes.	
Module	MEI.shared
Used by	att.mediabounds (@betype), when/@abstype
Allowed values	**byte** Bytes. **smil** Synchronized Multimedia Integration Language. **midi** MIDI clicks. **mmc** MIDI machine code. **mtc** MIDI time code. **smpte-25** SMPTE 25 EBU. **smpte-24** SMPTE 24 Film Sync. **smpte-df30** SMPTE 30 Drop. **smpte-ndf30** SMPTE 30 Non-Drop. **smpte-df29.97** SMPTE 29.97 Drop. **smpte-ndf29.97** SMPTE 29.97 Non-Drop. **tcf** AES Time-code character format. **time** ISO 24-hour time format: HH:MM:SS.ss.

Declaration

```
<content>
 <valList type= "closed">
   <valItem ident= "byte">
     <desc>Bytes. </desc>
   </valItem>
   <valItem ident= "smil">
     <desc>Synchronized Multimedia Integration Language. </desc>
   </valItem>
   <valItem ident= "midi">
     <desc>MIDI clicks. </desc>
   </valItem>
   <valItem ident= "mmc">
     <desc>MIDI machine code. </desc>
   </valItem>
   <valItem ident= "mtc">
     <desc>MIDI time code. </desc>
   </valItem>
   <valItem ident= "smpte-25">
     <desc>SMPTE 25 EBU. </desc>
   </valItem>
   <valItem ident= "smpte-24">
     <desc>SMPTE 24 Film Sync. </desc>
   </valItem>
   <valItem ident= "smpte-df30">
     <desc>SMPTE 30 Drop. </desc>
   </valItem>
   <valItem ident= "smpte-ndf30">
     <desc>SMPTE 30 Non-Drop. </desc>
   </valItem>
   <valItem ident= "smpte-df29.97">
     <desc>SMPTE 29.97 Drop. </desc>
   </valItem>
   <valItem ident= "smpte-ndf29.97">
     <desc>SMPTE 29.97 Non-Drop. </desc>
   </valItem>
   <valItem ident= "tcf">
     <desc>AES Time-code character format. </desc>
   </valItem>
   <valItem ident= "time">
     <desc>ISO 24-hour time format: HH:MM:SS.ss. </desc>
   </valItem>
 </valList>
</content>
```

data.BOOLEAN

data.BOOLEAN Boolean attribute values.

Module	MEI
Used by	att.arpeg.vis (@arrow), att.beaming.log (@beam.rests), att.clef.log (@cautionary), att.cleffing.vis (@clef.visible), att.coloration (@colored), att.expandable (@expand), att.extender (@extender), att.hairpin.log (@niente), att.keySig.vis (@sig.showchange), att.keySigDefault.vis (@key.sig.show), att.lvpresent (@lv), att.measurenumbers (@mnum.visible), att.mensur.log (@dot), att.mensural.log (@mensur.dot), att.meterconformance.bar (@metcon), att.meterSigDefault.vis (@meter.showchange), att.mordent.log (@long), att.multinummeasures (@multi.number), att.multiRest.vis (@block), att.noteheads (@head.visible), att.numberplacement (@num.visible), att.onelinestaff (@ontheline), att.optimization (@optimize), att.scoreDef.vis.cmn (@grid.show), att.section.vis (@restart), att.space.vis (@compressable), att.staffDef.vis (@grid.show), att.staffGrp.vis (@barthru), att.systems (@system.leftline), att.tuplet.vis (@bracket.visible), att.turn.log (@delayed), att.verse.log (@refrain), att.visibility (@visible), hand/@initial, perfRes/@solo
Allowed values	**true** **false**
Declaration	<content> <valList type= "closed"> <valItem ident= "true"/> <valItem ident= "false"/> </valList> </content>

data.CERTAINTY

data.CERTAINTY Values for certainty attribute. Certainty may be expressed by one of the values 'high', 'medium', or 'low'. The value 'unknown' should be used in cases where the encoder does not wish to assert an opinion.	
Module	MEI
Used by	att.evidence (@cert)
Allowed values	**high** **medium** **low** **unknown**

Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "high"/>
   <valItem ident= "medium"/>
   <valItem ident= "low"/>
   <valItem ident= "unknown"/>
 </valList>
</content>
```

data.CLEFLINE

data.CLEFLINE Clef line attribute values. The value must be in the range between 1 and the number of lines on the staff. The numbering of lines starts with the lowest line of the staff.	
Module	MEI
Used by	att.cleffing.log (@clef.line), att.lineloc (@line)
Declaration	

```
<content>
 <rng:data type= "positiveInteger"/>
</content>
```

data.CLEFSHAPE

data.CLEFSHAPE Clef shape attribute values (Read, p.53-56). Some values correspond to the Unicode Standard.	
Module	MEI
Used by	att.cleffing.log (@clef.shape), att.clefshape (@shape)
Allowed values	**G** G clef (Unicode 1D11E). **GG** Double G clef. **F** F clef (Unicode 1D122). **C** C clef (Unicode 1D121). **perc** Drum clef (Unicode 1D125 or Unicode 1D126).

	TAB Tablature "clef"; i.e. usually "TAB" rendered vertically.
Declaration	`<content> <valList type= "closed"> <valItem ident= "G"> <desc>G clef (Unicode 1D11E). </desc> </valItem> <valItem ident= "GG"> <desc>Double G clef. </desc> </valItem> <valItem ident= "F"> <desc>F clef (Unicode 1D122). </desc> </valItem> <valItem ident= "C"> <desc>C clef (Unicode 1D121). </desc> </valItem> <valItem ident= "perc"> <desc>Drum clef (Unicode 1D125 or Unicode 1D126). </desc> </valItem> <valItem ident= "TAB"> <desc>Tablature "clef"; i.e. usually "TAB" rendered vertically. </desc> </valItem> </valList> </content>`

data.CLUSTER

data.CLUSTER Tone-cluster rendition.	
Module	MEI
Used by	att.chord.vis (@cluster)
Allowed values	**white** White keys. **black** Black keys. **chromatic** Mixed black and white keys.
Declaration	`<content>`

	`<valList type= "closed">`
	`<valItem ident= "white">`
	`<desc>White keys. </desc>`
	`</valItem>`
	`<valItem ident= "black">`
	`<desc>Black keys. </desc>`
	`</valItem>`
	`<valItem ident= "chromatic">`
	`<desc>Mixed black and white keys. </desc>`
	`</valItem>`
	`</valList>`
	`</content>`

data.COLOR

data.COLOR A value in one of the following forms is expected: 1) hexadecimal RRGGBB, 2) hexadecimal AARRGGBB, 3) CSS RGB, 4) CSS RGBA, 5) HSL, 6) HSLA, or 7) HTML 4.01 color name.	
Module	MEI
Used by	att.beaming.vis (@beam.color), att.cleffing.vis (@clef.color), att.color (@color), att.mensural.vis (@mensur.color), att.noteheads (@head.color), att.staffDef.vis (@lines.color)

Declaration	`<content>`
	`<alternate maxOccurs= "1" minOccurs= "1">`
	`<macroRef key= " data.COLORNAMES" />`
	`<macroRef key= " data.COLORVALUES" />`
	`</alternate>`
	`</content>`

data.COLORNAMES

data.COLORNAMES List of HTML 4.01 color names.	
Module	MEI
Used by	data.COLOR
Allowed values	**aqua** Hex: #00FFFF / RGB:0,255,255

	black Hex: #000000 / RGB:0,0,0 **blue** Hex: #0000FF / RGB:0,0,255 **fuchsia** Hex: #FF00FF / RGB:255,0,255 **gray** Hex: #808080 / RGB:128,128,128 **green** Hex: #008000 / RGB:0,128,0 **lime** Hex: #00FF00 / RGB:0,255,0 **maroon** Hex: #800000 / RGB:128,0,0 **navy** Hex: #000080 / RGB:0,0,128 **olive** Hex: #808000 / RGB:128,128,0 **purple** Hex: #800080 / RGB:128,0,128 **red** Hex: #FF0000 / RGB:255,0,0 **silver** Hex: #C0C0C0 / RGB:208,208,208 **teal** Hex: #008080 / RGB:0,128,128 **white** Hex: #FFFFFF / RGB:255,255,255 **yellow** Hex: #FFFF00 / RGB:255,255,0

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "aqua">`
	`<desc>Hex: #00FFFF / RGB:0,255,255 </desc>`
	`</valItem>`
	`<valItem ident= "black">`
	`<desc>Hex: #000000 / RGB:0,0,0 </desc>`
	`</valItem>`
	`<valItem ident= "blue">`
	`<desc>Hex: #0000FF / RGB:0,0,255 </desc>`
	`</valItem>`
	`<valItem ident= "fuchsia">`
	`<desc>Hex: #FF00FF / RGB:255,0,255 </desc>`
	`</valItem>`
	`<valItem ident= "gray">`
	`<desc>Hex: #808080 / RGB:128,128,128 </desc>`
	`</valItem>`
	`<valItem ident= "green">`
	`<desc>Hex: #008000 / RGB:0,128,0 </desc>`
	`</valItem>`

```
    <valItem ident= "lime">
      <desc>Hex: #00FF00 / RGB:0,255,0 </desc>
    </valItem>
    <valItem ident= "maroon">
      <desc>Hex: #800000 / RGB:128,0,0 </desc>
    </valItem>
    <valItem ident= "navy">
      <desc>Hex: #000080 / RGB:0,0,128 </desc>
    </valItem>
    <valItem ident= "olive">
      <desc>Hex: #808000 / RGB:128,128,0 </desc>
    </valItem>
    <valItem ident= "purple">
      <desc>Hex: #800080 / RGB:128,0,128 </desc>
    </valItem>
    <valItem ident= "red">
      <desc>Hex: #FF0000 / RGB:255,0,0 </desc>
    </valItem>
    <valItem ident= "silver">
      <desc>Hex: #C0C0C0 / RGB:208,208,208 </desc>
    </valItem>
    <valItem ident= "teal">
      <desc>Hex: #008080 / RGB:0,128,128 </desc>
    </valItem>
    <valItem ident= "white">
      <desc>Hex: #FFFFFF / RGB:255,255,255 </desc>
    </valItem>
    <valItem ident= "yellow">
      <desc>Hex: #FFFF00 / RGB:255,255,0 </desc>
    </valItem>
  </valList>
</content>
```

data.COLORVALUES

data.COLORVALUES Parameterized color values	
Module	MEI
Used by	data.COLOR
Declaration	

```
<content>
 <rng:choice>
```

```
    <!-- hex values -->
    <rng:data type= "token">
      <rng:param name= "pattern"> #[0-9A-Fa-f]{6,6} </rng:param>
    </rng:data>
    <!-- AARRGGBB values -->
    <rng:data type= "token">
      <rng:param name= "pattern"> #[0-9A-Fa-f]{8,8} </rng:param>
    </rng:data>
    <!-- RGB values -->
    <rng:data type= "token">
      <rng:param name= "pattern">
         rgb\(\s*([01]?[0-9]?[0-9])|2[0-4][0-9]|25[0-5])\s*,\s*){2}
          ([01]?[0-9]?[0-9]|2[0-4][0-9]|25[0-5])\s*\)
      </rng:param>
    </rng:data>
    <!-- RGBA values -->
    <rng:data type= "token">
      <rng:param name= "pattern">
         rgba\(\s*([01]?[0-9]?[0-9]|2[0-4][0-9]|25[0-5])\s*,\s*){3}(
          0(\.\d+)?|1(\.0+)?)\s*\)|rgba\(\s*(((\d{1,2})?%|100%)\s*,\s*
          ){2}(\d{1,2}%|100%)\s*,\s*(0(\.\d+)?|1(\.0+)?)\s*\)
      </rng:param>
    </rng:data>
    <!-- HSL values -->
    <rng:data type= "token">
      <rng:param name= "pattern">
         hsl\(\s*((\d{1,2})|[12]\d{2}|3[0-5]\d|360)\s*,\s*(\d{1,2}%|1
          00%)\s*,\s*(\d{1,2}%|100%)\s*\)
      </rng:param>
    </rng:data>
    <!-- HSLA values -->
    <rng:data type= "token">
      <rng:param name= "pattern">
         hsla\(\s*(\d{1,2}|[12]\d{2}|3[0-5]\d|360)\s*,\s*(\d{1,2}%|10
          0%)\s*,\s*(\d{1,2}%|100%)\s*,\s*(0(\.\d+)?|1(\.0+)?)\s*\)
      </rng:param>
    </rng:data>
  </rng:choice>
</content>
```

data.DEGREES

data.DEGREES 360th-unit measure of a circle's circumference; optionally signed decimal number between -360 and 360.	
Module	MEI

Used by	data.ROTATION, rend/@rotation
Declaration	<content> <rng:data type= "decimal"> <rng:param name= "maxInclusive"> 360.0 </rng:param> <rng:param name= "minInclusive"> –360.0 </rng:param> </rng:data> </content>

data.DURATION

data.DURATION Logical, that is, written, duration attribute values.	
Module	MEI
Used by	att.duration.default (@dur.default), att.duration.musical (@dur), att.mmtempo (@mm.unit)
Declaration	<content> <rng:choice> <rng:ref name= " data.DURATION.cmn" /> <rng:ref name= " data.DURATION.mensural" /> </rng:choice> </content>

data.DURATION.additive

data.DURATION.additive Records duration using optionally dotted, relative durational values provided by the data.DURATION datatype. When the duration is "irrational", as is sometimes the case with tuplets, multiple space-separated values that add up to the total duration may be used.	
Module	MEI
Used by	att.duration.additive (@dur)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern">

	(long|breve|1|2|4|8|16|32|64|128|256|1024|2048)(\.)* </rng:param> </rng:data> </content>

data.DURATION.cmn

data.DURATION.cmn Logical, that is, written, duration attribute values for the CMN repertoire.	
Module	MEI.cmn
Used by	att.tremmeasured (@measperf)
Allowed values	**long** Quadruple whole note. **breve** Double whole note. **1** Whole note. **2** Half note. **4** Quarter note. **8** 8th note. **16** 16th note. **32** 32nd note. **64** 64th note. **128** 128th note. **256** 256th note. **512** 512th note. **1024** 1024th note. **2048** 2048th note.
Declaration	<content> <valList type= "closed"> <valItem ident= "long">

