1. Introduction

This ODD is the result of the work of two linked projects : Gallic(orpor)a and SegmOnto.

1.1. Gallic(orpor)a presentation

Gallic(orpor)a, funded by the BNF's dataLab, is born in 2021. Its aims is to provide a pipeline to transform digited collection into TEI files. All the scripts and data produce during the project are availabe on github.

1.1.1. Gallic(orpor)a project

Cultural heritage institutions today aim to digitise their collections of prints and manuscripts and are generating more and more digital images To enrich these images, many institutions work with standardised formats such as IIIF, preserving as much of the source's information as possible. To take full advantage of textual documents, an image alone is not enough. Thanks to automatic text recognition technology, it is now possible to extract images content on a large scale. The TEI seems to provide the perfect format to capture both an image's formal and textual data. To ensure compatibility with a range of use cases, TEI XML files must guarantee IIIF or RDF exports and therefore must be based on strict data structures that can be automated. But a rigid structure contradicts the basic principles of philology, which require maximum flexibility to cope with various situations.

1.1.2. Gallic(orpor)a Team

This project is born from a collaboration between INRIA, ENC and the University of Geneva to combine different fields of expertise: handwritten text recognition, Natural Language Processing and philology.

- Benoît Sagot, Inria, Senior Researcher in Natural Language Processing and Computational Linguistics
- Laurent Romary, Inria, Senior Researcher in Natural Language Processing and Computational Linguistics
- Rachel Bawden, Inria, Researcher in Natural Language Processing and Computational Linguistics
- Pedro Javier Ortiz Suárez, Inria, Researcher in Natural Language Processing and Computational Linguistics
- Simon Gabay, University of Geneva, Maître-assistant in digital phililogy
- Ariane Pinche, Ecole nationale des chartes, post-doctorat researcher, projetc CremmaLab (HTR)
- Jean-Baptiste Camps,Ecole nationale des chartes, Maître de conférences, computational philology
- Kelly Christensen, INRIA, engineer, pipeline development

1.1.3. Gallic(orpor)a Solution

The solution proposed by the Gallic(orpor)a project focus on French historical documents produced between the 15th and the 18th c. It aims to enrich the digital facsimiles distributed by the French National Library (BnF) in two different ways:

- text extraction, including the segmentation of the image (layout analysis) with SegmOnto controlled vocubalary and the recognition of the text (Handwritten Text Recognition);
- linguistic annotation, including lemmatisation, POS tagging, named entity recognition and linguistic normalisation.

Our TEI document modelling has two strictly coercive automatically generated data blocks:

- the <sourceDoc> with information from the digital facsimile, which computer vision, HTR and segmentation tools produce thanks to machine learning;
- the `<standOff>` with linguistic information produced by natural language processing tools to make it easier to search the corpus.

Two other elements are added that can be customised according to researchers' specific needs:

- a pre-filled <teiHeader> with basic bibliographic metadata automatically retrieved from (i) the digital facsimile's IIIF Image API and (ii) the BnF's Search/Retrieve via URL (SRU) API. It can be enriched with additional data, as long as it respects a strict minimum encoding;
- pre-editorialised <body> with a structure based on layout analysis and the SegmOnto vocabulary. It is the only element totally free regarding encoding choices.

```
<body>
 <div>
  <pb corresp="#page5"/>
  <note corresp="#page5_zone2"
   type="MarginTextZone">
   <lb corresp="#page5_zone2_line1"/>79/4120 </note>
  <pb corresp="#page6"/>
  <ab corresp="#page6_zone1"
   type="MainZone">
   <hi rend="HeadingLine">
    <lb corresp="#page6_zone1_line1"/>BRADAMANTE, <lb corresp="#page6_zone1_line2"/>TRAGECOMDEDIE. </hi>
  </ab>
  <pb corresp="#page9"/>
```

```
  <fw corresp="#page9_zone1"
   type="RunningTitleZone">
   <lb corresp="#page9_zone1_line1"/>AV ROY. </fw>
  <ab corresp="#page9_zone2"
   type="MainZone">
   <lb corresp="#page9_zone2_line1"/>uiuront nostre siecle, les
     admira¬ <lb corresp="#page9_zone2_line2"/>bles effets de vos
     heroiques ver¬ <gap reason="sampling"/>
  </ab>
 </div>
</body>
```

By restricting certain elements and allowing others to be customisable, our TEI model can efficiently pivot toward other export formats, including RDF and IIIF. Furthermore, the <body> element's strict and thorough encoding of all of the document's graphical information allows the TEI document to be converted into PAGE XML and ALTO XML files, which can then be used to train OCR, HTR, and segmentation models. Thus, not only does our TEI model's strict encoding avoid limiting philological choices, thanks to the <body>, it also allows us to pre-editorialise the <body> via the content of the <body> and, in a near future, the `<standOff>`.

The structure of the text is based on the material description of the source and the analysis of the layout of the document. We used the Zone and Line label detected by the segmenter to model the <body> element. In order to provided label to the project we choose to work with the segmOnto project.

1.1.4. How to cite

Sagot, B., Romary, L., Badwen, R., Ortiz Suárez, P., Camps, J., Gabay, S., & Pinche, A.*Gallic(orpor)a: extraction, annotation et diffusion de l'information textuelle et visuelle en diachronie longue [Computer software]*, Gallicorpora.github.io

1.2. SegmOnto Presentation

1.2.1. Why SegmOnto vocabulary?

SegmOnto project offers a controlled vocabulary to describe the content of books or manuscripts pages, in order to homogenise the data required by layout analysers. This project follows a double objective:

- Mutualise data to train stronger models on various layouts.
- Design a standardised pipeline for text extraction, from page scans to structured documents

SegmOnto is thought as a generalist description scheme, covering written documents produced since the apparition of the *codex*, but it has been designed using mainly western and middle eastern documents.

1.2.2. Team

SegmOnto was designed by a group of international researchers. The final version of the guidelines has been carried by S. Gabay, J.-B. Camps, A. Pinche, and K. Christensen.

Simon Gabay is Maître-assistant at the university of Geneva. He holds a PhD in latin philology, defended at the university of Amsterdam on the history of theatre in the early medieval documentation. His research now focuses on romance philology, and especially 17th c. French, a period for which he creates the necessary tools for computational exploration. His areas of interests are corpus building, diachronic linguistics, and the birth of the manuscript market in 19th c. France.

Jean-Baptiste Camps, a medievalist by training, is Maître de conférences at the Ecole nationale des chartes | PSL in Paris. He received a PhD for an edition of the *Chanson d'Otinel* in 2016 at the university Paris IV-Sorbonne. As a specialist of computational philology, his research include the transmission of manuscripts over centuries, stylometry and digital editing.

Ariane Pinche has a PhD in medieval language and literature. She is currently a postdoctoral fellow at the École nationale des chartes | PSL and is particularly interested in digital editing. She won the Fortier Prize for the best young researcher paper at the Digital Humanities 2019 conference in Utrecht with her two colleagues J. B. Camps and T. Clérice for the paper 'Stylometry for Noisy Medieval Data: Evaluating Paul Meyer's Hagiographic Hypothesis'. Today, her research interests focus on the construction of medieval corpora for HTR (Handwritten Text Recognition) training.

Additional contributors are:

- Daniel Stoekl
- Claire Jahan
- Peter Stokes

We thank them for their constant help, their useful feedback and above all their time.

Kelly Christensen has a PhD in historical musicology. As an intern working on the project Galli(corpor)a in 2022 with Simon Gabay and Ariane Pinche, she put in place the Gallic(orpor)a pipeline described in this ODD, which relies on tools developed by additional contributors. She also helped develop the mapping that connects the format

in which predicted text is exported, ALTO, and the TEI. Her tool, alto2tei, realises this mapping in Python and generated the TEI-XML files on which this ODD is based.

Additional contributors are:

- Daniel Stoekl
- Claire Jahan
- Peter Stokes

We thank them for their constant help, their useful feedback and above all their time.

1.2.3. How to cite

Simon Gabay, Jean-Baptiste Camps, Ariane Pinche, *SegmOnto, A Controlled Vocabulary to Describe the Layout of Pages*, version 0.9, Paris/Genève, 2021, https://github.com/SegmOnto.

1.3. Project

1.3.1. The idea

The intuition behind SegmOnto is the following: most of the documents containing texts have a stable layout over time:

At a low level, it is possible not only to find similarities, but to use the same name in order to describe homogeneously large quantities of data. In blue we see the body in red the page number, in orange the running title, in green intermediary titles, in pink drop capitals, in grey additional notes.

SegmOnto follows (with exceptions) two critera in its description of the page:

- It follows a generalist approach rather than a specific one. It aims at representing any document, and does not focus on any kind of source.
- It follows a descriptive approach, but remains open to a more semantic annotation via a system of subtypes.

It uses a two-tier description, following the two classification tasks required for any layout analysis:

- *Zones*, for the different types of regions on the page (running title, main text...)
- *Lines* for the different types of lines contained in the zones (interlinear lines, staves, rubrics...)

In order to cope with the complexity of documents, two safety devices are offered:

- The main types of zones and lines are not open to any modification, but a *Custom* zone, which functions as a private zone, offers the possibility to encode additional features that would have been forgotten.
- A system of subtypes (using the following syntax: *Type:Subtype*) has been added and offers only suggested values: it is possible to opt for personal subtypes, functioning at the level of a specific document only.

1.3.2. Vocabulary

SegmOnto is not the first attempt to offer a description of a page. Because of the nature of the task, two different academic traditions have offered vocabularies that serve as a base:

- Computer vision, especially via the PAGE XML scheme, proposes a limited system adapted to the needs of computer scientists.
- Codicology, whose purpose precisely is the description of the old documents, offers a much more precise vocabulary to answer the needs of philologists.

On the one hand, codicological vocabularies do not take into account the requirements of computer-based solutions (such as a system of private zones or the articulation of types and subtypes) and usually does not address contemporary cases. On the other hand, the solution offered by computer scientists is too poor and is incapable to offer a satisfactory description of a page taken from an historical document. For all these reasons, SegmOnto offers a middle way, in between these two.

1.3.2.1. PAGE

PAGE XML (cf. *infra*) offers a simple, short and generalist scheme to describe the page, with only fourteen categories:

- TextRegionType. Pure text is represented as a text region. This includes drop capitals, but practically ornate text may be considered as a graphic.
- ImageRegionType. An image is considered to be more intricate and complex than a graphic. These can be photos or drawings.

- LineDrawingRegionType. A line drawing is a single colour illustration without solid areas.
- GraphicRegionType. Regions containing simple graphics, such as a company logo, should be marked as graphic regions.
- TableRegionType. Tabular data in any form is represented with a table region. Rows and columns may or may not have separator lines; these lines are not separator regions.
- ChartRegionType. Regions containing charts or graphs of any type, should be marked as chart regions.
- SeparatorRegionType. Separators are lines that lie between columns and paragraphs and can be used to logically separate different articles from each other.
- MathsRegionType. Regions containing equations and mathematical symbols should be marked as maths regions.
- ChemRegionType. Regions containing chemical formulas.
- MusicRegionType. Regions containing musical notations.
- AdvertRegionType. Regions containing advertisements.
- NoiseRegionType. Noise regions are regions where no real data lies, only false data created by artifacts on the document or scanner noise.
- UnknownRegionType. To be used if the region type cannot be ascertained.
- CustomRegionType. Regions containing content that is not covered by the default types (text, graphic, image, line drawing, chart, table, separator, maths, map, music, chem, advert, noise, unknown).

1.3.2.2. Codicologia

Other vocabularies, designed by philologist specialised in codicology, offer an interesting alternative to those designed by computer scientists. Under the supervision of the IRHT in Paris, several glossaries have been gathered in an online application called *Codicologia*. It offers an extensive vocabulary in French, most of the time with English, German, Italian, Spanish and Arabic translations, with precise definitions adapted to the need of academics specialised in the humanities. Thanks to Georg Vogeler, a digital version is also available as a SKOS model, perfectly suited for digital purposes.

1.3.2.3. Towards a middle way

Because PAGE offers too general a description, it has been been decided not to expand it, but rather to reduce to the maximum the *Codicologia* glossary. The reduction process has followed a simple criterion: unlike other vocabularies (like the TEI), *SegmOnto* focuses on the form rather than the content/meaning. For instance, it uses *GraphicZone*, without making the difference between an illustration (which carries a semantic load) and an ornamentation (which is purely decorative).

Because of this reduction process, elements and definitions may differ:

- *GraphicZone* does not exist in *Codicologia*: it aggregates *Illustration* and *Ornamentation* of *Codicologia*. On top of these two, it aggregates a third type: figures (for schemas found in scientific works, for instance).
- *QuireMarksZone* includes the *Signature* (quire numbers) and the *Catchword*, which are two different elements in *Codicologia*.

2. SegmOnto Production pipeline

SegmOnto is language independent: it aims at describing the page, no matter the digital format. This choice is necessary, because of the various needs of scholars and institutions: specialists of OCR/HTR technologies use ALTO or PAGE XML documents, while specialists of texts expect TEI files, and collections curator RDF data stored in a triplestore or IIIF manifests stored on a server.

In order to cope with the multiplicity of the needs, it has been decided to choose TEI has a pivot format.

- The data produced by the layout analyser and the HTR engine is in an ALTO format, one per page.
- All these ALTO files are concatenated into a single TEI-encoded document, with additional metadata (title, author, date of publication, shelfmark…).
- This TEI file can be used to produce RDF data and IIIF manifests, but also ALTO files, which will be used to (re)train models.

Most of our work has been done with the HTR engine Kraken, which includes an efficient layout analyser (Kiessling 2020). Data has been prepared with the application eScriptorium, via the CREMMA infrastructure in Paris and its FoNDUE counterpart in Geneva. The data being available in ALTO (cf. *infra*), it remains useable with any platform or system accepting these two standard formats.

2.1. ALTO

The ALTO (Analyzed Layout and Text Object) and PAGE (Page Analysis and Ground truth Elements) are two open XML schemas, developed for the description of textual and layout information of page scans. The objective

is to describe both in order to reconstruct the original appearance of the source document, based on the digitised information.

ALTO encoding is extremely simple. On top of metadata, it is structured as a tree with the following elements:

- `<Page>` for the page
- `<PrintSpace>` for the part of the aforementioned `<Page>` with printed information
- `<TextBlock>` for different zones within the `<PrintSpace>`
- `<TextLine>` for each line in a given `<TextBlock>`
- `<String>` for the text contained in the `<TextLine>`.

```
<alto>
 <Description>
  <MeasurementUnit/>
  <sourceImageInformation/>
  <Processing/>
 </Description>
 <Styles>
  <TextStyle FONTSIZE="10.0"/>
  <ParagraphStyle ALIGN="Left"/>
 </Styles>
 <Layout>
  <Page ID="P1" WIDTH="123" HEIGHT="456">
   <PrintSpace WIDTH="123" HEIGHT="456"
    HPOS="789" VPOS="123">
    <TextBlock ID="ID_tb1" TAGREFS="BT1"
     WIDTH="123" HEIGHT="456" HPOS="789" VPOS="123">
     <Shape>
      <Polygon POINTS="123 456 789 123 456 789"/>
     </Shape>
     <TextLine ID="ID_tb1" TAGREFS="BT1"
      BASELINE="123 456 789" WIDTH="123" HEIGHT="456" HPOS="789"
      VPOS="123">
      <Shape>
       <Polygon POINTS="123 456 789 123 456 789"/>
      </Shape>
      <String CONTENT="Un" WIDTH="123"
       HEIGHT="456" HPOS="789" VPOS="123"/>
     </TextLine>
    </TextBlock>
   </PrintSpace>
  </Page>
 </Layout>
</alto>
```

PAGE XML is an alternative to ALTO, currently not supported by our pipeline. It follows a similar structure than ALTO

- `<TextRegion>` for the different zones
- `<Baseline>` for the posting line
- `<Word>` for word-level tokens
- `<Coords>` for the coordinates of the given zone or line.
- `<TextEquiv>` for the transcription

```
<PcGts>
 <Metadata>
  <Creator>John Doe</Creator>
  <Created>2021-11-24T18:41:57.801+02:00</Created>
 </Metadata>
 <page>
  <TextRegion type="paragraph" id="r_1">
   <Coords points="1474,486 3684,486 3684,900…">
    <TextLine id="l_1">
     <Coords points="1475,487 3683,487 3683,635…">
      <Baseline points="1475,635 1587,635 2061…">
       <Word id="w1">
        <Coords points="1475,497 1587,497 1587…"/>
        <TextEquiv>
         <Unicode>Un</Unicode>
        </TextEquiv>
       </Word>
       <Word id="w2">
        <Coords points="1935,497 2061,497 2061,619…"/>
        <TextEquiv>
         <Unicode>exemple</Unicode>
        </TextEquiv>
       </Word>
       <TextEquiv>
        <Unicode>Un exemple</Unicode>
       </TextEquiv>
      </Baseline>
     </Coords>
    </TextLine>
```

```
  </Coords>
 </TextRegion>
</page>
</PcGts>
```

2.2. XML-TEI

The Text Encoding Initiative (TEI) is a consortium which collectively develops and maintains a standard for the representation of texts in digital form. Its chief deliverable is a set of Guidelines which specify encoding methods for machine-readable texts, chiefly in the humanities, social sciences and linguistics.