```
      <desc>Quadruple whole note. </desc>
    </valItem>
    <valItem ident= "breve">
      <desc>Double whole note. </desc>
    </valItem>
    <valItem ident= "1">
      <desc>Whole note. </desc>
    </valItem>
    <valItem ident= "2">
      <desc>Half note. </desc>
    </valItem>
    <valItem ident= "4">
      <desc>Quarter note. </desc>
    </valItem>
    <valItem ident= "8">
      <desc>8th note. </desc>
    </valItem>
    <valItem ident= "16">
      <desc>16th note. </desc>
    </valItem>
    <valItem ident= "32">
      <desc>32nd note. </desc>
    </valItem>
    <valItem ident= "64">
      <desc>64th note. </desc>
    </valItem>
    <valItem ident= "128">
      <desc>128th note. </desc>
    </valItem>
    <valItem ident= "256">
      <desc>256th note. </desc>
    </valItem>
    <valItem ident= "512">
      <desc>512th note. </desc>
    </valItem>
    <valItem ident= "1024">
      <desc>1024th note. </desc>
    </valItem>
    <valItem ident= "2048">
      <desc>2048th note. </desc>
    </valItem>
  </valList>
</content>
```

data.DURATION.gestural

data.DURATION.gestural Performed duration attribute values.

Module	MEI
Used by	att.beatRpt.log (@beatDef), att.duration.performed (@dur.ges), att.timestamp.performed (@tstamp.ges)
Declaration	<content> <alternate maxOccurs= "1" minOccurs= "1"> <macroRef key= " data.DURATION.gestural.prop" /> <macroRef key= " data.DURATION.gestural.pat" /> <macroRef key= " data.DURATION.mensural" /> </alternate> </content>

data.DURATION.gestural.pat

data.DURATION.gestural.pat Pattern for ppq, beats, seconds, etc.	
Module	MEI
Used by	data.DURATION.gestural
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> [0-9]+(p|(\.[0-9]+)?(b|s)) </rng:param> </rng:data> </content>

data.DURATION.gestural.prop

data.DURATION.gestural.prop Beat proportion representation equivalent to Humdrum **recip.	
Module	MEI
Used by	data.DURATION.gestural
Declaration	<content> <rng:data type= "token">

	<rng:param name= "pattern"> [0-9]+(\.)*r </rng:param> </rng:data> </content>

data.DURATION.mensural

data.DURATION.mensural Logical, that is, written, duration attribute values for the mensural repertoire.	
Module	MEI.mensural
Used by	data.DURATION.gestural
Allowed values	**maxima** **longa** **brevis** **semibrevis** **minima** **semiminima** **fusa** **semifusa**
Declaration	<content> <valList type= "closed"> <valItem ident= "maxima"/> <valItem ident= "longa"/> <valItem ident= "brevis"/> <valItem ident= "semibrevis"/> <valItem ident= "minima"/> <valItem ident= "semiminima"/> <valItem ident= "fusa"/> <valItem ident= "semifusa"/> </valList> </content>

data.ENCLOSURE

data.ENCLOSURE Enclosures for editorial notes and accidentals.	
Module	MEI
Used by	att.enclosingchars (@enclose)
Allowed values	**paren** Parentheses. **brack** Square brackets.

Declaration	`<content>`
	` <valList type= "closed">`
	`  <valItem ident= "paren">`
	`  <desc>Parentheses. </desc>`
	`  </valItem>`
	`  <valItem ident= "brack">`
	`  <desc>Square brackets. </desc>`
	`  </valItem>`
	` </valList>`
	`</content>`

data.FILL

data.FILL Describes how a graphical object, such as a note head, should be filled. The relative values — top, bottom, left, and right — indicate these locations *after* rotation is applied.	
Module	MEI
Used by	att.noteheads (@head.fill)
Allowed values	**void** Unfilled **solid** Filled **top** Top half filled **bottom** Bottom half filled **left** Left half filled **right** Right half filled

Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "void">
     <desc>Unfilled </desc>
   </valItem>
   <valItem ident= "solid">
     <desc>Filled </desc>
   </valItem>
   <valItem ident= "top">
     <desc>Top half filled </desc>
   </valItem>
   <valItem ident= "bottom">
     <desc>Bottom half filled </desc>
   </valItem>
   <valItem ident= "left">
     <desc>Left half filled </desc>
   </valItem>
   <valItem ident= "right">
     <desc>Right half filled </desc>
   </valItem>
 </valList>
</content>
```

data.FINGER.FRET

data.FINGER.FRET In a guitar chord diagram, a label indicating which finger, if any, should be used to play an individual string. The index, middle, ring, and little fingers are represented by the values 1-4, while 't' is for the thumb. The values 'x' and 'o' indicate stopped and open strings, respectively.

Module	MEI
Used by	chordMember/@fing
Declaration	

```
<content>
 <rng:choice>
   <rng:data type= "positiveInteger">
     <rng:param name= "minInclusive"> 1 </rng:param>
     <rng:param name= "maxInclusive"> 4 </rng:param>
   </rng:data>
   <rng:data type= "token">
     <rng:param name= "pattern"> x|o|t </rng:param>
   </rng:data>
 </rng:choice>
```

	`</content>`

data.FONTFAMILY

data.FONTFAMILY Font family (for text) attribute values.	
Module	MEI
Used by	att.lyricstyle (@lyric.fam), att.textstyle (@text.fam), att.typography (@fontfam)

Declaration	`<content>`
	`  <rng:data type= "token"/>`
	`</content>`

data.FONTNAME

data.FONTNAME Font name (for text) attribute values.	
Module	MEI
Used by	att.lyricstyle (@lyric.name), att.textstyle (@text.name), att.typography (@fontname)

Declaration	`<content>`
	`  <rng:data type= "token"/>`
	`</content>`

data.FONTSIZE

data.FONTSIZE Font size expressions.	
Module	MEI
Used by	att.lyricstyle (@lyric.size), att.notationstyle (@music.size), att.textstyle (@text.size), att.typography (@fontsize)

Declaration	

```
<content>
 <alternate maxOccurs= "1" minOccurs= "1">
   <macroRef key= " data.FONTSIZENUMERIC" />
   <macroRef key= " data.FONTSIZETERM" />
   <macroRef key= " data.PERCENT" />
 </alternate>
</content>
```

data.FONTSIZENUMERIC

data.FONTSIZENUMERIC Font size expressed as numbers; i.e. points.	
Module	MEI
Used by	data.FONTSIZE
Declaration	

```
<content>
 <rng:data type= "token">
   <rng:param name= "pattern"> \d*(\.\d+)?(pt)? </rng:param>
   <rng:except>
     <!-- disallow no-value or all-zero patterns -->
     <rng:choice>
        <rng:data type= "token">
           <rng:param name= "pattern"> (pt)? </rng:param>
        </rng:data>
        <rng:data type= "token">
           <rng:param name= "pattern"> 0+(pt)? </rng:param>
        </rng:data>
        <rng:data type= "token">
           <rng:param name= "pattern"> 0+(\.0+)?(pt)? </rng:param>
        </rng:data>
        <rng:data type= "token">
           <rng:param name= "pattern"> \.0+(pt)? </rng:param>
        </rng:data>
     </rng:choice>
   </rng:except>
 </rng:data>
</content>
```

data.FONTSIZETERM

data.FONTSIZETERM Font size expressed as terms.	
Module	MEI
Used by	data.FONTSIZE
Allowed values	**xx-small** Relative font size. **x-small** Relative font size. **small** Relative font size. **medium** Relative font size. **large** Relative font size. **x-large** Relative font size. **xx-large** Relative font size. **smaller** Relative font size. **larger** Relative font size.
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "xx-small">
     <desc>Relative font size. </desc>
   </valItem>
   <valItem ident= "x-small">
     <desc>Relative font size. </desc>
   </valItem>
   <valItem ident= "small">
     <desc>Relative font size. </desc>
   </valItem>
   <valItem ident= "medium">
     <desc>Relative font size. </desc>
   </valItem>
   <valItem ident= "large">
     <desc>Relative font size. </desc>
   </valItem>
   <valItem ident= "x-large">
     <desc>Relative font size. </desc>
   </valItem>
   <valItem ident= "xx-large">
     <desc>Relative font size. </desc>
```

```
    </valItem>
    <valItem ident= "smaller">
      <desc>Relative font size. </desc>
    </valItem>
    <valItem ident= "larger">
      <desc>Relative font size. </desc>
    </valItem>
  </valList>
</content>
```

data.FONTSTYLE

data.FONTSTYLE Font style (for text) attribute values.

Module	MEI
Used by	att.lyricstyle (@lyric.style), att.textstyle (@text.style), att.typography (@fontstyle)
Allowed values	**italic** Text slants to right. **normal** Unadorned. **oblique** Text slants to the left.
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "italic">
     <desc>Text slants to right. </desc>
   </valItem>
   <valItem ident= "normal">
     <desc>Unadorned. </desc>
   </valItem>
   <valItem ident= "oblique">
     <desc>Text slants to the left. </desc>
   </valItem>
 </valList>
</content>
```

data.FONTWEIGHT

data.FONTWEIGHT Font weight (for text) attribute values.

Module	MEI
Used by	att.lyricstyle (@lyric.weight), att.textstyle (@text.weight), att.typography (@fontweight)
Allowed values	**bold** **normal**
Declaration	<content> <valList type= "closed"> <valItem ident= "bold"/> <valItem ident= "normal"/> </valList> </content>

data.FRBRRELATIONSHIP

data.FRBRRELATIONSHIP Relationships between FRBR entities.	
Module	MEI.frbr
Used by	att.rel (@rel)
Allowed values	**hasAbridgement** Target is an abridgement, condensation, or expurgation of the current entity. **isAbridgementOf** Reciprocal relationship of hasAbridgement. **hasAdaptation** Target is an adaptation, paraphrase, free translation, variation (music), harmonization (music), or fantasy (music) of the current entity. **isAdaptationOf** Reciprocal relationship of hasAdaptation. **hasAlternate** Target is an alternate format or simultaneously released edition of the current entity. **isAlternateOf** Reciprocal relationship of hasAlternate. **hasArrangement** Target is an arrangement (music) of the current entity. **isArrangementOf** Reciprocal relationship of hasArrangement.

hasComplement	Target is a cadenza, libretto, choreography, ending for unfinished work, incidental music, or musical setting of a text of the current entity.
isComplementOf	Reciprocal relationship of hasComplement.
hasEmbodiment	Target is a physical embodiment of the current abstract entity; describes the expression-to-manifestation relationship.
isEmbodimentOf	Reciprocal relationship of hasEmbodiment.
hasExemplar	Target is an exemplar of the class of things represented by the current entity; describes the manifestation-to-item relationship.
isExemplarOf	Reciprocal relationship of hasExamplar.
hasImitation	Target is a parody, imitation, or travesty of the current entity.
isImitationOf	Reciprocal relationship of hasImitation.
hasPart	Target is a chapter, section, part, etc.; volume of a multivolume manifestation; volume/issue of serial; intellectual part of a multipart work; illustration for a text; sound aspect of a film; soundtrack for a film on separate medium; soundtrack for a film embedded in film; monograph in a series; physical component of a particular copy; the binding of a book of the current entity.
isPartOf	Reciprocal relationship of hasPart.
hasRealization	Target is a realization of the current entity; describes the work-to-expression relationship.
isRealizationOf	Reciprocal relationship of hasRealization.
hasReconfiguration	Target has been reconfigured: bound with, split into, extracted from the current entity.
isReconfigurationOf	Reciprocal relationship of hasReconfiguration.
hasReproduction	Target is a reproduction, microreproduction, macroreproduction, reprint, photo-offset reprint, or facsimile of the current entity.
isReproductionOf	Reciprocal relationship of hasReproduction.