The encoding scheme defined by these Guidelines is formulated as an application of the Extensible Markup Language (XML). A minimal document contains metadata in the <teiHeader> and data in the <text>.

```
<TEI xmlns="http://www.tei-c.org/ns/1.0">
 <teiHeader>
  <fileDesc>
   <titleStmt>
    <title>Title</title>
   </titleStmt>
   <publicationStmt>
    <p>Publication Information</p>
   </publicationStmt>
   <sourceDesc>
    <p>Information about the source</p>
   </sourceDesc>
  </fileDesc>
 </teiHeader>
 <text>
  <body>
   <p>Some text here, mentioning someone, like <persName>John
        Doe</persName>, living in a city, like
   <placeName>Geneva</placeName>.</p>
   <p>Another paragraph begins here. <l>it may contain a verse line</l>
   </p>
  </body>
 </text>
</TEI>
```

A detailed explanation of a basic SegmOnto-compatible TEI document is given in our guidelines *infra*.

2.3. RDF

The Resource Description Framework (RDF) is a framework for representing information in the Web. It uses an abstract syntax (a data model) which serves to link all RDF-based languages and specifications. The abstract syntax has two key data structures: RDF graphs are sets of subject-predicate-object triples, where the elements may be IRIs, blank nodes, or datatyped literals. They are used to express descriptions of resources. RDF datasets are used to organize collections of RDF graphs, and comprise a default graph and zero or more named graphs. It is a W3C recommendation.

```
@prefix rdf:   <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix foaf:  <http://xmlns.com/foaf/0.1/> .

<Moliere>    rdf:type     foaf:Person .
```

RDF can be expressed in XML:

```
<rdf:RDF
   xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
   xmlns:foaf="http://xmlns.com/foaf/0.1/">
 <foaf:Person rdf:about="http://example.org/Moliere">
 </foaf:Person>
</rdf:RDF>
```

2.4. IIIF manifest

The International Image Interoperability Framework (IIIF) defines several application programming interfaces that provide a standardised method of describing and delivering images over the web, as well as "presentation based metadata" (that is, structural metadata) about structured sequences of images. It uses IIIF manifests, encoded in JSON.

The Manifest resource typically represents a single object and any intellectual work or works embodied within that object. In particular it includes descriptive, rights and linking information for the object. The Manifest embeds the Canvases that should be rendered as views of the object and contains sufficient information for the client to initialize itself and begin to display something quickly to the user.

A basic IIIF would be as follows:

```
{ "@context":
                 "http://iiif.io/api/presentation/2/context.json", "@id":
                 "https://www.segmonto.ch/metadata/iiif/ADD_ID_DOC/manifest.json", "@type":
                 "sc:Manifest", "label": "ADD_FULL_REFERCENCE", "metadata": [ { "label":
                 "Location", "value": "ADD_LOCATION" }, { "label": "Collection Name", "value":
                 "ADD_COLLECTION" }, { "label": "Shelfmark", "value": "ADD_SHELFMARK" }, { "label":
                 "Document Type", "value": "ADD_TYPE" }, { "label": "Title (English)", "value":
```

```
"ADD_TITLE" }, { "label": "Text Language", "value": "ADD_LANGUAGE" } ],
"description": [ { "@value": "ADD_A_SUMMARY", "@language": "en" } ], "license":
"http://creativecommons.org/licenses/by-nc/4.0/", "attribution": "DH Portal,
université de Genève", "sequences": [ { "@id":
"https://www.segmonto.ch/metadata/iiif/ADD_ID_DOC/sequence/Sequence-3423.json",
"@type": "sc:Sequence", "label": [ { "@value": "Normal Sequence", "@language":
"en" } ], "canvases": [ { "@id":
"https://www.segmonto.ch/metadata/iiif/ADD_ID_DOC/canvas/ADD_ID_PAGE.json",
"@type": "sc:Canvas", "label": "1r", "height": 8000, "width": 6000, "images": [ {
"@id":
"https://www.segmonto.ch/metadata/iiif/ADD_ID_DOC/annotation/ADD_ID_PAGE.json",
"@type": "oa:Annotation", "motivation": "sc:painting", "on":
"https://www.segmonto.ch/metadata/iiif/ADD_ID_DOC/canvas/ADD_ID_PAGE.json",
"resource": { "@id":
"https://www.segmonto.ch/loris/ADD_ID_LIBRARY/ADD_ID_DOC/ADD_ID_PAGE.jp2/full/full/0/default/jpg",
"@type": "dctypes:Image", "format": "image/jpeg", "height": 8000, "width": 6000 }
} ] } ] } ] }
```


3. Guidelines SegmOnto Vocabulary

We have distributed the elements of our vocabulary according to the tree-like tessellation of a page:

- The page contains zones
- A zone contains lines

The annotation uses:

- *Types*, which are mandatory and whose values are closed
- *Subtypes*, which are optional and whose values are suggested but open
- *Numbering*, which are optional and whose values are suggested but open

These three options are available for three reasons:

- Homogenise the data, to facilitate the exchange and the pooling of annotated data
- Adapt to a maximum of possible scenarii, and offer, when needed, some semantic information via the subtypes (types being potentially too poor).
- Ease the training of models by differentiating zones or lines (Main#1 for the column on the left and Main#2 for the column on the right might be of a certain help).

The syntax is the following: Region(:subtype)?(#\d)?/Type:Subtype#2.

```
Type:Subtype#Numbering
GraphicZone:Decoration#1
MusicZone:MusicLine
Custom:Entry#2
```

Information and illustation about zones and lines are available at the following address on the SegmOnto website

3.1. Zones

3.1.1. DamageZone

DamageZone Caracterises any area containing damage to the source, such as holes in the material (parchment, paper...), blots, etc.

3.1.2. GraphicZone

GraphicZone characterises a zone containing any type of graphic element, from purely ornamental to consubstantial to the text (e.g., full page paintings, line-fillers, marginal drawings, figures, etc.).

3.1.3. DigitizationArtefactZone

DigitizationArtefactZone ontains any type of item external to the document itself, but due to the process of digitisation, such as rulers or color tables added to help analyse the image.

3.1.4. DropCapitalZone

DropCapitalZone contains any type of initial letter, occupying a space corresponding to several lines of the main text or bearing significant ornementation, be they historiated, ornated, flourished or painted initials (and excluding the following text line).

3.1.5. MainZone

MainZone the main area (text column) designed to contain text, either as a single or several columns (as designed in the conception of the layout: including eventually text, music notations, illumination, etc.).

3.1.6. MarginTextZone

MarginTextZone characterises any text zone contained in the margins (upper, lower, inner or outer), including the space between two columns, whatever their semantic status (gloss, additions, …).

3.1.7. MusicZone

MusicZone characterises an area containing musical notations, such as neumes, staves, etc., with the possible inclusions of text.

3.1.8. NumberingZone

NumberingZone characterises a zone containing the page number.

3.1.9. QuireMarksZone

QuireMarksZone characterises a zone containing a quire signature (i.e., a ii), catchword, or any kind of element relative to the material organisation of the source, with the exclusion of page numbers.

3.1.10. RunningTitleZone

RunningTitleZonecharacterises a zone containing a running title.

3.1.11. SealZone

SealZone characterises a zone containing a seal.

3.1.12. StampZone

StampZone characterises a zone containing a stamp, be it a library stamp or a mark from a postal service.

3.1.13. TableZone

TableZone characterises a zone containing a table of any kind.

3.1.14. TitlePageZone

TitlePageZone characterises a zone containing a title distinct from the main text. It is mainly used for prints.

3.2. Lines

3.2.1. CustomLine

CustomLine characterises any kind of line not fitting in the other categories, according to any convenient typology the user chooses.

3.2.2. DefaultLine

DefaultLine characterises any kind of standard text line, whether they are included in the MainZone text, in the MarginZone, in MusicZone, or in any type of zone.

3.2.3. DropCapitalLine

DropCapitalLine characterises a line on which rests a DropCapital.

3.2.4. HeadingLine

HeadingLine characterises a line that is not a standard text line, but as been added between two of them, for instance to include a forgotten word.

3.2.5. InterlinearLine

InterlinearLine characterises a line containing a heading, for instance indicating the beginning of a new text. It is typically the case for rubrics in medieval manuscripts, or part/chapter titles in printed books.

3.2.6. MusicLine

MusicLine caracterises the central line of a musical stave.

4. TEI Modelling

The SegmOnto-Gallic(orpor)a guidelines are not a subset of the TEI: all elements remain available. However, the guidelines recommend or require the use of specific elements, which will be described below, the most important of which is the compulsory use of a <sourceDoc> in addition to the required elements <teiHeader> and <text>:

```
<TEI xmlns="http://www.tei-c.org/ns/1.0">
 <teiHeader>
<!-- Supplies descriptive and declarative metadata associated with a digital resource or set of resources. -->
 </teiHeader>
 <sourceDoc>
<!--Contains a transcription or other representation of a single source document. -->
 </sourceDoc>
 <text>
<!-- Contains a single text of any kind, whether unitary or composite. -->
 </text>
```

```
</TEI>
```

4.1. Header

Conceptually, there are three documents articulated in the <teiHeader>. First, there is a digital resource, which this ODD describes and which includes a transcription of a source document. Second, there is the digital exemplar of that source document which was processed with machine learning models to create a transcription. And finally, there is the physical source document itself. The SegmOnto-Gallic(orpor)a guidelines are designed to encode digital exemplars of source documents in the Bibliothèque nationale de France's (BnF) Gallica collection. When generated by the Galli(copor)a pipeline, therefore, the <teiHeader> draws on four data sources to supply information about these three documents:

- – A transcription from a source document created by the the Gallic(orpor)a pipeline and conforms to the SegmOnto-Gallic(orpor)a guidelines.
  - – * + Customisable configuration file in which the pipeline's users specify details about the resource.
    + Data structured in YAML.
- – Digitised images from which the digital resource's transcription was made. These images are distributed via Gallica.
  - – * + API capable of retrieving a document's IIIF manifest.
    + Data structured in JSON.
- – The physical source of the digitised images. This source is usually conserved within one of the BnF's departments or libraries.
  - – * + API that queries the BnF's general catalogue.
    + Data structured in Marc XML, also known as Unimarc.
  - * + Online, open-source database of archival institutions.
    + Data structured in HTML.

If the catalogue entry for the physical source document was successfully found in the BnF's general catalogue, thanks to a query sent to the BnF's SRU API, the <teiHeader> draws from that data source as well as the Sudoc site. If the physical source document was not located in the catalogue, however, the <teiHeader> relies exclusively on the IIIF manifest. Thus, while the the SegmOnto-Gallic(orpor)a guidelines are designed for transcriptions of source documents conserved by the BnF, they can be adapted for any archival institution and the Gallic(orpor)a pipeline can generate a <teiHeader> for any digital exemplars that have a IIIF manifest.

The composition of the <teiHeader> goes beyond a minimal <fileDesc> and includes four components: <titleStmt>, <extent>, <publicationStmt>, and <sourceDesc>. Furthermore, the <teiHeader> requires the use of <profileDesc> and <encodingDesc>:

```
<teiHeader>
<!-- fileDesc: Contains a full bibliographic description of the TEI document. -->
 <fileDesc>
<!-- titleStmt: Bibliographic description including title, author, individuals responsible for text-acquisition pipeline production. -->
  <titleStmt/>
<!-- extent: Number of ALTO-XML source files processed. -->
  <extent/>
<!-- publicationStmt: Information about the organization responsible for the text-acquisition pipeline production. -->
  <publicationStmt/>
<!-- sourceDesc: Bibliographic description of physical and digital examplars of the source document. -->
  <sourceDesc/>
 </fileDesc>
<!-- profileDesc: Provides the languages and sublanguages used in the source document. -->
 <profileDesc/>
<!-- encodingDesc: Provides information about segmentation and HTR engines used to produce the transcription. -->
 <encodingDesc/>
</teiHeader>
```

4.1.1. Title statement

4.1.1.1. Description

The Gallic(orpor)a pipeline automatically generates a <titleStmt>. This element contains the following elements:

- <title>: either the clean title recorded in the BnF's general catalogue (Unimarc zone A200) or the title recorded in the IIIF manifest (value of "Title" in JSON).
- <author>
  - <teiHeader>
    <author>
    * <forename>: an author's first name(s) or otherwise secondary name(s) (Unimarc zone B700 and/or zone B701, anything that is not "van der," "de la," "de," "du," "von," or "van").
    * `<namelink>`: a part of the name that connects the first name and last name (Unimarc zone B700 and/or zone B701, a part that is either "van der," "de la," "de," "du," "von," or "van").

    * <surname>: an author's family name or primary name (Unimarc zone A700 and/or zone A701).
    * *target* of <ptr>: the International Standard Name Identifier (ISNI) of the author (Unimarc zone O700 and/or zone O701).
  – <name>
    * <name>: the author's name (value of "Creator" in JSON)
- <respStmt>
  <respStmt>
  – <resp>: brief prosaic description of how the digital edition was created, which might resemble the phrase "Transformation from ALTO4 to TEI by."
  – <persName>
    * <forename>: first name(s) of an individual responsible for the edition.
    * <surname>: family name of an individual responsible for the edition.
    * *target* of <ptr>: Open Researcher and Contributor ID (ORCID) of an individual responsible for the edition.

4.1.1.2. Example of TEI

```
<titleStmt>
 <title>Cinna, ou La clémence d'Auguste</title>
 <author xml:id="Co1">
  <persName>
   <forename>Pierre</forename>
   <surname>Corneille</surname>
   <ptr type="isni"
    target="0000000121296128"/>
  </persName>
 </author>
 <respStmt>
  <resp>Transformation from ALTO4 to TEI by</resp>
  <persName>
   <forename>Kelly</forename>
   <surname>Christensen</surname>
   <ptr type="orcid"
    target="000000027236874X"/>
  </persName>
  <persName>
   <forename>Simon</forename>
   <surname>Gabay</surname>
   <ptr type="orcid"
    target="0000000190944475"/>
  </persName>
  <persName>
   <forename>Ariane</forename>
   <surname>Pinche</surname>
   <ptr type="orcid"
    target="0000000278435050"/>
  </persName>
 </respStmt>
</titleStmt>
```

4.1.1.3. Data Sources

4.1.1.3.1. Title

4.1.1.3.1.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<mxc:datafield tag="200" ind1="1" ind2=" ">

<!-- TEI translation: <title>Cinna, ou La clémence d'Auguste</title> -->
  <mxc:subfield code="a">Cinna, ou La clémence
     d'Auguste</mxc:subfield> [...] </mxc:datafield> [...]
</mxc:record>
```

4.1.1.3.1.2. IIIF Manifest

```
 { [...] "Title": "Cinna,
                              ou La clémence d'Auguste : tragédie / [par P. Corneille]", [...] }
```

4.1.1.3.2. Author

4.1.1.3.2.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<mxc:datafield tag="700" ind1=" " ind2="|">

<!-- TEI translation: <ptr type="isni" target="0000000121296128"/> -->
```

```
  <mxc:subfield code="o">ISNI0000000121296128</mxc:subfield>

<!-- TEI translation: <surname>Corneille</surname> -->
  <mxc:subfield code="a">Corneille</mxc:subfield>

<!-- TEI translation: <forename>Pierre</forename> -->
  <mxc:subfield code="b">Pierre</mxc:subfield> [...]
 </mxc:datafield> [...] </mxc:record>
```

4.1.1.3.2.2. IIIF Manifest

```
{ "Creator": "Corneille,
                              Pierre (1606-1684). Auteur du texte", [...] }
```

4.1.1.3.3. Responsibility Statement

4.1.1.3.3.1. YAML Configuration File

```
responsibility: text:
                              "Transformation from ALTO4 to TEI by" resp: [ {"forename":"Kelly",
                              "surname":"Christensen",
                              "ptr":{"type":"orcid","target":"000000027236874X"}},
                              {"forename":"Simon", "surname":"Gabay",
                              "ptr":{"type":"orcid","target":"0000000190944475"}},
                              {"forename":"Ariane", "surname":"Pinche",
                              "ptr":{"type":"orcid","target":"0000000278435050"}} ]
```

4.1.2. Extent

The element <extent> represents the number of images files which the Gallic(corpor)a pipeline processed in order to create the digital resource.

```
<extent>
 <measure unit="images" n="20"/>
</extent>
```

4.1.3. Publication Statement

4.1.3.1. Description

The <publicationStmt> is generated automtically from information registered in the Gallic(orpor)a pipeline's YAML configuration file.