	hasRevision Target is a revised edition, enlarged edition, or new state (graphic) of the current entity. **isRevisionOf** Reciprocal relationship of hasRevision. **hasSuccessor** Target is a sequel or succeeding work of the current entity. **isSuccessorOf** Reciprocal relationship of hasSuccessor. **hasSummarization** Target is a digest or abstract of the current entity. **isSummarizationOf** Reciprocal relationship of hasSummarization. **hasSupplement** Target is an index, concordance, teacher's guide, gloss, supplement, or appendix of the current entity. **isSupplementOf** Reciprocal relationship of hasSupplement. **hasTransformation** Target is a dramatization, novelization, versification, or screenplay of the current entity. **isTransformationOf** Reciprocal relationship of hasTransformation. **hasTranslation** Target is a literal translation or transcription (music) of the current entity. **isTranslationOf** Reciprocal relationship of hasTranslation.
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "hasAbridgement">
     <desc>Target is an abridgement, condensation, or expurgation of the
     current entity. </desc>
   </valItem>
   <valItem ident= "isAbridgementOf">
     <desc>Reciprocal relationship of hasAbridgement. </desc>
   </valItem>
   <valItem ident= "hasAdaptation">
     <desc>Target is an adaptation, paraphrase, free translation,
     variation (music), harmonization (music), or fantasy (music) of the
     current entity. </desc>
   </valItem>
   <valItem ident= "isAdaptationOf">
     <desc>Reciprocal relationship of hasAdaptation. </desc>
   </valItem>
   <valItem ident= "hasAlternate">
```

```
    <desc>Target is an alternate format or simultaneously released
    edition of the current entity. </desc>
  </valItem>
  <valItem ident= "isAlternateOf">
    <desc>Reciprocal relationship of hasAlternate. </desc>
  </valItem>
  <valItem ident= "hasArrangement">
    <desc>Target is an arrangement (music) of the current entity.
    </desc>
  </valItem>
  <valItem ident= "isArrangementOf">
    <desc>Reciprocal relationship of hasArrangement. </desc>
  </valItem>
  <valItem ident= "hasComplement">
    <desc>Target is a cadenza, libretto, choreography, ending for
    unfinished work, incidental music, or musical setting of a text of
    the current entity. </desc>
  </valItem>
  <valItem ident= "isComplementOf">
    <desc>Reciprocal relationship of hasComplement. </desc>
  </valItem>
  <valItem ident= "hasEmbodiment">
    <desc>Target is a physical embodiment of the current abstract
    entity; describes the expression-to-manifestation relationship.
    </desc>
  </valItem>
  <valItem ident= "isEmbodimentOf">
    <desc>Reciprocal relationship of hasEmbodiment. </desc>
  </valItem>
  <valItem ident= "hasExemplar">
    <desc>Target is an exemplar of the class of things represented by
    the current entity; describes the manifestation-to-item
    relationship. </desc>
  </valItem>
  <valItem ident= "isExemplarOf">
    <desc>Reciprocal relationship of hasExamplar. </desc>
  </valItem>
  <valItem ident= "hasImitation">
    <desc>Target is a parody, imitation, or travesty of the current
    entity. </desc>
  </valItem>
  <valItem ident= "isImitationOf">
    <desc>Reciprocal relationship of hasImitation. </desc>
  </valItem>
  <valItem ident= "hasPart">
    <desc>Target is a chapter, section, part, etc.; volume of a
    multivolume manifestation; volume/issue of serial; intellectual
    part of a multipart work; illustration for a text; sound aspect of
    a film; soundtrack for a film on separate medium; soundtrack for a
```

```
    film embedded in film; monograph in a series; physical component of
    a particular copy; the binding of a book of the current entity.
    </desc>
  </valItem>
  <valItem ident= "isPartOf">
    <desc>Reciprocal relationship of hasPart. </desc>
  </valItem>
  <valItem ident= "hasRealization">
    <desc>Target is a realization of the current entity; describes the
    work-to-expression relationship. </desc>
  </valItem>
  <valItem ident= "isRealizationOf">
    <desc>Reciprocal relationship of hasRealization. </desc>
  </valItem>
  <valItem ident= "hasReconfiguration">
    <desc>Target has been reconfigured: bound with, split into,
    extracted from the current entity. </desc>
  </valItem>
  <valItem ident= "isReconfigurationOf">
    <desc>Reciprocal relationship of hasReconfiguration. </desc>
  </valItem>
  <valItem ident= "hasReproduction">
    <desc>Target is a reproduction, microreproduction,
    macroreproduction, reprint, photo-offset reprint, or facsimile of
    the current entity. </desc>
  </valItem>
  <valItem ident= "isReproductionOf">
    <desc>Reciprocal relationship of hasReproduction. </desc>
  </valItem>
  <valItem ident= "hasRevision">
    <desc>Target is a revised edition, enlarged edition, or new state
    (graphic) of the current entity. </desc>
  </valItem>
  <valItem ident= "isRevisionOf">
    <desc>Reciprocal relationship of hasRevision. </desc>
  </valItem>
  <valItem ident= "hasSuccessor">
    <desc>Target is a sequel or succeeding work of the current entity.
    </desc>
  </valItem>
  <valItem ident= "isSuccessorOf">
    <desc>Reciprocal relationship of hasSuccessor. </desc>
  </valItem>
  <valItem ident= "hasSummarization">
    <desc>Target is a digest or abstract of the current entity. </desc>
  </valItem>
  <valItem ident= "isSummarizationOf">
    <desc>Reciprocal relationship of hasSummarization. </desc>
  </valItem>
```

```
    <valItem ident= "hasSupplement">
      <desc>Target is an index, concordance, teacher's guide, gloss,
      supplement, or appendix of the current entity. </desc>
    </valItem>
    <valItem ident= "isSupplementOf">
      <desc>Reciprocal relationship of hasSupplement. </desc>
    </valItem>
    <valItem ident= "hasTransformation">
      <desc>Target is a dramatization, novelization, versification, or
      screenplay of the current entity. </desc>
    </valItem>
    <valItem ident= "isTransformationOf">
      <desc>Reciprocal relationship of hasTransformation. </desc>
    </valItem>
    <valItem ident= "hasTranslation">
      <desc>Target is a literal translation or transcription (music) of
      the current entity. </desc>
    </valItem>
    <valItem ident= "isTranslationOf">
      <desc>Reciprocal relationship of hasTranslation. </desc>
    </valItem>
  </valList>
</content>
```

data.FRET

data.FRET In a guitar chord diagram, the fret where the finger should be placed. Since guitar chord diagrams are limited to the range of frets that fall under the hand, the value here is also limited. The pos (position) attribute on the chordDef element must be used to indicate at which fret this range begins.

Module	MEI
Used by	att.fretlocation (@fret)
Declaration	

```
<content>
 <rng:data type= "positiveInteger">
   <rng:param name= "minInclusive"> 1 </rng:param>
   <rng:param name= "maxInclusive"> 5 </rng:param>
 </rng:data>
</content>
```

data.FRETNUMBER

data.FRETNUMBER In string tablature, the fret number. The value '0' (zero) indicates the open string.	
Module	MEI
Used by	att.note.ges.tablature (@tab.fret)

Declaration	`<content>`
	`<rng:data type= "nonNegativeInteger"/>`
	`</content>`

data.GLISSANDO

data.GLISSANDO Analytical glissando attribute values.	
Module	MEI
Used by	att.note.ges.cmn (@gliss)
Allowed values	**i** First note/chord in glissando. **m** Note/chord that's neither first nor last in glissando. **t** Last note in glissando.

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "i">`
	`<desc>First note/chord in glissando. </desc>`
	`</valItem>`
	`<valItem ident= "m">`
	`<desc>Note/chord that's neither first nor last in glissando.`
	`</desc>`
	`</valItem>`
	`<valItem ident= "t">`
	`<desc>Last note in glissando. </desc>`
	`</valItem>`
	`</valList>`
	`</content>`

data.GRACE

data.GRACE Do grace notes get time from the current (acc) or previous (unacc) one?.	
Module	MEI
Used by	att.graced (@grace)
Allowed values	**acc** Time "stolen" from following note. **unacc** Time "stolen" from previous note. **unknown** No interpretation regarding performed value of grace note.
Declaration	`<content> <valList type= "closed"> <valItem ident= "acc"> <desc>Time "stolen" from following note. </desc> </valItem> <valItem ident= "unacc"> <desc>Time "stolen" from previous note. </desc> </valItem> <valItem ident= "unknown"> <desc>No interpretation regarding performed value of grace note. </desc> </valItem> </valList> </content>`

data.HEADSHAPE

data.HEADSHAPE Note head shapes.	
Module	MEI
Used by	att.noteheads (@head.shape)
Declaration	`<content> <alternate maxOccurs= "1" minOccurs= "1"> <macroRef key= " data.HEADSHAPE.list" /> </content>`

	<macroRef key=" data.NMTOKEN" /> </alternate> </content>

data.HEADSHAPE.list

data.HEADSHAPE.list Enumerated note head shapes.	
Module	MEI
Used by	data.HEADSHAPE
Allowed values	**quarter** Filled, rotated oval (Unicode 1D158). **half** Unfilled, rotated oval (Unicode 1D157). **whole** Unfilled, rotated oval (Unicode 1D15D). **backslash** Unfilled backslash (~ reflection of Unicode 1D10D). **circle** Unfilled circle (Unicode 25CB). **+** Plus sign (Unicode 1D144). **diamond** Unfilled diamond (Unicode 1D1B9). **isotriangle** Unfilled isosceles triangle (Unicode 1D148). **oval** Unfilled, unrotated oval (Unicode 2B2D). **piewedge** Unfilled downward-pointing wedge (Unicode 1D154). **rectangle** Unfilled rectangle (Unicode 25AD). **rtriangle** Unfilled right triangle (Unicode 1D14A). **semicircle** Unfilled semi-circle (Unicode 1D152). **slash** Unfilled slash (~ Unicode 1D10D). **square** Unfilled square (Unicode 1D146). **x** X (Unicode 1D143).

Declaration

```
<content>
 <valList type= "semi">
   <valItem ident= "quarter">
     <desc>Filled, rotated oval (Unicode 1D158). </desc>
   </valItem>
   <valItem ident= "half">
     <desc>Unfilled, rotated oval (Unicode 1D157). </desc>
   </valItem>
   <valItem ident= "whole">
     <desc>Unfilled, rotated oval (Unicode 1D15D). </desc>
   </valItem>
   <valItem ident= "backslash">
     <desc>Unfilled backslash (~ reflection of Unicode 1D10D). </desc>
   </valItem>
   <valItem ident= "circle">
     <desc>Unfilled circle (Unicode 25CB). </desc>
   </valItem>
   <valItem ident= "+">
     <desc>Plus sign (Unicode 1D144). </desc>
   </valItem>
   <valItem ident= "diamond">
     <desc>Unfilled diamond (Unicode 1D1B9). </desc>
   </valItem>
   <valItem ident= "isotriangle">
     <desc>Unfilled isosceles triangle (Unicode 1D148). </desc>
   </valItem>
   <valItem ident= "oval">
     <desc>Unfilled, unrotated oval (Unicode 2B2D). </desc>
   </valItem>
   <valItem ident= "piewedge">
     <desc>Unfilled downward-pointing wedge (Unicode 1D154). </desc>
   </valItem>
   <valItem ident= "rectangle">
     <desc>Unfilled rectangle (Unicode 25AD). </desc>
   </valItem>
   <valItem ident= "rtriangle">
     <desc>Unfilled right triangle (Unicode 1D14A). </desc>
   </valItem>
   <valItem ident= "semicircle">
     <desc>Unfilled semi-circle (Unicode 1D152). </desc>
   </valItem>
   <valItem ident= "slash">
     <desc>Unfilled slash (~ Unicode 1D10D). </desc>
   </valItem>
   <valItem ident= "square">
     <desc>Unfilled square (Unicode 1D146). </desc>
   </valItem>
   <valItem ident= "x">
     <desc>X (Unicode 1D143). </desc>
```

	`</valItem> </valList> </content>`

data.HORIZONTALALIGNMENT

data.HORIZONTALALIGNMENT Data values for attributes that capture horizontal alignment.	
Module	MEI
Used by	att.horizontalalign (@halign), pgFoot/@halign, pgFoot2/@halign, pgHead/@halign, pgHead2/@halign
Allowed values	**left** Left aligned. **right** Right aligned. **center** Centered. **justify** Left and right aligned.
Declaration	`<content> <valList type= "closed"> <valItem ident= "left"> <desc>Left aligned. </desc> </valItem> <valItem ident= "right"> <desc>Right aligned. </desc> </valItem> <valItem ident= "center"> <desc>Centered. </desc> </valItem> <valItem ident= "justify"> <desc>Left and right aligned. </desc> </valItem> </valList> </content>`

data.IDREF

data.IDREF An ID reference.

Module	MEI
Used by	
Declaration	<content> <rng:data type= "IDREF"/> </content>

data.INEUMEFORM

data.INEUMEFORM Interrupted neume forms.	
Module	MEI
Used by	att.ineume.log (@form)
Allowed values	**liquescent1** **liquescent2** **tied** **tiedliquescent1** **tiedliquescent2**
Declaration	<content> <valList type= "closed"> <valItem ident= "liquescent1"/> <valItem ident= "liquescent2"/> <valItem ident= "tied"/> <valItem ident= "tiedliquescent1"/> <valItem ident= "tiedliquescent2"/> </valList> </content>

data.INEUMENAME

data.INEUMENAME Interrupted neume, i.e. neume written as 2 or more sub-neumes.

Module	MEI
Used by	att.ineume.log (@name)
Allowed values	**pessubpunctis** **climacus** **scandicus** **bistropha** **tristropha** **pressusminor** **pressusmaior**
Declaration	<content> <valList type= "closed"> <valItem ident= "pessubpunctis"/> <valItem ident= "climacus"/> <valItem ident= "scandicus"/> <valItem ident= "bistropha"/> <valItem ident= "tristropha"/> <valItem ident= "pressusminor"/> <valItem ident= "pressusmaior"/> </valList> </content>

data.INTERVAL.HARMONIC

data.INTERVAL.HARMONIC A token indicating diatonic interval quality and size.	
Module	MEI
Used by	att.intervalharmonic (@inth)
Declaration	<content> <rng:choice> <rng:data type= "token"> <rng:param name= "pattern"> [AdMmP][0-9]+ </rng:param> </rng:data>

	<rng:choice> </content>

data.INTERVAL.MELODIC

data.INTERVAL.MELODIC A token indicating direction of the interval but not its precise value, an indication of diatonic interval quality and size, or a decimal value in half steps. Decimal values are permitted to accommodate micro-tuning.	
Module	MEI
Used by	att.intervalmelodic (@intm)
Declaration	<content> <rng:choice> <rng:data type= "decimal"/> <rng:data type= "token"> <rng:param name= "pattern"> u|d|s </rng:param> </rng:data> <rng:data type= "token"> <rng:param name= "pattern"> (\+|\-)?[AdMmP][0-9]+ </rng:param> </rng:data> </rng:choice> </content>

data.ISODATE

data.ISODATE ISO date formats.	
Module	MEI
Used by	att.datable (@enddate)
Declaration	<content> <rng:choice> <rng:data type= "date"/> <rng:data type= "gYear"/>