- <publisher>: organization responsible for publishing and distributing the digital resource.
- <authority>: organization financially responsible for making the resource available.
- <availability>
  status
  n
  - *target* of <licence>: URL to the resource's licence.
- *when* of <date>: the day the Gallic(orpor)a pipline generated the resource.

4.1.3.2. Example of TEI

```
<publicationStmt>
 <publisher>Gallic(orpor)a</publisher>
 <authority>BnF DATALab</authority>
 <availability status="restricted"
  n="cc-by">
  <licence target="https://creativecommons.org/licenses/by/4.0/"/>
 </availability>
 <date when="2022-07-06"/>
</publicationStmt>
```

4.1.3.3. Data Sources

4.1.3.3.1. Publication Statement

4.1.3.3.1.1. YAML Configuration File

```
publisher:
                              "Gallic(orpor)a" authority: "BnF DATALab" availability: {"status":
                              "restricted", "n":"cc-by"} licence:
                              {"target":"https://creativecommons.org/licenses/by/4.0/"}
```

4.1.4. Source Description

4.1.4.1. Description

Because a transcription is derived from a specific source document, the SegmOnto-Gallic(orpor)a guidelines require that the <sourceDesc> has the following two elements:

- <bibl>
  - * *target* of <ptr>: the URL to the document in the catalogue (Unimarc controlfield, tag="003").
  - <author>: the same information provided in the <titleStmt> (4.1.1 (Title statement)), but with an attribute *ref* that refers to the author's *xml:id* in the <titleStmt>.
  - <title>: the same title provided in the <titleStmt> (4.1.1 (Title statement)).

  - * <pubPlace>: the location (Unimarc zone A210) where the work was produced and it presents that location's country code in *key* (Unimarc zone A102).
  - * <publisher>: the name of the publisher, whether they are an individual or an organization (Unimarc zone C210).
  - <date>: if the physical source document was found in the BnF's general catalogue, this elements presents the year of the document's publication in the attribute *when* (characters 9-13 of Unimarc zone A100 or the content of Unimarc zone D210) as well as the BnF's degree of certainty about this date in the attributes *cert* (8th character of Unimarz zone A100) and *resp*, whose value is always "BNF" because this information came from the BnF's general catalogue. If, however, the BnF's catalogue data are not being used, the element <date> can be supplied with information in the IIIF manifest (value of "Date" in JSON).
- <msDesc>
  - <msIdentifier>
    - * *key* of <country>: country code describing the location of the institution that conserves the physical source document (Unimarc zone A801).
    - * <settlement>: city in which the institution is located (address scraped from webpage of Sudoc search results for the institution's RCR number, which is in Unimarc zone B930.
    - <repository>: name of the institution (value of "Repository" in JSON or address scraped from webpage of Sudoc search results for the institution's RCR number, which is in Unimarc zone B930).
    - <idno>: the physical source document's identifier in the institution's catalogue (Unimarc zone A930 or value of "Shelfmark" in JSON).
    - <altIdentifier>
      + <idno type="ark">: the Archival Resource Key (ARK) of the digital exemplars used to make the transcription.
  - <physDesc>
    - * <objectDesc>: note about the source document's material description (Unimarc zone B200).

* only if the physical source document's catalogue entry was located in the BnF general catalogue

4.1.4.2. Example of TEI

```
<sourceDesc>
 <bibl>
  <ptr target="http://catalogue.bnf.fr/ark:/12148/cb30271542q"/>
  <author ref="#Co1">
   <persName>
    <forename>Pierre</forename>
    <surname>Corneille</surname>
    <ptr type="isni"
     target="0000000121296128"/>
   </persName>
  </author>
  <title>Cinna, ou La clémence d'Auguste</title>
  <pubPlace key="FR">Imprimé à Rouen aux despens de l'autheur</pubPlace>
  <publisher>T. Quinet</publisher>
  <date when="1643" cert="high" resp="BNF">1643</date>
 </bibl>
 <msDesc>
  <msIdentifier>
   <country key="FR"/>
   <settlement>Paris</settlement>
   <repository>Bibliothèque nationale de France</repository>
   <idno>RES-YF-620</idno>
   <altIdentifier>
    <idno type="ark">btv1b8610802d</idno>
   </altIdentifier>
  </msIdentifier>
  <physDesc>
   <objectDesc>
    <p>Texte imprimé</p>
   </objectDesc>
  </physDesc>
 </msDesc>
</sourceDesc>
```

4.1.4.3. Data Sources

4.1.4.3.1. Pointer to Catalogue Entry of Source Document

4.1.4.3.1.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
```

```
<!-- TEI translation: <ptr target="http://catalogue.bnf.fr/ark:/12148/cb30271542q"/> (in <bibl>) -->
 <mxc:controlfield tag="003">http://catalogue.bnf.fr/ark:/12148/cb30271542q</mxc:controlfield>
 [...] </mxc:record>
```

4.1.4.3.2. Publication Place of Source Document

4.1.4.3.2.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<mxc:datafield tag="102" ind1=" " ind2=" ">

<!-- TEI translation: <pubPlace key="FR"> (in <bibl>) -->
  <mxc:subfield code="a">FR</mxc:subfield>
 </mxc:datafield> [...] <mxc:datafield tag="210" ind1=" " ind2=" ">

<!-- TEI translation: <pubPlace>Imprimé à Rouen aux despens de l'auteur</pubPlace> (in <bibl>)  -->
  <mxc:subfield code="a">Imprimé à Rouen aux despens de
     l'autheur</mxc:subfield> [...] </mxc:datafield> [...]
</mxc:record>
```

4.1.4.3.3. Publisher of Source Document

4.1.4.3.3.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<mxc:datafield tag="210" ind1=" " ind2=" "> [...]
<!-- TEI translation: <publisher>T. Quinet</publisher> (in <bibl>) -->
  <mxc:subfield code="c">T. Quinet</mxc:subfield> [...]
 </mxc:datafield> [...] </mxc:record>
```

4.1.4.3.4. Date of Source Document's Publication

4.1.4.3.4.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<!-- TEI translation: <date when="1643" cert="high" resp="BNF">1643</date> (in <bibl>) -->
 <mxc:datafield tag="100" ind1=" " ind2=" ">
  <mxc:subfield code="a">19970701d1643 m y0frey50
     ba</mxc:subfield>
<!-- code "d" within "19970701d1643" means the monograph was complete when issued or issued within one calendar year,
                                and therefore the certainty about the date is considered to be "high"-->
 </mxc:datafield> [...] </mxc:record>
```

4.1.4.3.4.2. IIIF Manifest

```
 { [...] "Date": "1643",
                               [...] }
```

4.1.4.3.5. Country Code of Conserving Institution

4.1.4.3.5.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<!-- TEI translation: <country key="FR"/> (in <msDesc>) -->
 <mxc:datafield tag="801" ind1=" " ind2="0">
  <mxc:subfield code="a">FR</mxc:subfield>
 </mxc:datafield> [...] </mxc:record>
```

4.1.4.3.6. City of Conserving Institution

4.1.4.3.6.1. Results Page of Sudoc Site

First, from the BnF's SRU API response, the Gallic(orpor)a pipeline retrieves the unique RCR number for the institution that conserves the source document.

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<mxc:datafield tag="930" ind1=" " ind2=" "> [...]
<!-- Retrieve this RCR number for the institution -->
  <mxc:subfield code="b">759999999</mxc:subfield> [...]
 </mxc:datafield> [...] </mxc:record>
```

Next, the pipeline requests the results page of the Sudoc site for the institution that has this RCR number.

```
<tr>
 <td class="rec_lable">
  <div>
   <span>Adresse postale : </span>
  </div>
 </td>
 <td class="rec_title">
  <div>
   <span>Bibliothèque nationale de France</span>
  </div>
  <div>
   <span>quai Francois Mauriac </span>
  </div>
<!-- TEI translation: <settlement>Paris</settlement> (in <msDesc>) -->
  <div>
   <span>75706 Paris CEDEX 13</span>
  </div>
  <div>
```

```
   <span>France</span>
  </div>
  <div>
   <span> </span>
  </div>
 </td>
</tr>
```

Finally, the pipeline locates the address line that names the country, in this case "France," and retrieves the line immediately preceding the country, which would presumably be the city. After some cleaning, in which any numbers and the French term "Cedex," which is assumed to not be the name of a city, are removed, the remaining string is inserted in the <msDesc>.

4.1.4.3.7. Name of Conserving Institution

4.1.4.3.7.1. Results Page of Sudoc Site

First, from the BnF's SRU API response, the Gallic(orpor)a pipeline retrieves the unique RCR number for the institution that conserves the source document.

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<mxc:datafield tag="930" ind1=" " ind2=" "> [...]
<!-- Retrieve this RCR number for the institution -->
  <mxc:subfield code="b">759999999</mxc:subfield> [...]
 </mxc:datafield> [...] </mxc:record>
```

Next, the pipeline requests the results page of the Sudoc site for the institution that has this RCR number.

```
<tr>
 <td class="rec_lable">
  <div>
   <span>Adresse postale : </span>
  </div>
 </td>
 <td class="rec_title">
<!-- TEI translation: <repository>Bibliothèque nationale de France</repository> (in <msDesc>) -->
  <div>
   <span>Bibliothèque nationale de France</span>
  </div>
  <div>
   <span>quai Francois Mauriac </span>
  </div>
  <div>
   <span>75706 Paris CEDEX 13</span>
  </div>
  <div>
   <span>France</span>
  </div>
  <div>
   <span> </span>
  </div>
 </td>
</tr>
```

Finally, the pipeline locates the first address line, which is presumed to be the name of the institution.

4.1.4.3.7.2. IIIF Manifest

Otherwise, the name of the institution can be derived from the IIIF manfiest.

```
 { [...] "Repository":
                              "Bibliothèque nationale de France", [...] }
```

4.1.4.3.8. Shelfmark of Source Document

4.1.4.3.8.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<!-- TEI translation: <idno>RES-YF-620</idno> (in <msDesc>) -->
 <mxc:datafield tag="930" ind1=" " ind2=" "> [...] <mxc:subfield code="a">RES-YF-620</mxc:subfield> [...] </mxc:datafield>

<!-- The current version of the pipeline does not acccommodate multiple Unimarc zones 930; it retrieves only the first response -->
 <mxc:datafield tag="930" ind1=" " ind2=" "> [...] <mxc:subfield code="a">RES-YF-621</mxc:subfield> [...] <mxc:subfield code="d">N</mxc:subfiel
 </mxc:datafield> [...] </mxc:record>
```

4.1.4.3.8.2. IIIF Manifest

```
 { [...] "Shelfmark":
                              "Bibliothèque nationale de France, département Réserve des livres
                              rares, RES-YF-621", [...] }
```

4.1.4.3.9. ARK of Digital Exemplars of Source Document

The Archival Resource Key (ARK) of the digital exemplars are known to the Gallic(orpor)a pipeline thanks to the file naming system that it constructs and on which it relies. The transcribed pages of a source document are stored in a directory named after the ARK. Consequently, the pipeline retains access to this data and draws on the directory's name when generating the XML-TEI file and the <idno> of the `<altIdentifer>`.

4.1.4.3.10. Type of Source Document's Material

4.1.4.3.10.1. SRU API Response

```
<mxc:record
```

```
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<!-- TEI translation: <p>Texte imprimé</p> (in <objectDesc>) -->
 <mxc:datafield tag="200" ind1="1" ind2=" ">
  <mxc:subfield code="b">Texte imprimé</mxc:subfield>
 </mxc:datafield> [...] </mxc:record>
```

4.1.5. Profile Description

4.1.5.1. Description

In SegmOnto, <profileDesc>is required because the nature of transcriptions is such that it is essential to identify and record the language(s) used as part of the resource's metadata.

Consequently, <profileDesc> requires <langUsage> and at least one <language> element. The Gallic(orpor)a pipeline derives this information from both the digital exemplars' IIIF manifest (value of "Language" in JSON), which is the text contained in the element <language>, as well as the physical source document's metadata in the BnF's general catalogue (Unimarc zone A101), which is given as the attribute *ident*.

In its current version, the pipeline only accommodates one language.

4.1.5.2. Example of TEI

```
<profileDesc>
 <langUsage>
  <language ident="fre">français</language>
 </langUsage>
</profileDesc>
```

4.1.5.3. Data Sources

4.1.5.3.1. Language

4.1.5.3.1.1. SRU API Response

```
<mxc:record
   xmlns:mxc="info:lc/xmlns/marcxchange-v2"> [...]
<!-- TEI translation: <language ident="fre"> -->
 <mxc:datafield tag="101" ind1="0" ind2=" ">
  <mxc:subfield code="a">fre</mxc:subfield>
 </mxc:datafield> [...] </mxc:record>
```

4.1.5.3.1.2. IIIF Manifest

```
{ [...] "Language":
                              "français", [...] }
```

4.1.6. Encoding description

4.1.6.1. Apparatus

4.1.6.1.1. Description

Because a mechanical transcription is produced by a tool, and because tools can produce slightly different data (height of the baseline, etc.), it is crucial to indicate which one was used with <appInfo>.

The current version of the Gallic(orpor)a pipeline draws this information either from the requirements.txt file that lists the version of Kraken used to mechanically produce the transcription or, if the transcriptions have already been made and only the pipeline's tool that transforms ALTO-XML files to a TEI-XML file is being used, the user can manually declare a version of Kraken. The Gallic(orpor)a pipeline presumes that the engine responsible for creating the transcriptions is Kraken. However, any applications can be declared in an <appInfo> and the SegmOnto-Gallic(orpor)a guidelines require at least one.

4.1.6.1.2. Example of TEI

```
<appInfo>
 <application ident="Kraken"
  version="4.1.2">
  <label>Kraken</label>
  <ptr target="https://github.com/mittagessen/kraken"/>
 </application>
</appInfo>
```

4.1.6.2. Taxonomy

4.1.6.2.1. Description

Because SegmOnto uses precisely defined zones, it is important to provide a link for each of them via the <taxonomy> element in <classDecl>. The SegmOnto-Gallic(orpor)a guidelines recommend to only include as many SegmOnto zones as the transcription uses, and the Galli(orpor)a pipeline only generates a <catDesc> for zones and lines whose tags it identified in the mechanically produced transcription.

The pipeline enriches the description of zones and lines by inserting a URL from SegmOnto's website that provides up-to-date detail about the entity. This connection is made when the pipeline identifies a tag used in the transcription whose name corresponds to a name in its internal index, each of which is paired with a URL from SegmOnto's website. Training models to respect SegmOnto's syntax, including capitalisation and the spelling of zones and lines, allows the pipeline to automatically fill the <taxonomy> with these enriched descriptions.