```
    <rng:data type= "gMonth"/>
    <rng:data type= "gDay"/>
    <rng:data type= "gYearMonth"/>
    <rng:data type= "gMonthDay"/>
    <rng:data type= "time"/>
    <rng:data type= "dateTime"/>
    <rng:data type= "token">
      <rng:param name= "pattern"> [0-9.,DHMPRSTWYZ/:+\-]+ </rng:param>
    </rng:data>
  </rng:choice>
</content>
```

data.ISOTIME

data.ISOTIME ISO 24-hour time format: HH:MM:SS.ss, i.e., [0-9][0-9]:[0-9][0-9]:[0-9][0-9](\.?[0-9]*)?.	
Module	MEI
Used by	att.timestamp.performed (@tstamp.real)
Declaration	<content> <rng:data type= "time"/> </content>

data.KEYSIGNATURE

data.KEYSIGNATURE Key signature may be indicated by a value showing where the key is in the circle of fifths. Mixed key signatures, e.g. those consisting of a mixture of flats and sharps, and key signatures with unorthodox placement of the accidentals (Read, p. 143) must be indicated by setting the key.sig attribute to 'mixed' and providing explicit key signature information in the key.sig.mixed attribute.	
Module	MEI
Used by	att.keySig.log (@sig), att.keySigDefault.log (@key.sig)
Declaration	<content> <rng:data type= "token">

	<rng:param name= "pattern"> mixed|0|([1-9]|1[0-2])[f|s] </rng:param> </rng:data> </content>

data.KEYSIGTOKEN

data.KEYSIGTOKEN A token describing the pitch name, inflection, and octave number of an altered pitch in a key signature.	
Module	MEI
Used by	att.keySig.log (@sig.mixed), att.keySigDefault.log (@key.sig.mixed)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> [a-g][0-9](s|f|ss|x|ff|xs|sx|ts|tf|n|nf|ns|su|sd|fu|fd|nu|nd |1qf|3qf|1qs|3qs) </rng:param> </rng:data> </content>

data.LAYERSCHEME

data.LAYERSCHEME Indicates how stems should be drawn when more than one layer is present and stem directions are not indicated on the notes/chords themselves. '1' indicates that there is only a single layer on a staff. '2o' means there are two layers with opposing stems. '2f' indicates two 'free' layers; that is, opposing stems will be drawn unless one of the layers has 'space'. In that case, stem direction in the remaining layer will be determined as if there were only one layer. '3o' and '3f' are analogous to '2o' and '2f' with three layers allowed.	
Module	MEI
Used by	att.staffDef.vis (@layerscheme)
Allowed values	**1** Single layer. **2o** Two layers with opposing stems. **2f** Two layers with 'floating' stems.

	3o **3f**

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "1">`
	`<desc>Single layer. </desc>`
	`</valItem>`
	`<valItem ident= "2o">`
	`<desc>Two layers with opposing stems. </desc>`
	`</valItem>`
	`<valItem ident= "2f">`
	`<desc>Two layers with 'floating' stems. </desc>`
	`</valItem>`
	`<valItem ident= "3o"/>`
	`<valItem ident= "3f"/>`
	`</valList>`
	`</content>`

data.LIGATUREFORM

data.LIGATUREFORM Ligature forms.	
Module	MEI
Used by	att.ligature.log (@form)
Allowed values	**recta** Notes are "squeezed" together. **obliqua** Individual notes are replaced by an oblique figure.

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "recta">`
	`<desc>Notes are "squeezed" together. </desc>`
	`</valItem>`
	`<valItem ident= "obliqua">`
	`<desc>Individual notes are replaced by an oblique figure. </desc>`
	`</valItem>`
	`</valList>`
	`</content>`

data.LINEFORM

data.LINEFORM Visual form of a line.	
Module	MEI
Used by	att.curverend (@lform), att.line.vis (@form), att.linerend.base (@lform), att.slurrend (@slur.lform), att.tierend (@tie.lform)
Allowed values	**dashed** Dashed line. **dotted** Dotted line. **solid** Straight, uninterrupted line. **wavy** Undulating line.
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "dashed">
     <desc>Dashed line. </desc>
   </valItem>
   <valItem ident= "dotted">
     <desc>Dotted line. </desc>
   </valItem>
   <valItem ident= "solid">
     <desc>Straight, uninterrupted line. </desc>
   </valItem>
   <valItem ident= "wavy">
     <desc>Undulating line. </desc>
   </valItem>
 </valList>
</content>
```

data.LINESTARTENDSYMBOL

data.LINESTARTENDSYMBOL Symbol that may begin/end a line.	
Module	MEI
Used by	att.line.vis (@endsym), att.linerend (@lendsym)
Allowed values	**angledown** 90 degree turn down (similar to Unicode 231D at end of line, 231C at start).

	angleup 90 degree turn up (similar to Unicode 231F at end of line, 231E at start). **angleright** 90 degree turn right (syntactic sugar for "angledown" for vertical or angled lines). **angleleft** 90 degree turn left (syntactic sugar for "angleup" for vertical or angled lines). **arrow** Filled, triangular arrowhead (similar to SMuFL U+EB78). **arrowopen** Open triangular arrowhead (similar to SMuFL U+EB8A). **arrowwhite** Unfilled, triangular arrowhead (similar to SMuFL U+EB82). **harpoonleft** Harpoon-shaped arrowhead left of line (similar to arrowhead of Unicode U+21BD). **harpoonright** Harpoon-shaped arrowhead right of line (similar to arrowhead of Unicode U+21BC). **none** No start symbol.
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "angledown">
     <desc>90 degree turn down (similar to Unicode 231D at end of line,
     231C at start). </desc>
   </valItem>
   <valItem ident= "angleup">
     <desc>90 degree turn up (similar to Unicode 231F at end of line,
     231E at start). </desc>
   </valItem>
   <valItem ident= "angleright">
     <desc>90 degree turn right (syntactic sugar for "angledown" for
     vertical or angled lines). </desc>
   </valItem>
   <valItem ident= "angleleft">
     <desc>90 degree turn left (syntactic sugar for "angleup" for
     vertical or angled lines). </desc>
   </valItem>
   <valItem ident= "arrow">
     <desc>Filled, triangular arrowhead (similar to SMuFL U+EB78).
     </desc>
   </valItem>
```

```
    <valItem ident= "arrowopen">
      <desc>Open triangular arrowhead (similar to SMuFL U+EB8A). </desc>
    </valItem>
    <valItem ident= "arrowwhite">
      <desc>Unfilled, triangular arrowhead (similar to SMuFL U+EB82).
      </desc>
    </valItem>
    <valItem ident= "harpoonleft">
      <desc>Harpoon-shaped arrowhead left of line (similar to arrowhead
      of Unicode U+21BD). </desc>
    </valItem>
    <valItem ident= "harpoonright">
      <desc>Harpoon-shaped arrowhead right of line (similar to arrowhead
      of Unicode U+21BC). </desc>
    </valItem>
    <valItem ident= "none">
      <desc>No start symbol. </desc>
    </valItem>
  </valList>
</content>
```

data.LINESTARTENDSYMBOLSIZE

data.LINESTARTENDSYMBOLSIZE Relative size of symbol that may begin/end a line.	
Module	MEI
Used by	att.line.vis (@endsymsize), att.linerend (@lendsymsize)
Declaration	

```
<content>
 <rng:data type= "positiveInteger">
   <rng:param name= "minInclusive"> 1 </rng:param>
   <rng:param name= "maxInclusive"> 9 </rng:param>
 </rng:data>
</content>
```

data.LINEWIDTH

data.LINEWIDTH Datatype of line width measurements.	
Module	MEI

Used by	att.curverend (@lwidth), att.line.vis (@width), att.linerend.base (@lwidth), att.slurrend (@slur.lwidth), att.tierend (@tie.lwidth)
Declaration	<content> <alternate maxOccurs= "1" minOccurs= "1"> <macroRef key= " data.LINEWIDTHTERM" /> <macroRef key= " data.MEASUREMENTABS" /> </alternate> </content>

data.LINEWIDTHTERM

data.LINEWIDTHTERM Relative width of a line.	
Module	MEI
Used by	data.LINEWIDTH
Allowed values	**narrow** Default line width. **medium** Twice as wide as narrow. **wide** Twice as wide as medium.
Declaration	<content> <valList type= "closed"> <valItem ident= "narrow"> <desc>Default line width. </desc> </valItem> <valItem ident= "medium"> <desc>Twice as wide as narrow. </desc> </valItem> <valItem ident= "wide"> <desc>Twice as wide as medium. </desc> </valItem> </valList> </content>

data.MEASUREBEAT

data.MEASUREBEAT A count of measures plus a beat location, i.e., [0-9]+m *\+ *[0-9]+(\.?[0-9]*)?. The measure count is the number of barlines crossed by the event, while the beat location is a timestamp expressed as a beat with an optional fractional part. For example, "1m+3.5" indicates a point in the next measure on the second half of beat 3. The measure number must be in the range of 0 to the number of remaining measures, while the beat number must be in the range from 0 to the numerator of the time signature plus 1. For example, in 6/8 the beat number must be within the range from 0 (the left barline) to 7 (the right barline). A value with a measure number of "0", such as "0m+2", indicates a point within the current measure.	
Module	MEI
Used by	att.origin.timestamp.musical (@origin.tstamp2), att.timestamp2.musical (@tstamp2)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> ([0-9]+m\s*\+\s*)?[0-9]+(\.?[0-9]*)? </rng:param> </rng:data> </content>

data.MEASUREBEATOFFSET

data.MEASUREBEATOFFSET A count of measures plus a beat location, i.e., (\+|-)?[0-9]+m\+[0-9]+(\.?[0-9]*)?. The measure count is the number of barlines crossed by the event, while the beat location is a timestamp expressed as a beat with an optional fractional part. The measure number must be in the range of preceding measures to the number of remaining measures. A value with a positive measure number, such as "1m+3", indicates a point in the following measure, while a value with a negative measure number, such as "-1m+3", marks a point in the preceding measure. The beat number must be in the range from 0 to the numerator of the time signature plus 1. For example, in 6/8 the beat number must be within the range from 0 (the left barline) to 7 (the right barline). A value with a measure number of "0", such as "0m+2", indicates a point within the current measure.	
Module	MEI
Used by	att.origin.timestamp.musical (@origin.tstamp)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern">

	(\+|-)?[0-9]+m\+[0-9]+(\.[0-9]*)? </rng:param> </rng:data> </content>

data.MEASUREMENTABS

data.MEASUREMENTABS Measurement expressed in real-world (e.g., centimeters, millimeters, inches, points, picas, or pixels) or virtual units (vu). 'vu' is the default value. Unlike data.MEASUREMENTREL, which may be used to express relative measures, only positive values are allowed.	
Module	MEI
Used by	data.LINEWIDTH, att.hairpin.vis (@opening), att.height (@height), att.pages (@page.height), att.stems (@stem.len), att.systems (@system.leftmar), att.width (@width)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> (\+)?\d+(\.\d+)?(cm|mm|in|pt|pc|px|vu)? </rng:param> </rng:data> </content>

data.MEASUREMENTREL

data.MEASUREMENTREL Measurement expressed in real-world (e.g., centimeters, millimeters, inches, points, picas, or pixels) or virtual units (vu). 'vu' is the default value. Unlike data.MEASUREMENTABS, in which only positive values are allowed, both positive and negative values are permitted.	
Module	MEI
Used by	att.distances (@dynam.dist), att.lyricstyle (@lyric.align), att.spacing (@spacing.staff), att.staffDef.vis (@spacing), att.visualoffset.ho (@ho), att.visualoffset.vo (@vo), att.visualoffset2.ho (@startho), att.visualoffset2.vo (@startvo)

Declaration	