4.1.6.2.2. Example of TEI

```
<classDecl>
```

```
 <taxonomy xml:id="SegmOnto">
  <bibl>
   <title>SegmOnto</title>
   <ptr target="https://github.com/segmonto"/>
  </bibl>
  <category xml:id="SegmOntoZones">
   <catDesc xml:id="DropCapitalZone">
    <title>DropCapitalZone</title>
    <ptr target="https://segmonto.github.io/gd/gdZ/DropCapitalZone"/>
   </catDesc> [...] </category>
  <category xml:id="SegmOntoLines">
   <catDesc xml:id="HeadingLine">
    <title>HeadingLine</title>
    <ptr target="https://segmonto.github.io/gd/gdL/HeadingLine"/>
   </catDesc> [...] </category>
 </taxonomy>
</classDecl>
```

4.1.6.2.3. Example of ALTO

```
 [...] <Tags>
<!-- TEI translation: <catDesc xml:id="DropCapitalZone"> -->
 [...]<OtherTag ID="BT2060"
  LABEL="DropCapitalZone" DESCRIPTION="block type DropCapitalZone"/>[...]

<!-- TEI translation: <catDesc xml:id="HeadingLine"> -->
 [...]<OtherTag ID="LT722" LABEL="HeadingLine"
  DESCRIPTION="line type HeadingLine"/>[...]
</Tags>
```

4.2. Source Document

In the TEI, the <sourceDoc> contains a transcription of a source document. The SegmOnto-Gallic(orpor)a guidelines take full advantage of this purpose and use the <sourceDoc> to conserve every piece of information conveyed in ALTO-XML files. Thanks to this commitment to data conservation, the <sourceDoc> can be used to recreate ALTO-XML files and therefore re-train models based on transcriptions represented in a TEI-XML file.

Whereas certain elements of the <teiHeader> are open to modification, the SegmOnto-Gallic(orpor)a guidelines apply strict limits to the <sourceDoc>. It must contain two types of information: (1) coordinates and a classification for geometric regions, and (2) textual content linked to a region. The only variety permitted in the <sourceDoc> is the level of granularity of a page's embedded regions, which depends on the mechanically prodocued ALTO-XML files. In an ALTO-XML file, a transcription's granularity can either descend only to the level of a line of text, such as the line "Textual content." Or it can descend as deep as the level of a glyph inside a segment, such as the character "T" in the segment "Textual."

When processing ALTO-XML files with shallow granularity, the <sourceDoc> explores the top two embedded layers of a page's possible granularity: a zone and line(s) of text within that zone. The text line's content is expressed in an element <line>, which is embedded inside the geometric region of that line, the innermost <zone>.

```
<sourceDoc>[...]
<!-- Region of one page. -->
 <surface> [...]
<!-- Region of one zone. -->
  <zone type="Zone">
<!-- Region of one line of text (i.e. "Textual content."). -->
   <zone type="Line"> [...] <line>Textual content.</line>
   </zone>
  </zone>
 </surface>
</sourceDoc>
```

When processing ALTO-XML files with deep granularity, the <sourceDoc> explores all four embedded layers of a page's granularity: a zone, line(s) of text within that zone, segment(s) that compose that line, and glyph(s) that compose that segment. The text line's content is still expressed in the element <line>, which establishes uniformity between the two possible <sourceDoc> structures. However, the textual content of glyphs is also expressed. The glyph's content is contained inside the element `<c>`, which is itself embedded within the <zone> of that glyph.

```
<sourceDoc>[...]
<!-- Region of one page. -->
 <surface> [...]
<!-- Region of one zone. -->
  <zone type="Zone">
<!-- Region of one line of text (i.e. "Textual content."). -->
   <zone type="Line"> [...]
<!-- Region of one segment in a line (i.e. "Textual"). -->
    <zone type="String"> [...]
<!-- Region of one glyph in a segment (i.e. "T"). -->
     <zone type="Glyph"> [...] <c>T</c>
     </zone> [...] </zone> [...]
<!-- Region of a white space between segments. -->
    <zone type="Space"/> [...] <line>Textual content.</line>
   </zone>
  </zone>
 </surface>
</sourceDoc>
```

4.2.1. Page

One ALTO-XML file usually represents the transcription of one page from a source document. In the ALTO schema, data about one page is embedded in the element `<Page>`, whose attributes describe that page's width and height, as well as how many other pages had been mechanically processed before it. The ALTO attribute *PHYSICAL_IMAGE_NR* represents the position of that transcribed image within the context of a series of processed images. Contrary to the data forementioned, there is one piece of information that the SegmOnto-Gallic(orpor)a guidelines do not consider essential. Mechanical processes generate automatically an ID for the region of a page. The Gallic(orpo)a pipeline replaces this ID with a more meaningful identifier that represents the folio number of the source document.

In the TEI model, one <surface> represents one page and includes all the geometric information encoded in the elements that the ALTO-XML file uses to represent one page. When mechanically generated, an ALTO-XML file redundantly describes the height and width of a page in two locations, the `<Page>` element and the `<PrintSpace>` element, because the entirety of an image is transcribed.

4.2.1.1. Example of ALTO

```
<Layout>
 <Page WIDTH="2586" HEIGHT="3631"
  PHYSICAL_IMG_NR="2" ID="page_2">
  <PrintSpace HPOS="0" VPOS="0" WIDTH="2586"
   HEIGHT="3631"> [...]
  </PrintSpace>
 </Page>
</Layout>
```

4.2.1.2. Mapping of Page `<zone>`

TEI model	ALTO schema
<surface xml:id=[ALTO-XML file name / folio number]>	
<surface n="value">	<Page PHYSICAL_IMAGE_NR="value">
<surface ulx="value">	<Page HPOS="value">
<surface uly="value">	<Page VPOS="value">
<surface lrx="value">	<Page WIDTH="value">
<surface lry="value">	<Page HEIGHT="value">

4.2.1.3. Mapping of Page `<graphic>`

TEI model	ALTO schema
<zone source="[URI]/[folio number]/full/full/0/native.jpg">	

4.2.1.4. Example of TEI

Embedded in the <surface> element, the element <graphic> combines the ARK of the digital exemplars and the IIIF URI for Gallica's documents to generate a IIIF URI of the full region of the page transcribed.

```
<surface xml:id="f11" n="2" ulx="0" uly="0"
 lrx="2586" lry="3631">
 <graphic url="https://gallica.bnf.fr/iiif/ark:/12148/btv1b8610802d/f11/full/full/0/native.jpg"/> [...]
</surface>
```

4.2.2. Layer 1: SegmOnto Zone

A SegmOnto zone describes a region on a source document's page that does not necessarily contain text, as in the case of a StampZone or DamageZone. Thus, when mapped to the TEI element <zone>, this element does not have to include children. It does, however, require certain attributes standard to all <zone> elements in the SegmOnto-Gallic(orpor)a guidelines. These attributes describe the region's classification or function (*type*), the X coordinate where the region starts (*ulx*), the Y coordinate where it starts (*uly*), the X coordinate where it ends (*lrx*), the Y coordinate where it ends (*lry*), a sequence of X,Y coordinates that outline the region's polygonal perimeter (*points*), and the IIIF URI that will display that region in a IIIF Image API viewer (*source*).

The region of a SegmOnto zone and the region of an inter-word space are the only two <zone> elements that can and will not, respectively, have any descendants. Another particularity of the SegmOnto zone is that it, along with the <zone> for a SegmOnto line, has a composite classification, composed of a *type*, *subtype*, and *n*. Furthemore, the <zone> element for a SegmOnto zone and SegmOnto line have an attribute `<correp>`, which associates its classification with one described in the <taxonomy> (4.1.6.2 (Taxonomy)).

4.2.2.1. Example of ALTO of `<TextBlock>`

```
<TextBlock HPOS="323" VPOS="336"
 WIDTH="2056" HEIGHT="2812" ID="textblock_0"
 TAGREFS="BT2062">
 <Shape>
```

```
  <Polygon POINTS="2379 336 2379 3148 323 3148 323 336"/>
 </Shape>
 [...]
</TextBlock>
```

4.2.2.2. Mapping of SegmOnto Zone <zone>

TEI model	- calculation -	ALTO schema
<zone xml:id="[folio number]-[value]-[count of TextBlock]">		<TextBlock ID="value">
<zone type="value">		<TextBlock TAGREFS="[value]:subtype#number">
<zone corresp="#[id]">	search "value" in <taxonomy>, retrieve "id"	<TextBlock TAGREFS="[value]:subtype#number">
<zone subtype="value">		<TextBlock TAGREFS="type:[value]#number">
<zone n="value">		<TextBlock TAGREFS="type:subtype#[value]">
<zone ulx="value">		<TextBlock HPOS="value">
<zone uly="value">		<TextBlock VPOS="value">
<zone lrx="sum">	HPOS + WDITH = "sum"	<TextBlock WIDTH="value">
<zone lry="sum">	VPOS + HEIGHT = "sum"	<TextBlock HEIGHT="value">
<zone points="value">		<Polygon POINTS="value">
<zone source="[URI]/[folio number]/[HPOS],[VPOS],[WIDTH],[HEIGHT]/full/0/native.jpg">		<TextBlock HPOS="value">, <TextBlock VPOS="value">, <TextBlock WIDTH="value">, <TextBlock HEIGHT="value">

4.2.2.3. Example of TEI

```
<zone xml:id="f11-textblock_0-blockCount1"
 type="MainZone" corresp="#MainZone" subtype="none"
 n="none" ulx="323" uly="336" lrx="2379" lry="3148"
 points="2379,336 2379,3148 323,3148 323,336"
 source="https://gallica.bnf.fr/iiif/ark:/12148/btv1b8610802d/f11/323,336,2056,2812/full/0/native.jpg"> [...] </zone>
```

4.2.3. Layer 2: SegmOnto Line

A SegmOnto line describes a region on a source document's page contains text and therefore most contain children that express the textual content of the line. Like all regions, the <zone>of a SegmOnto line requires certain standard attributes. These attributes describe the region's classification or function (*type*), the X coordinate where the region starts (*ulx*), the Y coordinate where it starts (*uly*), the X coordinate where it ends (*lrx*), the Y coordinate where it ends (*lry*), a sequence of X,Y coordinates that outline the region's polygonal perimeter (*points*), and the IIIF URI that will display that region in a IIIF Image API viewer (*source*).

A SegmOnto line has a composite classification, composed of a *type*, *subtype*, and *n*. Furthemore, the <zone> element for a SegmOnto line has an attribute <correp>, which associates its classification with one described in the <taxonomy> (4.1.6.2 (Taxonomy)).

What distinguishes the coordinates of a SegmOnto line from a SegmOnto zone, however, is the presence of a baseline, which is a linear line segment and therefore has a pair of X,Y coordinates. In the TEI model, these four values are expressed in a separate and empty element, <path>. The <zone> of a SegmOnto line has a second required child element, <line>, which contains the line's text and keeps count of the number of lines in a SegmOnto zone with its attribute <n>.

4.2.3.1. Example of ALTO <TextLine> (shallow granularity)

```
<TextLine ID="textline_0" TAGREFS="LT722"
 BASELINE="605 944 2010 925" HPOS="596" VPOS="777" WIDTH="1414"
 HEIGHT="182">
 <Shape>
  <Polygon POINTS="605 944 596 816 666 795 669 795 672 795 814 810 838 792 838 789 841
 789 844 789 847 789 932 804 953 789 956 789 959 789 962 789 1050 801
 1323 783 1326 783 1704 798 1768 777 1771 777 1774 777 2004 798 2010
 925 2004 953 1798 941 1750 956 1747 956 1744 956 605 959"/>
 </Shape>
 <String CONTENT="A MONSIEVR" HPOS="596"
  VPOS="777" WIDTH="1414" HEIGHT="182"/>
```

```
</TextLine>
```

4.2.3.2. Mapping of SegmOnto Line <zone>

TEI model	- calculation -	ALTO schema
<zone xml:id="[folio number]-[@ID of parent TextBlock]-[value]-[count of TextLine]">		<TextLine ID="value">
<zone type="value">		<TextLine TAGREFS="[value]:subtype#number">
<zone corresp="#[id]">	search "value" in <taxonomy>, retrieve "id"	<TextLine TAGREFS="[value]:subtype#number">
<zone subtype="value">		<TextLine TAGREFS="type:[value]#number">
<zone n="value">		<TextLine TAGREFS="type:subtype#[value]">
<zone ulx="value">		<TextLine HPOS="value">
<zone uly="value">		<TextLine VPOS="value">
<zone lrx="sum">	HPOS + WDITH = "sum"	<TextLine WIDTH="value">
<zone lry="sum">	VPOS + HEIGHT = "sum"	<TextLine HEIGHT="value">
<zone points="value">		<Polygon POINTS="value">
<zone source="[URI]/[folio number]/[HPOS],[VPOS],[WIDTH],[HEIGHT]/full/0/native.jpg">		<TextLine HPOS="value">, <TextBlock VPOS="value">, <TextBlock WIDTH="value">, <TextBlock HEIGHT="value">

4.2.3.3. Mapping of SegmOnto Line <path>

TEI schema	ALTO model
<zone xml:id="[folio number]-[@ID of parent TextBlock]-[value]-[count of TextLine]-baseline">	<TextLine ID="value">
<TextLine BASELINE="value">	<path points="value">

4.2.3.4. Mapping of SegmOnto Line <line> (shallow granularity)

TEI schema	ALTO model
<zone xml:id="[folio number]-[@ID of parent TextBlock]-[value]-[count of TextLine]-text">	<TextLine ID="value">
<line>value</line>	<String CONTENT="value">

4.2.3.5. Example of TEI

```
<zone xml:id="f11-textblock_0-textline_0-lineCount1"
 type="HeadingLine" corresp="#HeadingLine" subtype="none"
 n="none" ulx="596" uly="777" lrx="2010" lry="959"
 points="605,944 596,816 666,795 669,795 672,795 814,810 838,792 838,789 841,789
 844,789 847,789 932,804 953,789 956,789 959,789 962,789 1050,801 1323,783
 1326,783 1704,798 1768,777 1771,777 1774,777 2004,798 2010,925 2004,953
 1798,941 1750,956 1747,956 1744,956 605,959"
 source="https://gallica.bnf.fr/iiif/ark:/12148/btv1b8610802d/f11/596,777,1414,182/full/0/native.jpg">
 <path xml:id="f11-textblock_0-textline_0-lineCount1-baseline"
  points="605,944 2010,925"/>
 <line xml:id="f11-textblock_0-textline_0-lineCount1-text"
  n="1">A
   MONSIEVR</line>
</zone>
```

4.2.3.6. Deep Granularity

When the ALTO-XML file's granularity descends to the level of glyphs, the <String> element does not present the textual content of a line in the attribute *CONTENT*, as it did in the previous example (4.2.3.1 (Example of ALTO <TextLine> (shallow granularity))). Thus, in the case of a very descriptive ALTO-XML file, the SegmOnto-Gallic(orpor)a guidlines require that a line's textual content is extracted and reconstructed from glyphs and put

inside the element <line>. The <line> element is a required child for a SegmOnto line's <zone> element and must contain textual content.

4.2.4. Layer 3: Segment

In ALTO-XML files with deep granularity, the element `<String>` that descends from `<TextLine>` describes only one segment within a line, rather than the line's composition of words as in files with shallow granularity. Furthermore, the `<String>` element can either carry textual information, which means it contains children, or it can demarcate the empty space between words, in which case it does not have any descenents. Therefore, when an ALTO-XML file descends to a deep level of granularity, `<TextLine>` often has multiple `<String>` children elements. On the contrary, in ALTO-XML files of shallow granularity, the `<TextLine>` element has only one child element `<String>`.

When created using the Kraken engine, most ALTO-XML files that have deep granularity use the attribute *WC* to ascribe a degree of certainty to a model's prediction of word segments and glyphs. The SegmOnto-Gallic(or-por)a guidelines require that this data about a model's prediction be conserved and represented in the TEI element `<certainty>`, specifically its attribute *degree*. In the TEI, the element `<certainty>` requires the attribute *locus*, which describes what exactly is uncertain. The SegmOnto-Gallic(orpor)a guidelines require that the value of *locus* is always "value" because the degree of certainty refers to the segment's or glyph's predicted text.

Other than the addition of the attribute `<WC>` and the different meaning of the attribute `<CONTENT>`, the region described in the `<String>` element closely resembles the previous two layers.