```
<content>
 <rng:data type= "token">
   <rng:param name= "pattern">
     (\+|-)?\d+(\.\d+)?(cm|mm|in|pt|pc|px|vu)?
   </rng:param>
 </rng:data>
</content>
```

data.MELODICFUNCTION

data.MELODICFUNCTION Indication of melodic function, i.e., anticipation, lower neighbor, escape tone, etc.	
Module	MEI
Used by	att.melodicfunction (@mfunc)
Allowed values	**aln** Accented lower neighbor. **ant** Anticipation. **app** Appogiatura. **apt** Accented passing tone. **arp** Arpeggio tone (chordal tone). **arp7** Arpeggio tone (7th added to the chord). **aun** Accented upper neighbor. **chg** Changing tone. **cln** Chromatic lower neighbor. **ct** Chord tone (i.e., not an embellishment). **ct7** Chord tone (7th added to the chord). **cun** Chromatic upper neighbor. **cup** Chromatic unaccented passing tone. **et** Escape tone. **ln** Lower neighbor. **ped** Pedal tone.

	rep Repeated tone. **ret** Retardation. **23ret** 2-3 retardation. **78ret** 7-8 retardation. **sus** Suspension. **43sus** 4-3 suspension. **98sus** 9-8 suspension. **76sus** 7-6 suspension. **un** Upper neighbor. **un7** Upper neighbor (7th added to the chord). **upt** Unaccented passing tone. **upt7** Unaccented passing tone (7th added to the chord).
Declaration	

```
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   <valItem ident= "app">
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   <valItem ident= "arp">
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   <valItem ident= "arp7">
     <desc>Arpeggio tone (7th added to the chord). </desc>
   </valItem>
   <valItem ident= "aun">
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   </valItem>
   <valItem ident= "chg">
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```
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    <valItem ident= "ct">
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    </valItem>
    <valItem ident= "ct7">
      <desc>Chord tone (7th added to the chord). </desc>
    </valItem>
    <valItem ident= "cun">
      <desc>Chromatic upper neighbor. </desc>
    </valItem>
    <valItem ident= "cup">
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    <valItem ident= "et">
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    </valItem>
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    </valItem>
    <valItem ident= "98sus">
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    </valItem>
    <valItem ident= "76sus">
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```

```
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    <valItem ident= "un">
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    <valItem ident= "upt">
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    <valItem ident= "upt7">
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```

data.MENSURATIONSIGN

data.MENSURATIONSIGN Mensuration attribute values.	
Module	MEI
Used by	att.mensur.log (@sign), att.mensural.log (@mensur.sign)
Allowed values	**C** Tempus imperfectum. **O** Tempus perfectum.
Declaration	

```
<content>
  <valList type= "closed">
    <valItem ident= "C">
      <desc>Tempus imperfectum. </desc>
    </valItem>
    <valItem ident= "O">
      <desc>Tempus perfectum. </desc>
    </valItem>
  </valList>
</content>
```

data.METERSIGN

data.METERSIGN Meter.sym attribute values for CMN.	
Module	MEI
Used by	att.meterSig.log (@sym), att.meterSigDefault.vis (@meter.sym)
Allowed values	**common** Common time; i.e. 4/4. **cut** Cut time; i.e. 2/2.
Declaration	`<content> <valList type= "closed"> <valItem ident= "common"> <desc>Common time; i.e. 4/4. </desc> </valItem> <valItem ident= "cut"> <desc>Cut time; i.e. 2/2. </desc> </valItem> </valList> </content>`

data.MIDIBPM

data.MIDIBPM Tempo expressed as "beats" per minute, where "beat" is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*.	
Module	MEI
Used by	att.miditempo (@midi.bpm)
Declaration	`<content> <rng:data type= "positiveInteger"/> </content>`

data.MIDICHANNEL

data.MIDICHANNEL MIDI channel numbers.

Module	MEI
Used by	att.channelized (@midi.channel), chan/@num
Declaration	<content> <rng:data type= "positiveInteger"> <rng:param name= "maxInclusive"> 16 </rng:param> </rng:data> </content>

data.MIDIMSPB

data.MIDIMSPB Tempo expressed as microseconds per "beat", where "beat" is always defined as a quarter note, *not the numerator of the time signature or the metronomic indication*.	
Module	MEI
Used by	att.miditempo (@midi.mspb)
Declaration	<content> <rng:data type= "positiveInteger"/> </content>

data.MIDINAMES

data.MIDINAMES General MIDI instrument names.	
Module	MEI
Used by	att.midiinstrument (@midi.instrname)
Allowed values	**Acoustic_Grand_Piano** Program #0. **Bright_Acoustic_Piano** Program #1. **Electric_Grand_Piano** Program #2. **Honky-tonk_Piano** Program #3. **Electric_Piano_1** Program #4.

	Electric_Piano_2 Program #5. **Harpsichord** Program #6. **Clavi** Program #7. **Celesta** Program #8. **Glockenspiel** Program #9. **Music_Box** Program #10. **Vibraphone** Program #11. **Marimba** Program #12. **Xylophone** Program #13. **Tubular_Bells** Program #14. **Dulcimer** Program #15. **Drawbar_Organ** Program #16. **Percussive_Organ** Program #17. **Rock_Organ** Program #18. **Church_Organ** Program #19. **Reed_Organ** Program #20. **Accordion** Program #21. **Harmonica** Program #22. **Tango_Accordion** Program #23. **Acoustic_Guitar_nylon** Program #24. **Acoustic_Guitar_steel** Program #25. **Electric_Guitar_jazz** Program #26. **Electric_Guitar_clean** Program #27. **Electric_Guitar_muted** Program #28. **Overdriven_Guitar** Program #29. **Distortion_Guitar** Program #30. **Guitar_harmonics** Program #31. **Acoustic_Bass** Program #32.

	Electric_Bass_finger Program #33.
	Electric_Bass_pick Program #34.
	Fretless_Bass Program #35.
	Slap_Bass_1 Program #36.
	Slap_Bass_2 Program #37.
	Synth_Bass_1 Program #38.
	Synth_Bass_2 Program #39.
	Violin Program #40.
	Viola Program #41.
	Cello Program #42.
	Contrabass Program #43.
	Tremolo_Strings Program #44.
	Pizzicato_Strings Program #45.
	Orchestral_Harp Program #46.
	Timpani Program #47.
	String_Ensemble_1 Program #48.
	String_Ensemble_2 Program #49.
	SynthStrings_1 Program #50.
	SynthStrings_2 Program #51.
	Choir_Aahs Program #52.
	Voice_Oohs Program #53.
	Synth_Voice Program #54.
	Orchestra_Hit Program #55.
	Trumpet Program #56.
	Trombone Program #57.
	Tuba Program #58.
	Muted_Trumpet Program #59.
	French_Horn Program #60.

	Brass_Section Program #61.
	SynthBrass_1 Program #62.
	SynthBrass_2 Program #63.
	Soprano_Sax Program #64.
	Alto_Sax Program #65.
	Tenor_Sax Program #66.
	Baritone_Sax Program #67.
	Oboe Program #68.
	English_Horn Program #69.
	Bassoon Program #70.
	Clarinet Program #71.
	Piccolo Program #72.
	Flute Program #73.
	Recorder Program #74.
	Pan_Flute Program #75.
	Blown_Bottle Program #76.
	Shakuhachi Program #77.
	Whistle Program #78.
	Ocarina Program #79.
	Lead_1_square Program #80.
	Lead_2_sawtooth Program #81.
	Lead_3_calliope Program #82.
	Lead_4_chiff Program #83.
	Lead_5_charang Program #84.
	Lead_6_voice Program #85.
	Lead_7_fifths Program #86.
	Lead_8_bass_and_lead Program #87.
	Pad_1_new_age Program #88.

	Pad_2_warm Program #89.
	Pad_3_polysynth Program #90.
	Pad_4_choir Program #91.
	Pad_5_bowed Program #92.
	Pad_6_metallic Program #93.
	Pad_7_halo Program #94.
	Pad_8_sweep Program #95.
	FX_1_rain Program #96.
	FX_2_soundtrack Program #97.
	FX_3_crystal Program #98.
	FX_4_atmosphere Program #99.
	FX_5_brightness Program #100.
	FX_6_goblins Program #101.
	FX_7_echoes Program #102.
	FX_8_sci-fi Program #103.
	Sitar Program #104.
	Banjo Program #105.
	Shamisen Program #106.
	Koto Program #107.
	Kalimba Program #108.
	Bagpipe Program #109.
	Fiddle Program #110.
	Shanai Program #111.
	Tinkle_Bell Program #112.
	Agogo Program #113.
	Steel_Drums Program #114.
	Woodblock Program #115.
	Taiko_Drum Program #116.

	Melodic_Tom Program #117. **Synth_Drum** Program #118. **Reverse_Cymbal** Program #119. **Guitar_Fret_Noise** Program #120. **Breath_Noise** Program #121. **Seashore** Program #122. **Bird_Tweet** Program #123. **Telephone_Ring** Program #124. **Helicopter** Program #125. **Applause** Program #126. **Gunshot** Program #127. **Acoustic_Bass_Drum** Key #35. **Bass_Drum_1** Key #36. **Side_Stick** Key #37. **Acoustic_Snare** Key #38. **Hand_Clap** Key #39. **Electric_Snare** Key #40. **Low_Floor_Tom** Key #41. **Closed_Hi_Hat** Key #42. **High_Floor_Tom** Key #43. **Pedal_Hi-Hat** Key #44. **Low_Tom** Key #45. **Open_Hi-Hat** Key #46. **Low-Mid_Tom** Key #47. **Hi-Mid_Tom** Key #48. **Crash_Cymbal_1** Key #49. **High_Tom** Key #50. **Ride_Cymbal_1** Key #51.

	Chinese_Cymbal Key #52.
	Ride_Bell Key #53.
	Tambourine Key #54.
	Splash_Cymbal Key #55.
	Cowbell Key #56.
	Crash_Cymbal_2 Key #57.
	Vibraslap Key #58.
	Ride_Cymbal_2 Key #59.
	Hi_Bongo Key #60.
	Low_Bongo Key #61.
	Mute_Hi_Conga Key #62.
	Open_Hi_Conga Key #63.
	Low_Conga Key #64.
	High_Timbale Key #65.
	Low_Timbale Key #66.
	High_Agogo Key #67.
	Low_Agogo Key #68.
	Cabasa Key #69.
	Maracas Key #70.
	Short_Whistle Key #71.
	Long_Whistle Key #72.
	Short_Guiro Key #73.
	Long_Guiro Key #74.
	Claves Key #75.
	Hi_Wood_Block Key #76.
	Low_Wood_Block Key #77.
	Mute_Cuica Key #78.
	Open_Cuica Key #79.

	Mute_Triangle Key #80. **Open_Triangle** Key #81.
Declaration	