4.2.4.1. Example of ALTO `<String>` (word)

```
<String ID="segment_1" CONTENT="MONSIEVR"
 HPOS="837" VPOS="777" WIDTH="1172" HEIGHT="182"
 WC="0.9064">
 <Shape>
  <Polygon POINTS="..."/>
 </Shape> [...]
</String>
```

4.2.4.2. Mapping Segment `<zone>`

TEI model	- calculation -	ALTO schema
<zone xml:id="[folio number]-[@ID of parent TextBlock]-[@ID of parent TextLine]-[value]-[count of String]">		<String ID="value">
<zone type="String">		<String>
<zone ulx="value">		<String HPOS="value">
<zone uly="value">		<String VPOS="value">
<zone lrx="sum">	HPOS + WDITH = "sum"	<String WIDTH="value">
<zone lry="sum">	VPOS + HEIGHT = "sum"	<String HEIGHT="value">
<zone points="value">		<Polygon POINTS="value">
<zone source="[URI]/[folio number]/[HPOS],[VPOS],[WIDTH],[HEIGHT]/full/0/native.jpg">		<String HPOS="value">, <String VPOS="value">, <String WIDTH="value">, <String HEIGHT="value">

4.2.4.3. Mapping Segment `<certainty>`

TEI model	ALTO schema
<certainty xml:id="[folio number]-[@ID of parent TextBlock]-[@ID of parent TextLine]-[value]-[count of String]-cert">	<String ID="value">
<certainty target="#[folio number]-[@ID of parent TextBlock]-[@ID of parent TextLine]-[value]-[count of String]-text">	<String ID="value">
<certainty degree="value">	<String WC="value">

4.2.4.4. Example of TEI (word)

```
<zone xml:id="f11-textblock_0-textline_0-segment_2-segCount3"
 type="String" ulx="837" uly="777" lrx="2009" lry="959"
 points="..."
 source="https://gallica.bnf.fr/iiif/ark:/12148/btv1b8610802d/f11/837,777,1172,182/full/0/native.jpg">
 <certainty xml:id="f11-textblock_0-textline_0-segment_2-segCount3-cert"
  target="#f11-textblock_0-textline_0-segment_2-segCount3-text" locus="value" degree="0.9064"/> [...]
</zone>
```

4.2.4.5. Example of TEI (inter-word space)

ALTO-XML files with deep granularity specify both segments of words and segments of space between words. The latter, which the ALTO schema marks with the element <SP>, are rectangles rather than polygons and therefore do not have the descendent <Polygon>. This means that the TEI translation of this information does not have a <path> descendent. Instead, the empty <zone> for an inter-word space has an ID (*xml:id*), the type "Space," and the four coordinates *ulx*, *uly*, *lrx*, and *lry*.

```
<zone xml:id="f11-textblock_0-textline_0-segment_1-segCount2"
 type="Space" ulx="..." uly="..." lrx="..." lry="..."/>
```

4.2.5. Layer 4: Glyph

Regarding textual content, the element <Glyph> is the deepest level of granularity expressed in the ALTO-XML schema. <Glyph> is always embedded in a <String> and, like a word segment, is ascribed a degree of certainty about the model's prediction. The SegmOnto-Gallic(orpor)a guidelines require that this data be represented in the TEI element <certainty>. In the TEI, the element <certainty> requires the attribute *locus*, which describes what exactly is uncertain. The SegmOnto-Gallic(orpor)a guidelines require that the value of *locus* is always "value" because the degree of certainty refers to the glyph's predicted text.

Other than the addition of the attribute <GC> and the different meaning of the attribute <CONTENT>, the region described in the <String> element closely resembles the previous three layers.

4.2.5.1. Example of ALTO <Glyph>

```
<Glyph ID="char_1" CONTENT="M" HPOS="837"
 VPOS="777" WIDTH="159" HEIGHT="162" GC="0.8127">
 <Shape>
  <Polygon POINTS="..."/>
 </Shape>
</Glyph>
```

4.2.5.2. Mapping Glyph <zone>

TEI model	- calculation -	ALTO schema
<zone xml:id="[folio number]-[@ID of parent TextBlock]-[@ID of parent TextLine]-[@ID of parent String]-[value]-[count of Glyph]">		<Glyph ID="value">
<zone type="Glyph">		<Glyph>
<zone ulx="value">		<Glyph HPOS="value">
<zone uly="value">		<Glyph VPOS="value">
<zone lrx="sum">	HPOS + WDITH = "sum"	<Glyph WIDTH="value">
<zone lry="sum">	VPOS + HEIGHT = "sum"	<Glyph HEIGHT="value">
<zone points="value">		<Polygon POINTS="value">
<zone source="[URI]/[folio number]/[HPOS],[VPOS],[WIDTH],[HEIGHT]/full/0/native.jpg">		<Glyph HPOS="value">, <String VPOS="value">, <String WIDTH="value">, <String HEIGHT="value">

4.2.5.3. Mapping Glyph <certainty>

TEI model	ALTO schema
<certainty xml:id="[folio number]-[@ID of parent TextBlock]-[@ID of parent TextLine]-[@ID of parent String]-[value]-[count of Glyph]-cert">	<String ID="value">
<certainty target="#[folio number]-[@ID of parent TextBlock]-[@ID of parent TextLine]-[@ID of parent String]-[value]-[count of Glyph]-text">	<String ID="value">
<certainty degree="value">	<String GC="value">

4.2.5.4. Mapping Glyph <c>

TEI model	ALTO schema
<c xml:id="[folio number]-[@ID of parent TextBlock]-[@ID of parent TextLine]-[@ID of parent String]-[value]-[count of Glyph]-text">	<String ID="value">

<c>value</c>	<String CONTENT="value">

4.2.5.5. Example of TEI

```
<zone xml:id="f11-textblock_0-textline_0-segment_2-char_1-glyphCount2"
 type="String" ulx="837" uly="777" lrx="996" lry="939"
 points="..."
 source="https://gallica.bnf.fr/iiif/ark:/12148/btv1b8610802d/f11/837,777,154,120/full/0/native.jpg">
 <certainty xml:id="f11-textblock_0-textline_0-segment_2-char_1-glyphCount2-cert"
  target="#f11-textblock_0-textline_0-segment_2-char_1-glyphCount2-text" locus="value" degree="0.8127"/>
 <c xml:id="f11-textblock_0-textline_0-segment_2-char_1-glyphCount2-text">H</c>
</zone>
```

4.3. Text

Contrary to the <sourceDoc>, the SegmOnto-Gallic(orpor)a guidelines do not strictly dictate the content of <text>. Thanks to SegmOnto's strict vocabulary, however, the Gallic(orpor)a pipeline is able to map certain types of textual content to certain elements of the TEI, permitting the creation of a pre-annotated edition of the source document.

4.3.1. Mapping of Zones of Text

SegmOnto	TEI
NumberingZone	<fw corresp="#folio-textblock-blockCount" type="NumberingZone">
QuireMarksZone	<fw corresp="#folio-textblock-blockCount" type="QuireMarksZone">
RunningTitleZone	<fw corresp="#folio-textblock-blockCount" type="RunningTitleZone">
MarginTextZone	<note corresp="#folio-textblock-blockCount" type="MarginTextZone">
MainZone	<ab corresp="#folio-textblock-blockCount" type="MainZone">

4.3.2. Mapping of Lines of Text

Almost all SegmOnto lines are contained within one of the zones listed previously (4.3.1 (Mapping of Zones of Text)) and their textual content trails after the empty TEI element <lb>. The only exceptions to this rule are the DropCapitalLine and HeadingLine, which are contained inside a MainZone yet are also distinguished from other lines of text in the MainZone by being contained within the TEI element <hi>.

```
<ab corresp="#f11-textblock_0-blockCount1"
 type="MainZone">
 <hi rend="HeadingLine">
  <lb corresp="#f11-textblock_0-textline_0-lineCount1"/>A MONSIEVR <lb corresp="#f11-textblock_0-textline_0-lineCount2"/>DE <lb corresp="#f11-t
 <hi rend="DropCapitalLine">
  <lb corresp="#f11-textblock_0-textline_0-lineCount5"/>M </hi>
 <lb corresp="#f11-textblock_0-textline_0-lineCount6"/>Ie vous pre#ente vn
 tableau d'vne des <lb corresp="#f11-textblock_0-textline_0-lineCount7"/>plus
 belles actions d’Augu#te. Ce Monar¬
</ab>
```

5. Bibliography

[1]. Benjamin Kiessling ‘Kraken - an Universal Text Recognizer for the Humanities’ *Digital Humanities 2019 Conference Abstracts* July 2019 Utrecht, The Netherlands https://dev.clariah.nl/files/dh2019/boa/0673.html

[2]. Simon Gabay, Jean-Baptiste Camps, Ariane Pinche, Claire Jahan ‘SegmOnto: common vocabulary and practices for analysing the layout of manuscripts (and more)’ *1st International Workshop on Computational Paleography (IWCP@ICDAR 2021)* Sep. 2021 Lausanne, Switzerland https://hal.archives-ouvertes.fr/hal-03336528

[3]. Benjamin Kiessling ‘A Modular Region and Text Line Layout Analysis System’ *17th International Conference on Frontiers in Handwriting Recognition (ICFHR)* Sep. 2020 Dortmund, Germany https://ieeexplore.ieee.org/document/9257770

[4]. Benjamin Kiessling, Robin Tissot, Daniel Stökl Ben Ezra, Peter Stokes ‘A Modular Region and Text Line Layout Analysis System’ *Proceedings of the 15th International Conference on Document Analysis and Recognition* Sep. 2019 Sydney, Australia https://ieeexplore.ieee.org/document/8893029

[5]. Stefan Pletschacher, Apostolos Antonacopoulos ‘The PAGE (Page Analysis and Ground-Truth Elements) Format Framework’ *Proceedings of the 20th International Conference on Pattern Recognition (ICPR2010)* Aug. 2010 Istanbul, Turkey https://ieeexplore.ieee.org/document/5597587

[6]. *ALTO Technical Metadata for Layout and Text Objects* ttps://www.loc.gov/standards/alto

[7]. Marc Geoffroy, Anne-Marie Eddé, Denis Muzerelle, Philippe Bobichon, Marie-Geneviève Guesdon *Codicologia: glossaires codicologiques* Paris Institut de recherche et d'histoire des textes 2011 http://codicologia.irht.cnrs.fr

[8]. Georg Vogeler *SKOS Vocabulaire International de la codicologie* Paris Institut de recherche et d'histoire des textes Graz Geisteswissenschaftliches Asset Management System, Karl-Franzens-Universität Graz 2021 http://gams.uni-graz.at/archive/objects/o:voccod/methods/sdef:SKOS/get

[9]. TEI Consortium *TEI Guidelines for Electronic Text Encoding and Interchange* https://tei-c.org/release/doc/tei-p5-doc/en/html/index.html

[10]. Richard Cyganiak, David Wood, Markus Lanthaler *RDF 1.1 Concepts and Abstract Syntax* https://www.w3.org/TR/rdf11-concepts

[11]. *International Image Interoperability Framework - API Specifications* https://iiif.io/api/

[12]. Toma Tasovac, Laurent Romary, Piotr Banski, Jack Bowers, Jesse de Does, Katrien Depuydt, Tomaž Erjavec, Alexander Geyken, Axel Herold, Vera Hildenbrandt, Mohamed Khemakhem, Boris Lehe#ka, Snežana Petrovi#, Ana Salgado and Andreas Witt. *TEI Lex-0: A baseline encoding for lexicographic data. Version 0.9.0* 2018 DARIAH Working Group on Lexical Resources https://dariah-eric.github.io/lexicalresources/pages/TEILex0/TEILex0.html

6. Specifications

6.1. Elements

6.1.1. <TEI>

<**TEI**> (TEI document) contains a single TEI-conformant document, combining a single TEI header with one or more members of the model.resource class. Multiple <TEI> elements may be combined within a <TEI> (or `<teiCorpus>`) element. [4. Default Text Structure 15.1. Varieties of Composite Text]	
Module	textstructure — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**textstructure:** TEI
May contain	**header:** teiHeader **textstructure:** TEI text **transcr:** sourceDoc
Note	This element is required. It is customary to specify the TEI namespace http://www.tei-c.org/ns/1.0 on it, for example: <TEI version="4.4.0" xml:lang="it" xmlns="http://www.tei-c.org/ns/1.0">.

Example	`<TEI version="3.3.0" xmlns="http://www.tei-c.org/ns/1.0">`
	` <teiHeader>`
	`  <fileDesc>`
	`  <titleStmt>`
	`  <title>The shortest TEI Document Imaginable</title>`
	`  </titleStmt>`
	`  <publicationStmt>`
	`  <p>First published as part of TEI P2, this is the P5`
	`  version using a namespace.</p>`
	`  </publicationStmt>`
	`  <sourceDesc>`
	`  <p>No source: this is an original work.</p>`
	`  </sourceDesc>`
	` </fileDesc>`
	` </teiHeader>`
	` <text>`
	` <body>`
	` <p>This is about the shortest TEI document imaginable.</p>`
	` </body>`
	` </text>`
	`</TEI>`

Example	`<TEI version="2.9.1" xmlns="http://www.tei-c.org/ns/1.0">`
	` <teiHeader>`
	` <fileDesc>`
	` <titleStmt>`
	` <title>A TEI Document containing four page images </title>`
	` </titleStmt>`
	` <publicationStmt>`
	` <p>Unpublished demonstration file.</p>`
	` </publicationStmt>`
	` <sourceDesc>`
	` <p>No source: this is an original work.</p>`
	` </sourceDesc>`
	` </fileDesc>`
	` </teiHeader>`

```
 <facsimile>
  <graphic url="page1.png"/>
  <graphic url="page2.png"/>
  <graphic url="page3.png"/>
  <graphic url="page4.png"/>
 </facsimile>
</TEI>
```

Schematron	<sch:ns prefix="tei" uri="http://www.tei-c.org/ns/1.0"/> <sch:ns prefix="xs" uri="http://www.w3.org/2001/XMLSchema"/>
Schematron	<sch:ns prefix="rng" uri="http://relaxng.org/ns/structure/1.0"/>

Content model

```
<content>
 <sequence minOccurs="1" maxOccurs="1">
  <elementRef key="teiHeader"/>
  <alternate minOccurs="1" maxOccurs="1">
   <sequence minOccurs="1" maxOccurs="1">
    <classRef key="model.resource"
     minOccurs="1" maxOccurs="unbounded"/>
    <elementRef key="TEI" minOccurs="0"
     maxOccurs="unbounded"/>
   </sequence>
   <elementRef key="TEI" minOccurs="1"
    maxOccurs="unbounded"/>
  </alternate>
 </sequence>
</content>
```

Schema Declaration

```
element TEI
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   ( teiHeader, ( ( model.resource+, TEI* ) | TEI+ ) )
}
```

6.1.2. <ab>

<ab> (anonymous block) contains any arbitrary component-level unit of text, acting as an anonymous container for phrase or inter level elements analogous to, but without the semantic baggage of, a paragraph. [16.3. Blocks, Segments, and Anchors]

Module	linking — Specifications
Attributes	att.declaring (@decls) att.fragmentable (@part) att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.linking (@corresp) att.global.facs (@facs) att.global.change (@change)

type — characterizes the element in some sense, using any convenient classification scheme or typology.

Derived from	att.typed
Status	Optional
Datatype	teidata.enumerated
Legal values are:	**Main-Zone**

Member of	model.pLike
Contained by	**core:** note **header:** application availability encodingDesc langUsage licence publicationStmt sourceDesc **msdescription:** msDesc objectDesc physDesc **textstructure:** body div
May contain	**core:** bibl date graphic hi label lb measure name note pb ptr title **header:** idno

	msdescription: msDesc **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	The <ab> element may be used at the encoder's discretion to mark any component-level elements in a text for which no other more specific appropriate markup is defined.
Example	 <ab>In the beginning God created the heaven and the earth.</ab> <ab>And the earth was without form, and void; and darkness was upon the face of the deep. And the spirit of God moved upon the face of the waters.</ab> <ab>And God said, Let there be light: and there was light.</ab> <!-- ...-->
Schematron	<sch:report test=" (ancestor::tei:p or ancestor::tei:ab) and not(ancestor::tei:floatingText | parent::tei:exemplum |parent::tei:item |parent::tei:note |parent::tei:q |parent::tei:quote |parent::tei:remarks |parent::tei:said |parent::tei:sp |parent::tei:stage |parent::tei:cell |parent::tei:figure)"> Abstract model violation: ab may not occur inside paragraphs or other ab elements. </sch:report>
Schematron	<sch:report test=" (ancestor::tei:l or ancestor::tei:lg) and not(ancestor::tei:floatingText |parent::tei:figure |parent::tei:note)"> Abstract model violation: Lines may not contain higher-level divisions such as p or ab, unless ab is a child of figure or note, or is a descendant of floatingText. </sch:report>
Content model	<content> <macroRef key="macro.paraContent"/> </content>

Schema Declaration	element ab
	{
	 att.global.attribute.xmlid,
	 att.global.attribute.n,
	 att.global.attribute.xmllang,
	 att.global.attribute.xmlbase,
	 att.global.attribute.xmlspace,
	 att.global.rendition.attribute.rend,
	 att.global.rendition.attribute.style,
	 att.global.rendition.attribute.rendition,
	 att.global.linking.attribute.corresp,
	 att.global.facs.attribute.facs,
	 att.global.change.attribute.change,
	 att.declaring.attributes,
	 att.fragmentable.attributes,
	 att.written.attributes,
	 attribute type { "MainZone" }?,
	 macro.paraContent
	}

6.1.3. <altIdentifier>

<altIdentifier> (alternative identifier) contains an alternative or former structured identifier used for a manuscript or other object, such as a former catalogue number. [10.4. The Manuscript Identifier]	
Module	msdescription — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Contained by	**msdescription:** msIdentifier
May contain	**core:** note **header:** idno **msdescription:** repository **namesdates:** country settlement
Note	An identifying number of some kind must be supplied if known; if it is not known, this should be stated.

Example	<altIdentifier> <settlement>San Marino</settlement> <repository>Huntington Library</repository> <idno>MS.El.26.C.9</idno> </altIdentifier>
Content model	<content> <sequence minOccurs="1" maxOccurs="1"> <classRef key="model.placeNamePart" expand="sequenceOptional"/> <elementRef key="institution" minOccurs="0"/> <elementRef key="repository" minOccurs="0"/> <elementRef key="collection" minOccurs="0"/> <elementRef key="idno"/> <elementRef key="note" minOccurs="0"/> </sequence> </content>

Schema Declaration	element altIdentifier
	{
	 att.global.attribute.xmlid,
	 att.global.attribute.n,
	 att.global.attribute.xmllang,
	 att.global.attribute.xmlbase,
	 att.global.attribute.xmlspace,
	 att.global.rendition.attribute.rend,
	 att.global.rendition.attribute.style,
	 att.global.rendition.attribute.rendition,
	 att.global.facs.attribute.facs,
	 att.global.change.attribute.change,
	 att.datable.iso.attribute.when-iso,
	 att.datable.iso.attribute.notBefore-iso,
	 att.datable.iso.attribute.notAfter-iso,
	 att.datable.iso.attribute.from-iso,
	 att.datable.iso.attribute.to-iso,
	 att.datable.custom.attribute.when-custom,
	 att.datable.custom.attribute.notBefore-custom,
	 att.datable.custom.attribute.notAfter-custom,
	 att.datable.custom.attribute.from-custom,
	 att.datable.custom.attribute.to-custom,
	 att.datable.custom.attribute.datingPoint,
	 att.datable.custom.attribute.datingMethod,
	 (
	 country?,
	 settlement?,
	 institution?,
	 repository?,
	 collection?,
	 idno,
	 note?
	)
	}

6.1.4. <appInfo>

<appInfo> (application information) records information about an application which has edited the TEI file. [2.3.11. The Application Information Element]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.encodingDescPart
Contained by	**header:** encodingDesc
May contain	**header:** application
Example	<appInfo> <application version="1.24" ident="Xaira"> <label>XAIRA Indexer</label> <ptr target="#P1"/> </application> </appInfo>
Content model	<content> <classRef key="model.applicationLike" minOccurs="1" maxOccurs="unbounded"/> </content>

Schema Declaration	`element appInfo { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style, att.global.rendition.attribute.rendition, att.global.facs.attribute.facs, att.global.change.attribute.change, model.applicationLike+ }`

6.1.5. <application>

<application> provides information about an application which has acted upon the document. [2.3.11. The Application Information Element]

Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod) ident — supplies an identifier for the application, independent of its version number or display name. **Status** Required **Datatype** teidata.name version — supplies a version number for the application, independent of its identifier or display name. **Status** Required **Datatype** teidata.versionNumber
Member of	model.applicationLike
Contained by	**header:** appInfo
May contain	**core:** label p ptr **linking:** ab
Example	`<appInfo> <application version="1.5" ident="ImageMarkupTool1" notAfter="2006-06-01"> <label>Image Markup Tool</label> <ptr target="#P1"/> <ptr target="#P2"/> </application> </appInfo>` This example shows an appInfo element documenting the fact that version 1.5 of the Image Markup Tool1 application has an interest in two parts of a document which was last saved on June 6 2006. The parts concerned are accessible at the URLs given as target for the two <ptr> elements.
Content model	`<content> <sequence minOccurs="1" maxOccurs="1"> <classRef key="model.labelLike" minOccurs="1" maxOccurs="unbounded"/> <alternate minOccurs="1" maxOccurs="1"> <classRef key="model.ptrLike" minOccurs="0" maxOccurs="unbounded"/> <classRef key="model.pLike" minOccurs="0" maxOccurs="unbounded"/> </alternate> </sequence> </content>`
Schema Declaration	`element application { att.global.attribute.xmlid,`

```
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.datable.iso.attribute.when-iso,
   att.datable.iso.attribute.notBefore-iso,
   att.datable.iso.attribute.notAfter-iso,
   att.datable.iso.attribute.from-iso,
   att.datable.iso.attribute.to-iso,
   att.datable.custom.attribute.when-custom,
   att.datable.custom.attribute.notBefore-custom,
   att.datable.custom.attribute.notAfter-custom,
   att.datable.custom.attribute.from-custom,
   att.datable.custom.attribute.to-custom,
   att.datable.custom.attribute.datingPoint,
   att.datable.custom.attribute.datingMethod,
   attribute ident { text },
   attribute version { text },
   ( model.labelLike+, ( model.ptrLike* | model.pLike* ) )
}
```

6.1.6. <author>

<author> (author) in a bibliographic reference, contains the name(s) of an author, personal or corporate, of a work; for example in the same form as that provided by a recognized bibliographic name authority. [3.12.2.2. Titles, Authors, and Editors 2.2.1. The Title Statement]

Module	core — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.canonical (key, @ref) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Member of	model.respLike
Contained by	**core:** bibl **header:** titleStmt
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	Particularly where cataloguing is likely to be based on the content of the header, it is advisable to use a generally recognized name authority file to supply the content for this element. The attributes *key* or *ref* may also be used to reference canonical information about the author(s) intended from any appropriate authority, such as a library catalogue or online resource. In the case of a broadcast, use this element for the name of the company or network responsible for making the broadcast. Where an author is unknown or unspecified, this element may contain text such as *Unknown* or *Anonymous*. When the appropriate TEI modules are in use, it may also contain detailed tagging of the names used for people, organizations or places, in particular where multiple names are given.

Example	`<author>British Broadcasting Corporation</author>`
	`<author>La Fayette, Marie Madeleine Pioche de la Vergne, comtesse de (1634–1693)</author>`
	`<author>Anonymous</author>`
	`<author>Bill and Melinda Gates Foundation</author>`
	`<author>`
	` <persName>Beaumont, Francis</persName> and`
	`<persName>John Fletcher</persName>`
	`</author>`
	`<author>`
	` <orgName key="BBC">British Broadcasting`
	`  Corporation</orgName>: Radio 3 Network`
	`</author>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	<pre>element author
	{
	   att.global.attribute.xmlid,
	   att.global.attribute.n,
	   att.global.attribute.xmllang,
	   att.global.attribute.xmlbase,
	   att.global.attribute.xmlspace,
	   att.global.rendition.attribute.rend,
	   att.global.rendition.attribute.style,
	   att.global.rendition.attribute.rendition,
	   att.global.facs.attribute.facs,
	   att.global.change.attribute.change,
	   att.canonical.attribute.ref,
	   att.datable.iso.attribute.when-iso,
	   att.datable.iso.attribute.notBefore-iso,
	   att.datable.iso.attribute.notAfter-iso,
	   att.datable.iso.attribute.from-iso,
	   att.datable.iso.attribute.to-iso,
	   att.datable.custom.attribute.when-custom,
	   att.datable.custom.attribute.notBefore-custom,
	   att.datable.custom.attribute.notAfter-custom,
	   att.datable.custom.attribute.from-custom,
	   att.datable.custom.attribute.to-custom,
	   att.datable.custom.attribute.datingPoint,
	   att.datable.custom.attribute.datingMethod,
	   macro.phraseSeq
	}</pre>

6.1.7. <authority>

<authority> (release authority) supplies the name of a person or other agency responsible for making a work available, other than a publisher or distributor. [2.2.4. Publication, Distribution, Licensing, etc.]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.publicationStmtPart.agency
Contained by	**header:** publicationStmt
May contain	**core:** date hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Example	<pre><authority>John Smith</authority></pre>

Content model	<pre><content>
	 <macroRef key="macro.phraseSeq.limited"/>
	</content></pre>

Schema Declaration	<pre>element authority
	{
	   att.global.attribute.xmlid,
	   att.global.attribute.n,
	   att.global.attribute.xmllang,
	   att.global.attribute.xmlbase,
	   att.global.attribute.xmlspace,
	   att.global.rendition.attribute.rend,
	   att.global.rendition.attribute.style,
	   att.global.rendition.attribute.rendition,
	   att.global.facs.attribute.facs,
	   att.global.change.attribute.change,
	   macro.phraseSeq.limited
	}</pre>

6.1.8. <availability>

<availability> (availability) supplies information about the availability of a text, for example any restrictions on its use or distribution, its copyright status, any licence applying to it, etc. [2.2.4. Publication, Distribution, Licensing, etc.]	
Module	header — Specifications
Attributes	att.declarable (@default) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)

	status (status) supplies a code identifying the current availability of the text. **Status** Optional **Datatype** teidata.enumerated **Legal values are:** **restricted**
Member of	model.biblPart model.publicationStmtPart.detail
Contained by	**core:** bibl **header:** publicationStmt
May contain	**core:** p **header:** licence **linking:** ab
Note	A consistent format should be adopted
Example	<availability status="restricted"> Available for academic research purposes only. </availability> <availability status="free"> In the public domain </availability> <availability status="restricted"> Available under licence from the publishers. </availability>
Example	<availability> <licence target="http://opensource.org/licenses/MIT"> The MIT License applies to this document. Copyright (C) 2011 by The University of Victoria Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions: The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software. THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE. </licence> </availability>
Content model	<content> <alternate minOccurs="1" maxOccurs="unbounded"> <classRef key="model.availabilityPart"/> <classRef key="model.pLike"/> </alternate> </content>

Schema Declaration	element availability
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	att.declarable.attributes,
	attribute status { "restricted" }?,
	(model.availabilityPart | model.pLike)+
	}

6.1.9. <bibl>

<bibl> (bibliographic citation) contains a loosely-structured bibliographic citation of which the sub-components may or may not be explicitly tagged. [3.12.1. Methods of Encoding Bibliographic References and Lists of References 2.2.7. The Source Description 15.3.2. Declarable Elements]	
Module	core — Specifications
Attributes	att.declarable (@default) att.sortable (@sortKey) att.docStatus (@status) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.biblLike model.biblPart
Contained by	**core:** bibl hi note p title **header:** licence sourceDesc taxonomy **linking:** ab **textstructure:** body div
May contain	**core:** author bibl date hi lb measure name note pb ptr pubPlace publisher respStmt title **header:** availability extent idno **msdescription:** msIdentifier **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	Contains *phrase-level* elements, together with any combination of elements from the model.biblPart class
Example	`<bibl>Blain, Clements and Grundy: Feminist Companion to Literature in English (Yale, 1990)</bibl>`

Example	`<bibl>`
	` <title level="a">The Interesting story of the Children in the Wood</title>. In`
	`<author>Victor E Neuberg</author>, <title>The Penny Histories</title>.`
	`<publisher>OUP</publisher>`
	` <date>1968</date>.`
	`</bibl>`

Example	`<bibl type="article" subtype="book_chapter"`
	` xml:id="carlin_2003">`
	` <author>`
	`  <name>`
	`  <surname>Carlin</surname>`
	`  (<forename>Claire</forename>)</name>`
	` </author>,`
	`<title level="a">The Staging of Impotence : France’s last`
	`  congrès</title> dans`
	`<bibl type="monogr">`
	`  <title level="m">Theatrum mundi : studies in honor of Ronald W.`
	`  Tobin</title>, éd.`
	` <editor>`
	`  <name>`
	`  <forename>Claire</forename>`
	`  <surname>Carlin</surname>`
	`  </name>`
	`  </editor> et`
	` <editor>`
	`  <name>`
	`  <forename>Kathleen</forename>`
	`  <surname>Wine</surname>`
	`  </name>`
	`  </editor>,`
	` <pubPlace>Charlottesville, Va.</pubPlace>,`
	` <publisher>Rookwood Press</publisher>,`
	` <date when="2003">2003</date>.`
	` </bibl>`
	`</bibl>`

Content model	`<content>`
	` <alternate minOccurs="0"`
	`  maxOccurs="unbounded">`
	`  <textNode/>`
	`  <classRef key="model.gLike"/>`
	`  <classRef key="model.highlighted"/>`
	`  <classRef key="model.pPart.data"/>`
	`  <classRef key="model.pPart.edit"/>`
	`  <classRef key="model.segLike"/>`
	`  <classRef key="model.ptrLike"/>`
	`  <classRef key="model.biblPart"/>`
	`  <classRef key="model.global"/>`
	` </alternate>`

	`</content>`
Schema Declaration	`element bibl { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style, att.global.rendition.attribute.rendition, att.global.facs.attribute.facs, att.global.change.attribute.change, att.declarable.attributes, att.sortable.attributes, att.docStatus.attributes, (text | model.gLike | model.highlighted | model.pPart.data | model.pPart.edit | model.segLike | model.ptrLike | model.biblPart | model.global)* }`

6.1.10. <body>

<body> (text body) contains the whole body of a single unitary text, excluding any front or back matter. [4. Default Text Structure]	
Module	textstructure — Specifications
Attributes	att.declaring (@decls) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**textstructure:** text
May contain	**core:** bibl label lb note p pb **linking:** ab **msdescription:** msDesc **textstructure:** div **transcr:** fw
Example	`<body> <l>Nu scylun hergan hefaenricaes uard</l> <l>metudæs maecti end his modgidanc</l> <l>uerc uuldurfadur sue he uundra gihuaes</l> <l>eci dryctin or astelidæ</l> <l>he aerist scop aelda barnum</l> <l>heben til hrofe haleg scepen.</l> <l>tha middungeard moncynnæs uard</l> <l>eci dryctin æfter tiadæ</l> <l>firum foldu frea allmectig</l> <trailer>primo cantauit Cædmon istud carmen.</trailer> </body>`
Content model	`<content> <sequence minOccurs="1" maxOccurs="1"> <classRef key="model.global" minOccurs="0" maxOccurs="unbounded"/> <sequence minOccurs="0" maxOccurs="1"> <classRef key="model.divTop"/> <alternate minOccurs="0" maxOccurs="unbounded"> <classRef key="model.global"/> <classRef key="model.divTop"/> </alternate> </sequence> <sequence minOccurs="0" maxOccurs="1"> <classRef key="model.divGenLike"/> <alternate minOccurs="0" maxOccurs="unbounded"> <classRef key="model.global"/> <classRef key="model.divGenLike"/> </alternate> </sequence> <alternate minOccurs="1" maxOccurs="1">`

```
   <sequence minOccurs="1"
    maxOccurs="unbounded">
    <classRef key="model.divLike"/>
    <alternate minOccurs="0"
     maxOccurs="unbounded">
     <classRef key="model.global"/>
     <classRef key="model.divGenLike"/>
    </alternate>
   </sequence>
   <sequence minOccurs="1"
    maxOccurs="unbounded">
    <classRef key="model.div1Like"/>
    <alternate minOccurs="0"
     maxOccurs="unbounded">
     <classRef key="model.global"/>
     <classRef key="model.divGenLike"/>
    </alternate>
   </sequence>
   <sequence minOccurs="1" maxOccurs="1">
    <sequence minOccurs="1"
     maxOccurs="unbounded">
     <alternate minOccurs="1" maxOccurs="1">
      <elementRef key="schemaSpec"/>
      <classRef key="model.common"/>
     </alternate>
     <classRef key="model.global"
      minOccurs="0" maxOccurs="unbounded"/>
    </sequence>
    <alternate minOccurs="0" maxOccurs="1">
     <sequence minOccurs="1"
      maxOccurs="unbounded">
      <classRef key="model.divLike"/>
      <alternate minOccurs="0"
       maxOccurs="unbounded">
       <classRef key="model.global"/>
       <classRef key="model.divGenLike"/>
      </alternate>
     </sequence>
     <sequence minOccurs="1"
      maxOccurs="unbounded">
      <classRef key="model.div1Like"/>
      <alternate minOccurs="0"
       maxOccurs="unbounded">
       <classRef key="model.global"/>
       <classRef key="model.divGenLike"/>
      </alternate>
     </sequence>
    </alternate>
   </sequence>
  </alternate>
  <sequence minOccurs="0"
   maxOccurs="unbounded">
   <classRef key="model.divBottom"/>
   <classRef key="model.global"
    minOccurs="0" maxOccurs="unbounded"/>
  </sequence>
 </sequence>
</content>
```