```
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   <valItem ident= "Electric_Grand_Piano">
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   <valItem ident= "Electric_Piano_1">
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   <valItem ident= "Celesta">
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     <desc>Program #12. </desc>
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</valItem>
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</valItem>
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    <valItem ident= "Orchestra_Hit">
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    <valItem ident= "Trumpet">
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    <valItem ident= "Trombone">
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    <valItem ident= "Tuba">
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    <valItem ident= "Muted_Trumpet">
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    <valItem ident= "French_Horn">
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</valItem>
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    <valItem ident= "Pad_3_polysynth">
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    <valItem ident= "Pad_4_choir">
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    <valItem ident= "Pad_5_bowed">
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    </valItem>
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    <valItem ident= "Pad_7_halo">
      <desc>Program #94. </desc>
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    </valItem>
    <valItem ident= "FX_3_crystal">
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    <valItem ident= "FX_4_atmosphere">
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    <valItem ident= "FX_5_brightness">
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    <valItem ident= "FX_6_goblins">
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    <valItem ident= "Koto">
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    <valItem ident= "Kalimba">
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    <valItem ident= "Shanai">
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```

```
<valItem ident= "Tinkle_Bell">
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</valItem>
<valItem ident= "Agogo">
  <desc>Program #113. </desc>
</valItem>
<valItem ident= "Steel_Drums">
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</valItem>
<valItem ident= "Woodblock">
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</valItem>
<valItem ident= "Taiko_Drum">
  <desc>Program #116. </desc>
</valItem>
<valItem ident= "Melodic_Tom">
  <desc>Program #117. </desc>
</valItem>
<valItem ident= "Synth_Drum">
  <desc>Program #118. </desc>
</valItem>
<valItem ident= "Reverse_Cymbal">
  <desc>Program #119. </desc>
</valItem>
<valItem ident= "Guitar_Fret_Noise">
  <desc>Program #120. </desc>
</valItem>
<valItem ident= "Breath_Noise">
  <desc>Program #121. </desc>
</valItem>
<valItem ident= "Seashore">
  <desc>Program #122. </desc>
</valItem>
<valItem ident= "Bird_Tweet">
  <desc>Program #123. </desc>
</valItem>
<valItem ident= "Telephone_Ring">
  <desc>Program #124. </desc>
</valItem>
<valItem ident= "Helicopter">
  <desc>Program #125. </desc>
</valItem>
<valItem ident= "Applause">
  <desc>Program #126. </desc>
</valItem>
<valItem ident= "Gunshot">
  <desc>Program #127. </desc>
</valItem>
```

```
<!-- the following percussion sounds are available when channel is
set to 10 -->
<valItem ident= "Acoustic_Bass_Drum">
  <desc>Key #35. </desc>
</valItem>
<valItem ident= "Bass_Drum_1">
  <desc>Key #36. </desc>
</valItem>
<valItem ident= "Side_Stick">
  <desc>Key #37. </desc>
</valItem>
<valItem ident= "Acoustic_Snare">
  <desc>Key #38. </desc>
</valItem>
<valItem ident= "Hand_Clap">
  <desc>Key #39. </desc>
</valItem>
<valItem ident= "Electric_Snare">
  <desc>Key #40. </desc>
</valItem>
<valItem ident= "Low_Floor_Tom">
  <desc>Key #41. </desc>
</valItem>
<valItem ident= "Closed_Hi_Hat">
  <desc>Key #42. </desc>
</valItem>
<valItem ident= "High_Floor_Tom">
  <desc>Key #43. </desc>
</valItem>
<valItem ident= "Pedal_Hi-Hat">
  <desc>Key #44. </desc>
</valItem>
<valItem ident= "Low_Tom">
  <desc>Key #45. </desc>
</valItem>
<valItem ident= "Open_Hi-Hat">
  <desc>Key #46. </desc>
</valItem>
<valItem ident= "Low-Mid_Tom">
  <desc>Key #47. </desc>
</valItem>
<valItem ident= "Hi-Mid_Tom">
  <desc>Key #48. </desc>
</valItem>
<valItem ident= "Crash_Cymbal_1">
  <desc>Key #49. </desc>
</valItem>
<valItem ident= "High_Tom">
  <desc>Key #50. </desc>
```

```
    </valItem>
    <valItem ident= "Ride_Cymbal_1">
      <desc>Key #51. </desc>
    </valItem>
    <valItem ident= "Chinese_Cymbal">
      <desc>Key #52. </desc>
    </valItem>
    <valItem ident= "Ride_Bell">
      <desc>Key #53. </desc>
    </valItem>
    <valItem ident= "Tambourine">
      <desc>Key #54. </desc>
    </valItem>
    <valItem ident= "Splash_Cymbal">
      <desc>Key #55. </desc>
    </valItem>
    <valItem ident= "Cowbell">
      <desc>Key #56. </desc>
    </valItem>
    <valItem ident= "Crash_Cymbal_2">
      <desc>Key #57. </desc>
    </valItem>
    <valItem ident= "Vibraslap">
      <desc>Key #58. </desc>
    </valItem>
    <valItem ident= "Ride_Cymbal_2">
      <desc>Key #59. </desc>
    </valItem>
    <valItem ident= "Hi_Bongo">
      <desc>Key #60. </desc>
    </valItem>
    <valItem ident= "Low_Bongo">
      <desc>Key #61. </desc>
    </valItem>
    <valItem ident= "Mute_Hi_Conga">
      <desc>Key #62. </desc>
    </valItem>
    <valItem ident= "Open_Hi_Conga">
      <desc>Key #63. </desc>
    </valItem>
    <valItem ident= "Low_Conga">
      <desc>Key #64. </desc>
    </valItem>
    <valItem ident= "High_Timbale">
      <desc>Key #65. </desc>
    </valItem>
    <valItem ident= "Low_Timbale">
      <desc>Key #66. </desc>
    </valItem>
```

```
    <valItem ident= "High_Agogo">
      <desc>Key #67. </desc>
    </valItem>
    <valItem ident= "Low_Agogo">
      <desc>Key #68. </desc>
    </valItem>
    <valItem ident= "Cabasa">
      <desc>Key #69. </desc>
    </valItem>
    <valItem ident= "Maracas">
      <desc>Key #70. </desc>
    </valItem>
    <valItem ident= "Short_Whistle">
      <desc>Key #71. </desc>
    </valItem>
    <valItem ident= "Long_Whistle">
      <desc>Key #72. </desc>
    </valItem>
    <valItem ident= "Short_Guiro">
      <desc>Key #73. </desc>
    </valItem>
    <valItem ident= "Long_Guiro">
      <desc>Key #74. </desc>
    </valItem>
    <valItem ident= "Claves">
      <desc>Key #75. </desc>
    </valItem>
    <valItem ident= "Hi_Wood_Block">
      <desc>Key #76. </desc>
    </valItem>
    <valItem ident= "Low_Wood_Block">
      <desc>Key #77. </desc>
    </valItem>
    <valItem ident= "Mute_Cuica">
      <desc>Key #78. </desc>
    </valItem>
    <valItem ident= "Open_Cuica">
      <desc>Key #79. </desc>
    </valItem>
    <valItem ident= "Mute_Triangle">
      <desc>Key #80. </desc>
    </valItem>
    <valItem ident= "Open_Triangle">
      <desc>Key #81. </desc>
    </valItem>
  </valList>
</content>
```

data.MIDIVALUE

data.MIDIVALUE MIDI values in the following range.	
Module	MEI
Used by	att.channelized (@midi.port), att.midiinstrument (@midi.instrnum), att.midinumber (@num), att.midivalue (@val), att.midivalue2 (@val2), att.midivelocity (@vel)
Declaration	<content> <rng:data type= "nonNegativeInteger"> <rng:param name= "maxInclusive"> 127 </rng:param> </rng:data> </content>

data.MODE

data.MODE Modes.	
Module	MEI
Used by	att.keySig.log (@mode), att.keySigDefault.log (@key.mode)
Allowed values	**major** **minor** **dorian** **phrygian** **lydian** **mixolydian** **aeolian** **locrian**
Declaration	<content> <valList type= "closed"> <valItem ident= "major"/>

	`<valItem ident= "minor"/>`
	`<valItem ident= "dorian"/>`
	`<valItem ident= "phrygian"/>`
	`<valItem ident= "lydian"/>`
	`<valItem ident= "mixolydian"/>`
	`<valItem ident= "aeolian"/>`
	`<valItem ident= "locrian"/>`
	`</valList>`
	`</content>`

data.MODUSMAIOR

data.MODUSMAIOR Maxima-long relationship values.	
Module	MEI
Used by	att.mensural.shared (@modusmaior)

Declaration	`<content>`
	`<rng:data type= "positiveInteger">`
	`<rng:param name= "minInclusive"> 2 </rng:param>`
	`<rng:param name= "maxInclusive"> 3 </rng:param>`
	`</rng:data>`
	`</content>`

data.MODUSMINOR

data.MODUSMINOR Long-breve relationship values.	
Module	MEI
Used by	att.mensural.shared (@modusminor)

Declaration	`<content>`
	`<rng:data type= "positiveInteger">`
	`<rng:param name= "minInclusive"> 2 </rng:param>`
	`<rng:param name= "maxInclusive"> 3 </rng:param>`
	`</rng:data>`

	`</content>`

data.MUSICFONT

data.MUSICFONT Music font family.	
Module	MEI
Used by	att.notationstyle (@music.name)

Declaration	`<content>`
	`  <rng:data type= "token"/>`
	`</content>`

data.NMTOKEN

data.NMTOKEN "Convenience" datatype that permits combining enumerated values with user-supplied values.	
Module	MEI
Used by	data.HEADSHAPE

Declaration	`<content>`
	`  <rng:data type= "NMTOKEN"/>`
	`</content>`

data.NOTATIONTYPE

data.NOTATIONTYPE Notation type and subtype	
Module	MEI
Used by	att.notationtype (@notationtype)

Allowed values	**cmn** Common Music Notation. **mensural** Mensural notation. **mensural.black** Black mensural notation. **mensural.white** White mensural notation. **neume** Neumatic notation. **tab** Tablature notation.
Declaration	`<content> <valList type= "closed"> <valItem ident= "cmn"> <desc>Common Music Notation. </desc> </valItem> <valItem ident= "mensural"> <desc>Mensural notation. </desc> </valItem> <valItem ident= "mensural.black"> <desc>Black mensural notation. </desc> </valItem> <valItem ident= "mensural.white"> <desc>White mensural notation. </desc> </valItem> <valItem ident= "neume"> <desc>Neumatic notation. </desc> </valItem> <valItem ident= "tab"> <desc>Tablature notation. </desc> </valItem> </valList> </content>`

data.NOTEHEADMODIFIER

data.NOTEHEADMODIFIER Captures any notehead "modifiers"; that is, symbols added to the notehead, such as slashes, lines, text, and enclosures, etc.	
Module	MEI
Used by	att.noteheads (@head.mod)

Declaration	`<content>`
	`<alternate maxOccurs= "1" minOccurs= "1">`
	`<macroRef key= " data.NOTEHEADMODIFIER.list" />`
	`<macroRef key= " data.NOTEHEADMODIFIER.pat" />`
	`</alternate>`
	`</content>`

data.NOTEHEADMODIFIER.list

data.NOTEHEADMODIFIER.list Enumerated note head modifier values.	
Module	MEI
Used by	data.NOTEHEADMODIFIER
Allowed values	**slash** Slash (upper right to lower left). **backslash** Backslash (upper left to lower right). **vline** Vertical line. **hline** Horizontal line. **centerdot** Center dot. **paren** Enclosing parentheses. **brack** Enclosing square brackets. **box** Enclosing box. **circle** Enclosing circle. **dblwhole** Enclosing "fences".

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "slash">`
	`<desc>Slash (upper right to lower left). </desc>`
	`</valItem>`
	`<valItem ident= "backslash">`
	`<desc>Backslash (upper left to lower right). </desc>`
	`</valItem>`
	`<valItem ident= "vline">`

```
      <desc>Vertical line. </desc>
    </valItem>
    <valItem ident= "hline">
      <desc>Horizontal line. </desc>
    </valItem>
    <valItem ident= "centerdot">
      <desc>Center dot. </desc>
    </valItem>
    <valItem ident= "paren">
      <desc>Enclosing parentheses. </desc>
    </valItem>
    <valItem ident= "brack">
      <desc>Enclosing square brackets. </desc>
    </valItem>
    <valItem ident= "box">
      <desc>Enclosing box. </desc>
    </valItem>
    <valItem ident= "circle">
      <desc>Enclosing circle. </desc>
    </valItem>
    <valItem ident= "dblwhole">
      <desc>Enclosing "fences". </desc>
    </valItem>
  </valList>
</content>
```

data.NOTEHEADMODIFIER.pat

data.NOTEHEADMODIFIER.pat Captures text rendered in the center of the notehead.	
Module	MEI
Used by	data.NOTEHEADMODIFIER
Declaration	

```
<content>
 <rng:choice>
   <rng:data type= "string">
     <rng:param name= "pattern">
       centertext\((A|B|C|D|E|F|G)(f|♭|n|♮|s|♯)?\)
     </rng:param>
   </rng:data>
   <rng:data type= "string">
     <rng:param name= "pattern"> centertext\(H(s|♯)?\) </rng:param>
```

	<rng:data> </rng:choice> </content>

data.OCTAVE

data.OCTAVE Oct attribute values. The default values conform to Acoustical Society of America representation. Read, p. 44.	
Module	MEI
Used by	att.note.ges (@oct.ges), att.octave (@oct), att.octavedefault (@octave.default), att.staffloc.pitched (@oloc)
Declaration	<content> <rng:data type= "nonNegativeInteger"> <rng:param name= "maxInclusive"> 9 </rng:param> </rng:data> </content>

data.OCTAVE.DIS

data.OCTAVE.DIS The amount of octave displacement; that is, '8' (as in '8va' for 1 octave), '15' (for 2 octaves), or rarely '22' (for 3 octaves).	
Module	MEI
Used by	att.cleffing.log (@clef.dis), att.octavedisplacement (@dis)
Declaration	<content> <rng:data type= "positiveInteger"> <rng:param name= "pattern"> 8|15|22 </rng:param> </rng:data> </content>

data.ORIENTATION

data.ORIENTATION Rotation or reflection of base symbol values.	
Module	MEI
Used by	att.mensur.vis (@orient), att.mensural.vis (@mensur.orient)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> reversed|90CW|90CCW </rng:param> </rng:data> </content>

data.ORNAM.cmn

data.ORNAM.cmn CMN ornam attribute values: A = appogiatura (upper neighbor); a = acciaccatura (lower neighbor); b = bebung; I = ascending slide; i = descending slide; k = delayed turn; K = 5-note turn; m = mordent (alternation with lower neighbor); M = inverted mordent (alternation with upper neighbor); N = Nachschlag (upper neighbor); n = Nachschlag (lower neighbor); S = turn; s = inverted turn; t = trill commencing on auxiliary note; T = trill commencing on principal note; O = generic / unspecified ornament.	
Module	MEI.cmnOrnaments
Used by	att.ornam (@ornam)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> [A|a|b|I|i|K|k|M|m|N|n|S|s|T|t|O]|(A|a|S|s|K|k)?(T|t|M|m)(I| i|S|s)? </rng:param> </rng:data> </content>

data.OTHERSTAFF

data.OTHERSTAFF For musical material designated to appear on another staff, the location of the staff relative to the current one; i.e., the staff above or the staff below.