Schema Declaration

```
element body
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.declaring.attributes,
   (
      model.global*,
      ( model.divTop, ( model.global | model.divTop )* )?,
      ( model.divGenLike, ( model.global | model.divGenLike )* )?,
      (
         ( model.divLike, ( model.global | model.divGenLike )* )+
       | ( model.div1Like, ( model.global | model.divGenLike )* )+
       | (
            ( ( schemaSpec | model.common ), model.global* )+,
            (
               ( model.divLike, ( model.global | model.divGenLike )* )+
             | ( model.div1Like, ( model.global | model.divGenLike )* )+
            )?
         )
      ),
      ( model.divBottom, model.global* )*
```

	) }

6.1.11. <catDesc>

<catDesc> (category description) describes some category within a taxonomy or text typology, either in the form of a brief prose description or in terms of the situational parameters used by the TEI formal `<textDesc>`. [2.3.7. The Classification Declaration]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**header:** category
May contain	**core:** date hi measure name ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname character data
Example	`<catDesc>Prose reportage</catDesc>`

Example	`<catDesc>`
	` <textDesc n="novel">`
	`  <channel mode="w">print; part issues</channel>`
	`  <constitution type="single"/>`
	`  <derivation type="original"/>`
	`  <domain type="art"/>`
	`  <factuality type="fiction"/>`
	`  <interaction type="none"/>`
	`  <preparedness type="prepared"/>`
	`  <purpose type="entertain" degree="high"/>`
	`  <purpose type="inform" degree="medium"/>`
	` </textDesc>`
	`</catDesc>`

Content model	`<content>`
	` <alternate minOccurs="0"`
	`  maxOccurs="unbounded">`
	`  <textNode/>`
	`  <classRef key="model.limitedPhrase"/>`
	`  <classRef key="model.catDescPart"/>`
	` </alternate>`
	`</content>`

Schema Declaration	`element catDesc`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  ( text | model.limitedPhrase | model.catDescPart )*`
	`}`

6.1.12. <category>

<category> (category) contains an individual descriptive category, possibly nested within a superordinate category, within a user-defined taxonomy. [2.3.7. The Classification Declaration]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**header:** category taxonomy
May contain	**header:** catDesc category

Example	`<category xml:id="b1">`
	` <catDesc>Prose reportage</catDesc>`
	`</category>`

Example	`<category xml:id="b2">`
	` <catDesc>Prose </catDesc>`
	` <category xml:id="b11">`

	<catDesc>journalism</catDesc> </category> <category xml:id="b12"> <catDesc>fiction</catDesc> </category> </category>
Example	<category xml:id="LIT"> <catDesc xml:lang="pl">literatura pi#kna</catDesc> <catDesc xml:lang="en">fiction</catDesc> <category xml:id="LPROSE"> <catDesc xml:lang="pl">proza</catDesc> <catDesc xml:lang="en">prose</catDesc> </category> <category xml:id="LPOETRY"> <catDesc xml:lang="pl">poezja</catDesc> <catDesc xml:lang="en">poetry</catDesc> </category> <category xml:id="LDRAMA"> <catDesc xml:lang="pl">dramat</catDesc> <catDesc xml:lang="en">drama</catDesc> </category> </category>
Content model	<content> <sequence minOccurs="1" maxOccurs="1"> <alternate minOccurs="1" maxOccurs="1"> <elementRef key="catDesc" minOccurs="1" maxOccurs="unbounded"/> <alternate minOccurs="0" maxOccurs="unbounded"> <classRef key="model.descLike"/> <elementRef key="equiv"/> <elementRef key="gloss"/> </alternate> </alternate> <elementRef key="category" minOccurs="0" maxOccurs="unbounded"/> </sequence> </content>

Schema Declaration	element category
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	((catDesc+ | (model.descLike | equiv | gloss)*), category*)
	}

6.1.13. <classDecl>

<classDecl> (classification declarations) contains one or more taxonomies defining any classificatory codes used elsewhere in the text. [2.3.7. The Classification Declaration 2.3. The Encoding Description]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.encodingDescPart
Contained by	**header:** encodingDesc
May contain	**header:** taxonomy
Example	<classDecl> <taxonomy xml:id="LCSH"> <bibl>Library of Congress Subject Headings</bibl> </taxonomy> </classDecl> <!-- ... --> <textClass> <keywords scheme="#LCSH"> <term>Political science</term> <term>United States -- Politics and government – Revolution, 1775-1783</term> </keywords> </textClass>

Content model	`<content>`
	` <elementRef key="taxonomy" minOccurs="1"`
	`  maxOccurs="unbounded"/>`
	`</content>`

Schema Declaration	`element classDecl`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  taxonomy+`
	`}`

6.1.14. <country>

<**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. [13.2.3. Place Names]	
Module	namesdates — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.canonical (ref, @key) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Member of	model.placeNamePart
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** altIdentifier msIdentifier repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	The recommended source for codes to represent coded country names is ISO 3166.
Example	`<country key="DK">Denmark</country>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element country`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  att.canonical.attribute.key,`
	`  att.datable.iso.attribute.when-iso,`
	`  att.datable.iso.attribute.notBefore-iso,`
	`  att.datable.iso.attribute.notAfter-iso,`
	`  att.datable.iso.attribute.from-iso,`
	`  att.datable.iso.attribute.to-iso,`
	`  att.datable.custom.attribute.when-custom,`

```
   att.datable.custom.attribute.notBefore-custom,
   att.datable.custom.attribute.notAfter-custom,
   att.datable.custom.attribute.from-custom,
   att.datable.custom.attribute.to-custom,
   att.datable.custom.attribute.datingPoint,
   att.datable.custom.attribute.datingMethod,
   macro.phraseSeq
}
```

6.1.15. <date>

<date> (date) contains a date in any format. [3.6.4. Dates and Times 2.2.4. Publication, Distribution, Licensing, etc. 2.6. The Revision Description 3.12.2.4. Imprint, Size of a Document, and Reprint Information 15.2.3. The Setting Description 13.4. Dates]

Module	core — Specifications
Attributes	att.datable (att.datable.w3c (@when)) (att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso)) (att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)) att.editLike (@evidence, @instant) att.dimensions (att.ranging (@atLeast, @atMost, @min, @max, @confidence)) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.global.responsibility (@cert, @resp)
Member of	model.dateLike model.publicationStmtPart.detail
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence publicationStmt **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Example	`<date when="1980-02">early February 1980</date>`
Example	`Given on the <date when="1977-06-12">Twelfth Day of June in the Year of Our Lord One Thousand Nine Hundred and Seventy-seven of the Republic the Two Hundredth and first and of the University the Eighty-Sixth.</date>`
Example	`<date when="1990-09">September 1990</date>`
Content model	`<content> <alternate minOccurs="0" maxOccurs="unbounded"> <textNode/> <classRef key="model.gLike"/> <classRef key="model.phrase"/> <classRef key="model.global"/> </alternate> </content>`
Schema Declaration	`element date { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style, att.global.rendition.attribute.rendition, att.global.facs.attribute.facs, att.global.change.attribute.change, att.global.responsibility.attribute.cert, att.global.responsibility.attribute.resp, att.datable.attributes, att.editLike.attributes, att.dimensions.attributes, (text | model.gLike | model.phrase | model.global)* }`

*6.1.16. *

** ** (text division) contains a subdivision of the front, body, or back of a text. [4.1. Divisions of the Body]	
Module	textstructure — Specifications
Attributes	att.divLike (att.fragmentable (@part)) att.declaring (@decls) att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.divLike
Contained by	**textstructure:** body div
May contain	**core:** bibl label lb note p pb **linking:** ab **msdescription:** msDesc **textstructure:** div **transcr:** fw
Example	<body> <head>Fallacies of Authority</head> The subject of which is Authority in various shapes, and the object, to repress all exercise of the reasoning faculty. <head>The Nature of Authority</head> With reference to any proposed measures having for their object the greatest happiness of the greatest number [...] <head>Analysis of Authority</head> What on any given occasion is the legitimate weight or influence to be attached to authority [...] <head>Appeal to Authority, in What Cases Fallacious.</head> Reference to authority is open to the charge of fallacy when [...] </body>
Schematron	<sch:report test="(ancestor::tei:l or ancestor::tei:lg) and not(ancestor::tei:floatingText)"> Abstract model violation: Lines may not contain higher-level structural elements such as div, unless div is a descendant of floatingText. </sch:report>
Schematron	<sch:report test="(ancestor::tei:p or ancestor::tei:ab) and not(ancestor::tei:floatingText)"> Abstract model violation: p and ab may not contain higher-level structural elements such as div, unless div is a descendant of floatingText. </sch:report>
Content model	<content> <sequence minOccurs="1" maxOccurs="1"> <alternate minOccurs="0" maxOccurs="unbounded"> <classRef key="model.divTop"/> <classRef key="model.global"/> </alternate> <sequence minOccurs="0" maxOccurs="1"> <alternate minOccurs="1" maxOccurs="1"> <sequence minOccurs="1" maxOccurs="unbounded"> <alternate minOccurs="1" maxOccurs="1"> <classRef key="model.divLike"/> <classRef key="model.divGenLike"/> </alternate> <classRef key="model.global" minOccurs="0" maxOccurs="unbounded"/> </sequence> <sequence minOccurs="1" maxOccurs="1"> <sequence minOccurs="1" maxOccurs="unbounded"> <alternate minOccurs="1" maxOccurs="1"> <elementRef key="schemaSpec"/> <classRef key="model.common"/> </alternate> <classRef key="model.global" minOccurs="0" maxOccurs="unbounded"/> </sequence> <sequence minOccurs="0" maxOccurs="unbounded"> <alternate minOccurs="1"

```
      maxOccurs="1">
      <classRef key="model.divLike"/>
      <classRef key="model.divGenLike"/>
     </alternate>
     <classRef key="model.global"
      minOccurs="0" maxOccurs="unbounded"/>
    </sequence>
   </sequence>
  </alternate>
  <sequence minOccurs="0"
   maxOccurs="unbounded">
   <classRef key="model.divBottom"/>
   <classRef key="model.global"
    minOccurs="0" maxOccurs="unbounded"/>
  </sequence>
 </sequence>
</content>
```

Schema Declaration

```
element div
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.divLike.attributes,
   att.declaring.attributes,
   att.written.attributes,
   (
      ( model.divTop | model.global )*,
      (
         (
            ( ( model.divLike | model.divGenLike ), model.global* )+
          | (
               ( ( schemaSpec | model.common ), model.global* )+,
               ( ( model.divLike | model.divGenLike ), model.global* )*
            )
         ),
         ( model.divBottom, model.global* )*
      )?
   )
}
```

6.1.17. <encodingDesc>

<encodingDesc> (encoding description) documents the relationship between an electronic text and the source or sources from which it was derived. [2.3. The Encoding Description 2.1.1. The TEI Header and Its Components]

Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.teiHeaderPart
Contained by	**header:** teiHeader
May contain	**core:** p **header:** appInfo classDecl **linking:** ab

Example

```
<encodingDesc>
 <p>Basic encoding, capturing lexical information only. All
   hyphenation, punctuation, and variant spellings normalized. No
   formatting or layout information preserved.</p>
</encodingDesc>
```

Content model

```
<content>
 <alternate minOccurs="1"
  maxOccurs="unbounded">
  <classRef key="model.encodingDescPart"/>
  <classRef key="model.pLike"/>
 </alternate>
</content>
```

Schema Declaration

```
element encodingDesc
{
```

```
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   ( model.encodingDescPart | model.pLike )+
}
```

6.1.18. <extent>

<extent> (extent) describes the approximate size of a text stored on some carrier medium or of some other object, digital or non-digital, specified in any convenient units. [2.2.3. Type and Extent of File 2.2. The File Description 3.12.2.4. Imprint, Size of a Document, and Reprint Information 10.7.1. Object Description]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.biblPart
Contained by	**core:** bibl **header:** fileDesc
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Example	`<extent>3200 sentences</extent>`
	`<extent>between 10 and 20 Mb</extent>`
	`<extent>ten 3.5 inch high density diskettes</extent>`

Example	The <measure> element may be used to supply normalised or machine tractable versions of the size or sizes concerned.
	`<extent>`
	` <measure unit="MiB" quantity="4.2">About four megabytes</measure>`
	` <measure unit="pages" quantity="245">245 pages of source`
	`  material</measure>`
	`</extent>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element extent`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  macro.phraseSeq`
	`}`

6.1.19. <fileDesc>

<fileDesc> (file description) contains a full bibliographic description of an electronic file. [2.2. The File Description 2.1.1. The TEI Header and Its Components]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**header:** teiHeader

May contain	**header:** extent publicationStmt sourceDesc titleStmt
Note	The major source of information for those seeking to create a catalogue entry or bibliographic citation for an electronic file. As such, it provides a title and statements of responsibility together with details of the publication or distribution of the file, of any series to which it belongs, and detailed bibliographic notes for matters not addressed elsewhere in the header. It also contains a full bibliographic description for the source or sources from which the electronic text was derived.
Example	<fileDesc> <titleStmt> <title>The shortest possible TEI document</title> </titleStmt> <publicationStmt> Distributed as part of TEI P5 </publicationStmt> <sourceDesc> No print source exists: this is an original digital text </sourceDesc> </fileDesc>
Content model	<content> <sequence minOccurs="1" maxOccurs="1"> <sequence minOccurs="1" maxOccurs="1"> <elementRef key="titleStmt"/> <elementRef key="editionStmt" minOccurs="0"/> <elementRef key="extent" minOccurs="0"/> <elementRef key="publicationStmt"/> <elementRef key="seriesStmt" minOccurs="0" maxOccurs="unbounded"/> <elementRef key="notesStmt" minOccurs="0"/> </sequence> <elementRef key="sourceDesc" minOccurs="1" maxOccurs="unbounded"/> </sequence> </content>

Schema Declaration	element fileDesc
	{
	 att.global.attribute.xmlid,
	 att.global.attribute.n,
	 att.global.attribute.xmllang,
	 att.global.attribute.xmlbase,
	 att.global.attribute.xmlspace,
	 att.global.rendition.attribute.rend,
	 att.global.rendition.attribute.style,
	 att.global.rendition.attribute.rendition,
	 att.global.facs.attribute.facs,
	 att.global.change.attribute.change,
	 (
	 (
	 titleStmt,
	 editionStmt?,
	 extent?,
	 publicationStmt,
	 seriesStmt*,
	 notesStmt?
	),
	 sourceDesc+
	)
	}

6.1.20. <forename>

<forename> (forename) contains a forename, given or baptismal name. [13.2.1. Personal Names]	
Module	namesdates — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.persNamePart
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw

May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Example	`<persName>`
	` <roleName>Ex-President</roleName>`
	` <forename>George</forename>`
	` <surname>Bush</surname>`
	`</persName>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element forename`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  macro.phraseSeq`
	`}`

6.1.21. <fw>

<fw> (forme work) contains a running head (e.g. a header, footer), catchword, or similar material appearing on the current page. [11.6. Headers, Footers, and Similar Matter]	
Module	transcr — Specifications
Attributes	att.placement (@place) att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.linking (@corresp) att.global.facs (@facs) att.global.change (@change) type — classifies the material encoded according to some useful typology. **Derived from:** att.typed **Status:** Recommended **Datatype:** teidata.enumerated **Legal values are:** **NumberingZone** **QuireMarksZone** **RunningTitleZone**
Member of	model.milestoneLike
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **textstructure:** body div text **transcr:** fw line sourceDoc surface zone

May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	Where running heads are consistent throughout a chapter or section, it is usually more convenient to relate them to the chapter or section, e.g. by use of the *rend* attribute. The <fw> element is intended for cases where the running head changes from page to page, or where details of page layout and the internal structure of the running heads are of paramount importance.
Example	`<fw type="sig" place="bottom">C3</fw>`

Content model	`<content>`
	`<macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element fw`
	`{`
	`att.global.attribute.xmlid,`
	`att.global.attribute.n,`
	`att.global.attribute.xmllang,`
	`att.global.attribute.xmlbase,`
	`att.global.attribute.xmlspace,`
	`att.global.rendition.attribute.rend,`
	`att.global.rendition.attribute.style,`
	`att.global.rendition.attribute.rendition,`
	`att.global.linking.attribute.corresp,`
	`att.global.facs.attribute.facs,`
	`att.global.change.attribute.change,`
	`att.placement.attributes,`
	`att.written.attributes,`
	`attribute type { "NumberingZone" | "QuireMarksZone" | "RunningTitleZone" }?,`
	`macro.phraseSeq`
	`}`

6.1.22. <graphic>

<graphic> (graphic) indicates the location of a graphic or illustration, either forming part of a text, or providing an image of it. [3.10. Graphics and Other Non-textual Components 11.1. Digital Facsimiles]	
Module	core — Specifications
Attributes	att.media (att.internetMedia (@mimeType)) att.resourced (@url) att.declaring (@decls) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.graphicLike
Contained by	**core:** author date hi label measure name note p pubPlace publisher title **header:** extent licence **linking:** ab **namesdates:** country forename nameLink persName settlement surname **transcr:** fw sourceDoc surface zone
May contain	Empty element
Note	The *mimeType* attribute should be used to supply the MIME media type of the image specified by the *url* attribute. Within the body of a text, a <graphic> element indicates the presence of a graphic component in the source itself. Within the context of a `<facsimile>` or <sourceDoc> element, however, a <graphic> element provides an additional digital representation of some part of the source being encoded.