Module	MEI
Used by	att.beamedwith (@beam.with), att.stems.cmn (@stem.with)
Allowed values	**above** **below**
Declaration	<content> <valList type= "closed"> <valItem ident= "above"/> <valItem ident= "below"/> </valList> </content>

data.PAGE.PANELS

data.PAGE.PANELS The number of panels per page.	
Module	MEI
Used by	att.pages (@page.panels)
Declaration	<content> <rng:data type= "positiveInteger"> <rng:param name= "minInclusive"> 1 </rng:param> <rng:param name= "maxInclusive"> 2 </rng:param> </rng:data> </content>

data.PERCENT

data.PERCENT Positive decimal number plus '%', i.e., [0-9]+(\.?[0-9]*)?\%.	
Module	MEI
Used by	data.FONTSIZE, att.channelized (@midi.duty), att.curvature (@bulge), att.graced (@grace.time), att.scalable (@scale)

Declaration	`<content> <rng:data type= "token"> <rng:param name= "pattern"> [0-9]+(\.?[0-9]*)?% </rng:param> </rng:data> </content>`

data.PGSCALE

data.PGSCALE Page scale factor; a percentage of the values in page.height and page.width.	
Module	MEI
Used by	att.pages (@page.scale)
Declaration	`<content> <rng:choice> <rng:ref name= " data.PERCENT" /> </rng:choice> </content>`

data.PITCHCLASS

data.PITCHCLASS Pclass (pitch class) attribute values.	
Module	MEI
Used by	att.pitchclass (@pclass)
Declaration	`<content> <rng:data type= "nonNegativeInteger"> <rng:param name= "maxInclusive"> 11 </rng:param> </rng:data> </content>`

data.PITCHNAME

data.PITCHNAME The pitch names (gamut) used within a single octave. The default values conform to Acoustical Society of America representation.	
Module	MEI
Used by	att.keySigDefault.log (@key.pname), att.pitch (@pname), att.scoreDef.ges (@tune.pname), att.staffloc.pitched (@ploc)
Declaration	`<content> <rng:data type= "token"> <rng:param name= "pattern"> [a-g] </rng:param> </rng:data> </content>`

data.PITCHNAME.GES

data.PITCHNAME.GES Gestural pitch names need an additional value for when the notated pitch is not to be sounded.	
Module	MEI
Used by	att.note.ges (@pname.ges)
Declaration	`<content> <rng:data type= "token"> <rng:param name= "pattern"> [a-g]|none </rng:param> </rng:data> </content>`

data.PITCHNUMBER

data.PITCHNUMBER Pnum (pitch number, e.g. MIDI) attribute values.	
Module	MEI
Used by	att.note.ges (@pnum)

Declaration	<content> <rng:data type= "nonNegativeInteger"/> </content>

data.PLACE

data.PLACE Location of symbol relative to other notational components.	
Module	MEI
Used by	att.cleffing.log (@clef.dis.place), att.fermatapresent (@fermata), att.numberplacement (@num.place), att.octavedisplacement (@dis.place), att.tuplet.vis (@bracket.place)
Allowed values	**above** **below**
Declaration	<content> <valList type= "closed"> <valItem ident= "above"/> <valItem ident= "below"/> </valList> </content>

data.PROLATIO

data.PROLATIO Semibreve-minim relationship values.	
Module	MEI
Used by	att.mensural.shared (@prolatio)
Declaration	<content> <rng:data type= "positiveInteger"> <rng:param name= "minInclusive"> 2 </rng:param> <rng:param name= "maxInclusive"> 3 </rng:param> </rng:data>

	`</content>`

data.RATIO

data.RATIO A ratio, i.e., [0-9]+(\.?[0-9]*)?:[0-9]+(\.?[0-9]*)? For example, "40:7.2319".	
Module	MEI
Used by	

Declaration	`<content>`
	`<rng:data type= "token">`
	`<rng:param name= "pattern">`
	`[0-9]+(\.?[0-9]*)?:[0-9]+(\.?[0-9]*)?`
	`</rng:param>`
	`</rng:data>`
	`</content>`

data.ROTATION

data.ROTATION Rotation.	
Module	MEI
Used by	att.noteheads (@head.rotation)

Declaration	`<content>`
	`<alternate maxOccurs= "1" minOccurs= "1">`
	`<macroRef key= " data.DEGREES" />`
	`<macroRef key= " data.ROTATIONDIRECTION" />`
	`</alternate>`
	`</content>`

data.ROTATIONDIRECTION

data.ROTATIONDIRECTION Rotation term.

Module	MEI
Used by	data.ROTATION
Allowed values	**none** No rotation. **down** Rotated 180 degrees. **left** Rotated 270 degrees clockwise. **ne** Rotated 45 degrees clockwise. **nw** Rotated 315 degrees clockwise. **se** Rotated 135 degrees clockwise. **sw** Rotated 225 degrees clockwise.
Declaration	

```
<content>
 <valList type= "closed">
   <valItem ident= "none">
     <desc>No rotation. </desc>
   </valItem>
   <valItem ident= "down">
     <desc>Rotated 180 degrees. </desc>
   </valItem>
   <valItem ident= "left">
     <desc>Rotated 270 degrees clockwise. </desc>
   </valItem>
   <valItem ident= "ne">
     <desc>Rotated 45 degrees clockwise. </desc>
   </valItem>
   <valItem ident= "nw">
     <desc>Rotated 315 degrees clockwise. </desc>
   </valItem>
   <valItem ident= "se">
     <desc>Rotated 135 degrees clockwise. </desc>
   </valItem>
   <valItem ident= "sw">
     <desc>Rotated 225 degrees clockwise. </desc>
   </valItem>
 </valList>
</content>
```

data.SCALEDEGREE

data.SCALEDEGREE Relative scale degree values.

Module	MEI
Used by	att.harmonicfunction (@deg)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> (\^|v)?[1-7](\+|\-)? </rng:param> </rng:data> </content>

data.SIZE

data.SIZE Relative size attribute values.	
Module	MEI
Used by	att.mensural.vis (@mensur.size), att.relativesize (@size)
Allowed values	**normal** Default size. **cue** Reduced size.
Declaration	<content> <valList type= "closed"> <valItem ident= "normal"> <desc>Default size. </desc> </valItem> <valItem ident= "cue"> <desc>Reduced size. </desc> </valItem> </valList> </content>

data.SLASH

data.SLASH The number of slashes to be rendered for tremolandi.	
Module	MEI
Used by	att.slashcount (@slash)

Declaration	`<content> <rng:data type= "positiveInteger"> <rng:param name= "minInclusive"> 1 </rng:param> <rng:param name= "maxInclusive"> 6 </rng:param> </rng:data> </content>`

data.SLUR

data.SLUR i=initial, m=medial, t=terminal. Number is used to match endpoints of the slur when slurs are nested or overlap, e.g. <note slur='i1 i2'/><note slur='t1'/><note slur='t2'/> encodes the fact that two slurs begin on note 1, one which terminates on note 2 and one which terminates on note 3.	
Module	MEI
Used by	att.slurpresent (@slur)
Declaration	`<content> <rng:data type= "token"> <rng:param name= "pattern"> [i|m|t][1-6] </rng:param> </rng:data> </content>`

data.STAFFLOC

data.STAFFLOC Staff location. The value '0' indicates the bottom line of the current staff; positive values are used for positions above the bottom line and negative values for the positions below. For example, in treble clef, 1 = F4, 2 = G4, 3 = A4, etc. and -1 = D4, -2 = C4, and so on.	
Module	MEI
Used by	att.barplacement (@taktplace), att.mensural.vis (@mensur.loc), att.staffloc (@loc)
Declaration	`<content> <rng:data type= "integer"/> </content>`

data.STAFFREL

data.STAFFREL Location of musical material relative to a staff.	
Module	MEI
Used by	att.placement (@place)
Allowed values	**above** Written above staff. **below** Written below staff. **within** Written on staff.
Declaration	<content> <valList type= "closed"> <valItem ident= "above"> <desc>Written above staff. </desc> </valItem> <valItem ident= "below"> <desc>Written below staff. </desc> </valItem> <valItem ident= "within"> <desc>Written on staff. </desc> </valItem> </valList> </content>

data.STEMDIRECTION

data.STEMDIRECTION Stem direction.	
Module	MEI
Used by	att.stems (@stem.dir)
Declaration	<content> <alternate maxOccurs= "1" minOccurs= "1"> <macroRef key= " data.STEMDIRECTION.basic" /> <macroRef key= " data.STEMDIRECTION.extended" /> </alternate> </content>

data.STEMDIRECTION.basic

data.STEMDIRECTION.basic Common stem directions.	
Module	MEI
Used by	data.STEMDIRECTION
Allowed values	**up** Stem points upwards. **down** Stem points downwards.

Declaration	`<content>`
	` <valList type= "closed">`
	`  <valItem ident= "up">`
	`  <desc>Stem points upwards. </desc>`
	`  </valItem>`
	`  <valItem ident= "down">`
	`  <desc>Stem points downwards. </desc>`
	`  </valItem>`
	` </valList>`
	`</content>`

data.STEMDIRECTION.extended

data.STEMDIRECTION.extended Additional stem directions.	
Module	MEI
Used by	data.STEMDIRECTION
Allowed values	**left** Stem points left. **right** Stem points right. **ne** Stem points up and right. **se** Stem points down and right. **nw** Stem points up and left. **sw** Stem points down and left.

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "left">`
	`<desc>Stem points left. </desc>`
	`</valItem>`
	`<valItem ident= "right">`
	`<desc>Stem points right. </desc>`
	`</valItem>`
	`<valItem ident= "ne">`
	`<desc>Stem points up and right. </desc>`
	`</valItem>`
	`<valItem ident= "se">`
	`<desc>Stem points down and right. </desc>`
	`</valItem>`
	`<valItem ident= "nw">`
	`<desc>Stem points up and left. </desc>`
	`</valItem>`
	`<valItem ident= "sw">`
	`<desc>Stem points down and left. </desc>`
	`</valItem>`
	`</valList>`
	`</content>`

data.STEMMODIFIER

data.STEMMODIFIER Stem modification.	
Module	MEI
Used by	att.stems (@stem.mod)
Allowed values	**none** No modifications to stem. **1slash** 1 slash through stem. **2slash** 2 slashes through stem. **3slash** 3 slashes through stem. **4slash** 4 slashes through stem. **5slash** 5 slashes through stem. **6slash** 6 slashes through stem. **sprech** X placed on stem.

	z Z placed on stem.

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "none">`
	`<desc>No modifications to stem. </desc>`
	`</valItem>`
	`<valItem ident= "1slash">`
	`<desc>1 slash through stem. </desc>`
	`</valItem>`
	`<valItem ident= "2slash">`
	`<desc>2 slashes through stem. </desc>`
	`</valItem>`
	`<valItem ident= "3slash">`
	`<desc>3 slashes through stem. </desc>`
	`</valItem>`
	`<valItem ident= "4slash">`
	`<desc>4 slashes through stem. </desc>`
	`</valItem>`
	`<valItem ident= "5slash">`
	`<desc>5 slashes through stem. </desc>`
	`</valItem>`
	`<valItem ident= "6slash">`
	`<desc>6 slashes through stem. </desc>`
	`</valItem>`
	`<valItem ident= "sprech">`
	`<desc>X placed on stem. </desc>`
	`</valItem>`
	`<valItem ident= "z">`
	`<desc>Z placed on stem. </desc>`
	`</valItem>`
	`</valList>`
	`</content>`

data.STEMPOSITION

data.STEMPOSITION Position of a note's stem relative to the head of the note.	
Module	MEI
Used by	att.stems (@stem.pos)
Allowed values	**left** Stem attached to left side of note head. **right** Stem attached to right side of note head.

	center Stem is originates from center of note head.
Declaration	`<content> <valList type= "closed"> <valItem ident= "left"> <desc>Stem attached to left side of note head. </desc> </valItem> <valItem ident= "right"> <desc>Stem attached to right side of note head. </desc> </valItem> <valItem ident= "center"> <desc>Stem is originates from center of note head. </desc> </valItem> </valList> </content>`

data.STRINGNUMBER

data.STRINGNUMBER In string tablature, the number of the string to be played, i.e., [1-9]+.	
Module	MEI
Used by	att.note.ges.tablature (@tab.string)
Declaration	`<content> <rng:data type= "positiveInteger"/> </content>`

data.TEMPERAMENT

data.TEMPERAMENT Temperament or tuning system.	
Module	MEI
Used by	att.scoreDef.ges (@tune.temper)
Allowed values	**equal** Equal or 12-tone temperament. **just** Just intonation.

	mean Meantone intonation. **pythagorean** Pythagorean tuning.
Declaration	`<content> <valList type= "closed"> <valItem ident= "equal"> <desc>Equal or 12-tone temperament. </desc> </valItem> <valItem ident= "just"> <desc>Just intonation. </desc> </valItem> <valItem ident= "mean"> <desc>Meantone intonation. </desc> </valItem> <valItem ident= "pythagorean"> <desc>Pythagorean tuning. </desc> </valItem> </valList> </content>`

data.TEMPOVALUE

data.TEMPOVALUE Beats (meter signature denominator) per minute, e.g. 120.	
Module	MEI
Used by	att.mmtempo (@mm)
Declaration	`<content> <rng:data type= "decimal"/> </content>`

data.TEMPUS

data.TEMPUS Breve-semibreve relationship values.	
Module	MEI
Used by	att.mensural.shared (@tempus)

Declaration	`<content>`
	`<rng:data type= "positiveInteger">`
	`<rng:param name= "minInclusive"> 2 </rng:param>`
	`<rng:param name= "maxInclusive"> 3 </rng:param>`
	`</rng:data>`
	`</content>`

data.TEXTRENDITION

data.TEXTRENDITION Text rendition values.	
Module	MEI
Used by	del/@rend, rend/@rend

Declaration	`<content>`
	`<alternate maxOccurs= "1" minOccurs= "1">`
	`<macroRef key= " data.TEXTRENDITIONLIST" />`
	`<macroRef key= " data.TEXTRENDITIONPAR" />`
	`</alternate>`
	`</content>`

data.TEXTRENDITIONLIST

data.TEXTRENDITIONLIST Closed list of text rendition values.	
Module	MEI
Used by	data.TEXTRENDITION
Allowed values	**italic** Italicized (slanted to right). **oblique** Oblique (slanted to left). **smcaps** Small capitals. **bold** Relative font weight. **bolder** Relative font weight. **lighter** Relative font weight.

	box Enclosed in box. **circle** Enclosed in ellipse/circle. **dbox** Enclosed in diamond. **tbox** Enclosed in triangle. **bslash** Struck through by '\' (back slash). **fslash** Struck through by '/' (forward slash). **line-through** Struck through by '-'; may be qualified to indicate multiple lines, e.g. line-through(2). **none** Not rendered, invisible. **overline** Line above the text; may be qualified to indicate multiple lines, e.g. overline(3). **overstrike** obscured by other text, such as 'XXXXX' **strike** Struck through by '-'; equivalent to line-through; may be qualified to indicate multiple lines, e.g. strike(3). **sub** Subscript. **sup** Superscript. **underline** Underlined; may be qualified to indicate multiple lines, e.g. underline(2). **ltr** Left-to-right (BIDI embed). **rtl** Right-to-left (BIDI embed). **lro** Left-to-right (BIDI override). **rlo** Right-to-left (BIDI override).

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "italic">`
	`<desc>Italicized (slanted to right). </desc>`
	`</valItem>`
	`<valItem ident= "oblique">`
	`<desc>Oblique (slanted to left). </desc>`
	`</valItem>`

```
<valItem ident= "smcaps">
  <desc>Small capitals. </desc>
</valItem>
<valItem ident= "bold">
  <desc>Relative font weight. </desc>
</valItem>
<valItem ident= "bolder">
  <desc>Relative font weight. </desc>
</valItem>
<valItem ident= "lighter">
  <desc>Relative font weight. </desc>
</valItem>
<valItem ident= "box">
  <desc>Enclosed in box. </desc>
</valItem>
<valItem ident= "circle">
  <desc>Enclosed in ellipse/circle. </desc>
</valItem>
<valItem ident= "dbox">
  <desc>Enclosed in diamond. </desc>
</valItem>
<valItem ident= "tbox">
  <desc>Enclosed in triangle. </desc>
</valItem>
<valItem ident= "bslash">
  <desc>Struck through by '\' (back slash). </desc>
</valItem>
<valItem ident= "fslash">
  <desc>Struck through by '/' (forward slash). </desc>
</valItem>
<valItem ident= "line-through">
  <desc>Struck through by '-'; may be qualified to indicate multiple
  lines, e.g. line-through(2). </desc>
</valItem>
<valItem ident= "none">
  <desc>Not rendered, invisible. </desc>
</valItem>
<valItem ident= "overline">
  <desc>Line above the text; may be qualified to indicate multiple
  lines, e.g. overline(3). </desc>
</valItem>
<valItem ident= "overstrike">
  <desc>obscured by other text, such as 'XXXXX' </desc>
</valItem>
<valItem ident= "strike">
  <desc>Struck through by '-'; equivalent to line-through; may be
  qualified to indicate multiple lines, e.g. strike(3). </desc>
</valItem>
<valItem ident= "sub">
```

```
      <desc>Subscript. </desc>
    </valItem>
    <valItem ident= "sup">
      <desc>Superscript. </desc>
    </valItem>
    <valItem ident= "underline">
      <desc>Underlined; may be qualified to indicate multiple lines, e.g.
      underline(2). </desc>
    </valItem>
    <valItem ident= "ltr">
      <desc>Left-to-right (BIDI embed). </desc>
    </valItem>
    <valItem ident= "rtl">
      <desc>Right-to-left (BIDI embed). </desc>
    </valItem>
    <valItem ident= "lro">
      <desc>Left-to-right (BIDI override). </desc>
    </valItem>
    <valItem ident= "rlo">
      <desc>Right-to-left (BIDI override). </desc>
    </valItem>
  </valList>
</content>
```

data.TEXTRENDITIONPAR

data.TEXTRENDITIONPAR Parameterized text rendition values.	
Module	MEI
Used by	data.TEXTRENDITION
Declaration	

```
<content>
 <rng:choice>
   <rng:data type= "string">
     <rng:param name= "pattern">
       (underline|overline|line-through|strike)\(\d+\)
     </rng:param>
   </rng:data>
   <rng:data type= "string">
     <rng:param name= "pattern">
       (letter-spacing|line-height)\((\+|-)?\d+(\.\d+)?%?\)
     </rng:param>
```

	`</rng:data> </rng:choice> </content>`

data.TIE

data.TIE Tie attribute values: initial, medial, terminal.	
Module	MEI
Used by	att.tiepresent (@tie)
Declaration	`<content> <rng:data type= "token"> <rng:param name= "pattern"> [i|m|t] </rng:param> </rng:data> </content>`

data.TSTAMPOFFSET

data.TSTAMPOFFSET A positive or negative offset from the value given in the tstamp attribute in terms of musical time, i.e., beats[.fractional beat part].	
Module	MEI
Used by	att.visualoffset.to (@to), att.visualoffset2.to (@startto)
Declaration	`<content> <rng:data type= "decimal"/> </content>`

data.TUPLET

data.TUPLET Tuplet attribute values: initial, medial, terminal.

Module	MEI
Used by	att.tupletpresent (@tuplet)
Declaration	<content> <rng:data type= "token"> <rng:param name= "pattern"> [i|m|t][1-6] </rng:param> </rng:data> </content>

data.UNEUMEFORM

data.UNEUMEFORM Basic, i.e., single, uninterrupted, neume forms.	
Module	MEI
Used by	att.uneume.log (@form)
Allowed values	**liquescent1** **liquescent2** **liquescent3** **quilismatic** **rectangular** **rhombic** **tied**
Declaration	<content> <valList type= "closed"> <valItem ident= "liquescent1"/> <valItem ident= "liquescent2"/> <valItem ident= "liquescent3"/> <valItem ident= "quilismatic"/> <valItem ident= "rectangular"/> <valItem ident= "rhombic"/> <valItem ident= "tied"/> </valList> </content>

data.UNEUMENAME

data.UNEUMENAME Basic, i.e., single, uninterrupted, neume names.	
Module	MEI
Used by	att.uneume.log (@name)
Allowed values	**punctum** **virga** **pes** **clivis** **torculus** **torculusresupinus** **porrectus** **porrectusflexus** **apostropha** **oriscus** **pressusmaior** **pressusminor** **virgastrata**

Declaration	`<content>`
	`<valList type= "closed">`
	`<valItem ident= "punctum"/>`
	`<valItem ident= "virga"/>`
	`<valItem ident= "pes"/>`
	`<valItem ident= "clivis"/>`
	`<valItem ident= "torculus"/>`
	`<valItem ident= "torculusresupinus"/>`
	`<valItem ident= "porrectus"/>`
	`<valItem ident= "porrectusflexus"/>`
	`<valItem ident= "apostropha"/>`
	`<valItem ident= "oriscus"/>`
	`<valItem ident= "pressusmaior"/>`
	`<valItem ident= "pressusminor"/>`
	`<valItem ident= "virgastrata"/>`

	`</valList>` `</content>`

data.URI

data.URI A Uniform Resource Identifier, see [RFC2396].	
Module	MEI
Used by	att.alignment (@when), att.altsym (@altsym), att.authorized (@authURI), att.classcodeident (@classcode), att.commonPart (@xml:base), att.common.anl (@copyof), att.custos.log (@target), att.datapointing (@data), att.declaring (@decls), att.facsimile (@facs), att.handident (@hand), att.harm.log (@chordref), att.instrumentident (@instr), att.joined (@join), att.layer.log (@def), att.name (@nymref), att.origin.startendid (@origin.startid), att.plist (@plist), att.pointing (@xlink:role), att.responsibility (@resp), att.source (@source), att.staff.log (@def), att.startendid (@endid), att.startid (@startid), handShift/@new, when/@since

Declaration	`<content>`
	`<rng:data type= "anyURI"/>`
	`</content>`

macro.anyXML

macro.anyXML Permits any XML elements except those from the MEI or SVG namespace.	
Module	MEI.shared
Used by	extMeta

Declaration	`<content>`
	`<rng:element>`
	`<rng:anyName>`
	`<rng:except>`
	`<rng:nsName/>`
	`<rng:nsName/>`
	`</rng:except>`
	`</rng:anyName>`

```
    <rng:zeroOrMore>
      <rng:attribute>
         <rng:anyName/>
      </rng:attribute>
    </rng:zeroOrMore>
    <rng:zeroOrMore>
      <rng:choice>
         <rng:text/>
         <rng:ref name= " macro.anyXML" />
      </rng:choice>
    </rng:zeroOrMore>
  </rng:element>
</content>
```

macro.availabilityPart

macro.availabilityPart Groups elements that may appear as part of a description of the availability of and access to a bibliographic item.

Module	MEI.header
Used by	availability
Declaration	

```
<content>
 <rng:zeroOrMore>
  <rng:choice>
    <rng:ref name= " accessRestrict" />
    <rng:ref name= " distributor" />
    <rng:ref name= " price" />
    <rng:ref name= " sysReq" />
    <rng:ref name= " useRestrict" />
    <rng:ref name= " model.addressLike" />
    <rng:ref name= " model.dateLike" />
    <rng:ref name= " model.identifierLike" />
  </rng:choice>
 </rng:zeroOrMore>
</content>
```

macro.bibldescPart

macro.bibldescPart Groups manifestation- and item-specific elements that may appear as part of a bibliographic description.	
Module	MEI.header
Used by	source
Declaration	<content> <rng:optional> <rng:ref name=" editionStmt" /> </rng:optional> <rng:optional> <rng:ref name=" pubStmt" /> </rng:optional> <rng:zeroOrMore> <rng:ref name=" physDesc" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" physLoc" /> </rng:zeroOrMore> <rng:zeroOrMore> <rng:ref name=" seriesStmt" /> </rng:zeroOrMore> </content>

macro.metaLike.page

macro.metaLike.page Groups elements that contain meta-data about a single page.	
Module	MEI.shared
Used by	pb
Declaration	<content> <rng:optional> <rng:ref name=" pgHead" /> </rng:optional> <rng:optional> <rng:ref name=" pgFoot" /> </rng:optional>

	<rng:optional> <rng:ref name=" pgDesc" /> </rng:optional> </content>

macro.musicPart

macro.musicPart Groups elements that may appear as part of the music element.	
Module	MEI.shared
Used by	music
Declaration	<content> <rng:optional> <rng:ref name=" model.frontLike" /> </rng:optional> <rng:optional> <rng:choice> <rng:ref name=" body" /> <rng:ref name=" group" /> </rng:choice> </rng:optional> <rng:optional> <rng:ref name=" model.backLike" /> </rng:optional> </content>

macro.neumeModifierLike

macro.neumeModifierLike Groups elements that modify neume-like features.	
Module	MEI.neumes
Used by	ineume, uneume
Declaration	<content> <rng:empty/>

	`</content>`