Example	`<figure>`
	`<graphic url="fig1.png"/>`
	`<head>Figure One: The View from the Bridge</head>`
	`<figDesc>A Whistleresque view showing four or five sailing boats in the foreground, and a series of buoys strung out between them.</figDesc>`
	`</figure>`

Example	`<facsimile>`
	`<surfaceGrp n="leaf1">`
	`<surface>`
	`<graphic url="page1.png"/>`
	`</surface>`
	`<surface>`

```
   <graphic url="page2-highRes.png"/>
   <graphic url="page2-lowRes.png"/>
  </surface>
 </surfaceGrp>
</facsimile>
```

Example

```
<facsimile>
 <surfaceGrp n="leaf1" xml:id="spi001">
  <surface xml:id="spi001r">
   <graphic type="normal"
    subtype="thumbnail" url="spi/thumb/001r.jpg"/>
   <graphic type="normal" subtype="low-res"
    url="spi/normal/lowRes/001r.jpg"/>
   <graphic type="normal"
    subtype="high-res" url="spi/normal/highRes/001r.jpg"/>
   <graphic type="high-contrast"
    subtype="low-res" url="spi/contrast/lowRes/001r.jpg"/>
   <graphic type="high-contrast"
    subtype="high-res" url="spi/contrast/highRes/001r.jpg"/>
  </surface>
  <surface xml:id="spi001v">
   <graphic type="normal"
    subtype="thumbnail" url="spi/thumb/001v.jpg"/>
   <graphic type="normal" subtype="low-res"
    url="spi/normal/lowRes/001v.jpg"/>
   <graphic type="normal"
    subtype="high-res" url="spi/normal/highRes/001v.jpg"/>
   <graphic type="high-contrast"
    subtype="low-res" url="spi/contrast/lowRes/001v.jpg"/>
   <graphic type="high-contrast"
    subtype="high-res" url="spi/contrast/highRes/001v.jpg"/>
   <zone xml:id="spi001v_detail01">
    <graphic type="normal"
     subtype="thumbnail" url="spi/thumb/001v-detail01.jpg"/>
    <graphic type="normal"
     subtype="low-res"
     url="spi/normal/lowRes/001v-detail01.jpg"/>
    <graphic type="normal"
     subtype="high-res"
     url="spi/normal/highRes/001v-detail01.jpg"/>
    <graphic type="high-contrast"
     subtype="low-res"
     url="spi/contrast/lowRes/001v-detail01.jpg"/>
    <graphic type="high-contrast"
     subtype="high-res"
     url="spi/contrast/highRes/001v-detail01.jpg"/>
   </zone>
  </surface>
 </surfaceGrp>
</facsimile>
```

Content model

```
<content>
 <classRef key="model.descLike"
  minOccurs="0" maxOccurs="unbounded"/>
</content>
```

Schema Declaration

```
element graphic
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.media.attributes,
   att.resourced.attributes,
   att.declaring.attributes,
   model.descLike*
}
```

6.1.23. <hi>

<hi> (highlighted) marks a word or phrase as graphically distinct from the surrounding text, for reasons concerning which no claim is made. [3.3.2.2. Emphatic Words and Phrases 3.3.2. Emphasis, Foreign Words, and Unusual Language]	
Module	core — Specifications
Attributes	att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)

Member of	model.hiLike
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw line zone
May contain	**core:** bibl date graphic hi label lb measure name note pb ptr title **header:** idno **msdescription:** msDesc **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Example	`<hi rend="gothic">And this Indenture further witnesseth</hi>`
	` that the said <hi rend="italic">Walter Shandy</hi>, merchant,`
	` in consideration of the said intended marriage ...`

Content model	`<content>`
	` <macroRef key="macro.paraContent"/>`
	`</content>`

Schema Declaration	`element hi`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  att.written.attributes,`
	`  macro.paraContent`
	`}`

6.1.24. <idno>

<idno> (identifier) supplies any form of identifier used to identify some object, such as a bibliographic item, a person, a title, an organization, etc. in a standardized way. [13.3.1. Basic Principles 2.2.4. Publication, Distribution, Licensing, etc. 2.2.5. The Series Statement 3.12.2.4. Imprint, Size of a Document, and Reprint Information]

Module	header — Specifications
Attributes	att.sortable (@sortKey) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod) type — categorizes the identifier, for example as an ISBN, Social Security number, etc. **Derived from:** att.typed **Status:** Optional **Datatype:** teidata.enumerated **Legal values are:** **ark**
Member of	model.nameLike model.publicationStmtPart.detail
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent idno language licence publicationStmt **linking:** ab **msdescription:** altIdentifier msIdentifier repository

	namesdates: country forename nameLink persName settlement surname **transcr:** fw
May contain	**header:** idno character data
Note	<idno> should be used for labels which identify an object or concept in a formal cataloguing system such as a database or an RDF store, or in a distributed system such as the World Wide Web. Some suggested values for *type* on <idno> are ISBN, ISSN, DOI, and URI.
Example	<idno type="ISBN">978-1-906964-22-1</idno> <idno type="ISSN">0143-3385</idno> <idno type="DOI">10.1000/123</idno> <idno type="URI">http://www.worldcat.org/oclc/185922478</idno> <idno type="URI">http://authority.nzetc.org/463/</idno> <idno type="LT">Thomason Tract E.537(17)</idno> <idno type="Wing">C695</idno> <idno type="oldCat"> <g ref="#sym"/>345 </idno> In the last case, the identifier includes a non-Unicode character which is defined elsewhere by means of a <glyph> or <char> element referenced here as #sym.
Content model	<content> <alternate minOccurs="0" maxOccurs="unbounded"> <textNode/> <classRef key="model.gLike"/> <elementRef key="idno"/> </alternate> </content>

Schema Declaration	element idno
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	att.sortable.attributes,
	att.datable.iso.attribute.when-iso,
	att.datable.iso.attribute.notBefore-iso,
	att.datable.iso.attribute.notAfter-iso,
	att.datable.iso.attribute.from-iso,
	att.datable.iso.attribute.to-iso,
	att.datable.custom.attribute.when-custom,
	att.datable.custom.attribute.notBefore-custom,
	att.datable.custom.attribute.notAfter-custom,
	att.datable.custom.attribute.from-custom,
	att.datable.custom.attribute.to-custom,
	att.datable.custom.attribute.datingPoint,
	att.datable.custom.attribute.datingMethod,
	attribute type { "ark" }?,
	(text | model.gLike | idno)*
	}

6.1.25. <label>

<label> (label) contains any label or heading used to identify part of a text, typically but not exclusively in a list or glossary. [3.8. Lists]	
Module	core — Specifications
Attributes	att.placement (@place) att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.labelLike
Contained by	**core:** hi note p title **header:** application licence **linking:** ab **textstructure:** body div **transcr:** surface

May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Example	Labels are commonly used for the headwords in glossary lists; note the use of the global *xml:lang* attribute to set the default language of the glossary list to Middle English, and identify the glosses and headings as modern English or Latin:
	`<list type="gloss" xml:lang="enm">`
	` <head xml:lang="en">Vocabulary</head>`
	` <headLabel xml:lang="en">Middle English</headLabel>`
	` <headItem xml:lang="en">New English</headItem>`
	` <label>nu</label>`
	` <item xml:lang="en">now</item>`
	` <label>lhude</label>`
	` <item xml:lang="en">loudly</item>`
	` <label>bloweth</label>`
	` <item xml:lang="en">blooms</item>`
	` <label>med</label>`
	` <item xml:lang="en">meadow</item>`
	` <label>wude</label>`
	` <item xml:lang="en">wood</item>`
	` <label>awe</label>`
	` <item xml:lang="en">ewe</item>`
	` <label>lhouth</label>`
	` <item xml:lang="en">lows</item>`
	` <label>sterteth</label>`
	` <item xml:lang="en">bounds, frisks (cf. <cit>`
	`  <ref>Chaucer, K.T.644</ref>`
	`  <quote>a courser, <term>sterting</term>as the fyr</quote>`
	`  </cit>`
	` </item>`
	` <label>verteth</label>`
	` <item xml:lang="la">pedit</item>`
	` <label>murie</label>`
	` <item xml:lang="en">merrily</item>`
	` <label>swik</label>`
	` <item xml:lang="en">cease</item>`
	` <label>naver</label>`
	` <item xml:lang="en">never</item>`
	`</list>`

Example	Labels may also be used to record explicitly the numbers or letters which mark list items in ordered lists, as in this extract from Gibbon's *Autobiography*. In this usage the <label> element is synonymous with the *n* attribute on the `<item>` element:
	`I will add two facts, which have seldom occurred`
	` in the composition of six, or at least of five quartos. <list rend="runon" type="ordered">`
	` <label>(1)</label>`
	` <item>My first rough manuscript, without any intermediate copy, has been sent to the press.</item>`
	` <label>(2) </label>`
	` <item>Not a sheet has been seen by any human eyes, excepting those of the author and the`
	`  printer: the faults and the merits are exclusively my own.</item>`
	`</list>`

Example	Labels may also be used for other structured list items, as in this extract from the journal of Edward Gibbon:
	`<list type="gloss">`
	` <label>March 1757.</label>`
	` <item>I wrote some critical observations upon Plautus.</item>`
	` <label>March 8th.</label>`
	` <item>I wrote a long dissertation upon some lines of Virgil.</item>`
	` <label>June.</label>`
	` <item>I saw Mademoiselle Curchod — <quote xml:lang="la">Omnia vincit amor, et nos cedamus`
	`  amori.</quote>`
	` </item>`
	` <label>August.</label>`
	` <item>I went to Crassy, and staid two days.</item>`
	`</list>`
	Note that the <label> might also appear within the `<item>` rather than as its sibling. Though syntactically valid, this usage is not recommended TEI practice.

Example	Labels may also be used to represent a label or heading attached to a paragraph or sequence of paragraphs not treated as a structural division, or to a group of verse lines. Note that, in this case, the <label> element appears *within* the <p> or `<lg>` element, rather than as a preceding sibling of it.
	`<p>[...]`
	`<lb/>&amp; n’entrer en mauuais &amp; mal-heu-`

```
<lb/>ré me#nage. Or des que le con#ente-
<lb/>ment des parties y e#t le mariage e#t
<lb/> arre#té, quoy que de faict il ne #oit
<label place="margin">Pui##ance maritale
   entre les Romains.</label>
 <lb/> con#ommé. Depuis la con#omma-
<lb/>tion du mariage la femme e#t #oubs
<lb/> la pui##ance du mary, s'il n'e#t e#cla-
<lb/>ue ou enfant de famille : car en ce
<lb/> cas, la femme, qui a e#pou#é vn en-
<lb/>fant de famille, e#t #ous la pui##ance
 [...]</p>
```

In this example the text of the label appears in the right hand margin of the original source, next to the paragraph it describes, but approximately in the middle of it. If so desired the *type* attribute may be used to distinguish different categories of label.

Content model

```
<content>
 <macroRef key="macro.phraseSeq"/>
</content>
```

Schema Declaration

```
element label
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.placement.attributes,
   att.written.attributes,
   macro.phraseSeq
}
```

6.1.26. <langUsage>

<langUsage> (language usage) describes the languages, sublanguages, registers, dialects, etc. represented within a text. [2.4.2. Language Usage 2.4. The Profile Description 15.3.2. Declarable Elements]

Module	header — Specifications
Attributes	att.declarable (@default) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.profileDescPart
Contained by	**header:** profileDesc
May contain	**core:** p **header:** language **linking:** ab

Example

```
<langUsage>
 <language ident="fr-CA" usage="60">Québecois</language>
 <language ident="en-CA" usage="20">Canadian business English</language>
 <language ident="en-GB" usage="20">British English</language>
</langUsage>
```

Content model

```
<content>
 <alternate minOccurs="1" maxOccurs="1">
  <classRef key="model.pLike" minOccurs="1"
   maxOccurs="unbounded"/>
  <elementRef key="language" minOccurs="1"
   maxOccurs="unbounded"/>
 </alternate>
</content>
```

Schema Declaration

```
element langUsage
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
```

```
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.declarable.attributes,
   ( model.pLike+ | language+ )
}
```

6.1.27. <language>

<language> (language) characterizes a single language or sublanguage used within a text. [2.4.2. Language Usage]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) ident (identifier) Supplies a language code constructed as defined in BCP 47 which is used to identify the language documented by this element, and which is referenced by the global *xml:lang* attribute. **Status** Required **Datatype** teidata.language
Contained by	**header:** langUsage
May contain	**core:** date hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	Particularly for sublanguages, an informal prose characterization should be supplied as content for the element.

Example	`<langUsage>`
	` <language ident="en-US" usage="75">modern American English</language>`
	` <language ident="i-az-Arab" usage="20">Azerbaijani in Arabic script</language>`
	` <language ident="x-lap" usage="05">Pig Latin</language>`
	`</langUsage>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq.limited"/>`
	`</content>`

Schema Declaration	`element language`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  attribute ident { text },`
	`  macro.phraseSeq.limited`
	`}`

6.1.28. <lb>

<lb> (line beginning) marks the beginning of a new (typographic) line in some edition or version of a text. [3.11.3. Milestone Elements 7.2.5. Speech Contents]	
Module	core — Specifications
Attributes	att.edition (@ed, @edRef) att.spanning (@spanTo) att.breaking (@break) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.linking (@corresp) att.global.facs (@facs) att.global.change (@change)
Member of	model.milestoneLike
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority extent language licence **linking:** ab

	msdescription: repository **namesdates:** country forename nameLink persName settlement surname **textstructure:** body div text **transcr:** fw line sourceDoc surface zone
May contain	Empty element
Note	By convention, <lb> elements should appear at the point in the text where a new line starts. The *n* attribute, if used, indicates the number or other value associated with the text between this point and the next <lb> element, typically the sequence number of the line within the page, or other appropriate unit. This element is intended to be used for marking actual line breaks on a manuscript or printed page, at the point where they occur; it should not be used to tag structural units such as lines of verse (for which the <l> element is available) except in circumstances where structural units cannot otherwise be marked. The *type* attribute may be used to characterize the line break in any respect. The more specialized attributes *break*, *ed*, or *edRef* should be preferred when the intent is to indicate whether or not the line break is word-breaking, or to note the source from which it derives.

Example	This example shows typographical line breaks within metrical lines, where they occur at different places in different editions:
	`<l>Of Mans First Disobedience,<lb ed="1674"/> and<lb ed="1667"/> the Fruit</l>`
	`<l>Of that Forbidden Tree, whose<lb ed="1667 1674"/> mortal tast</l>`
	`<l>Brought Death into the World,<lb ed="1667"/> and all<lb ed="1674"/> our woe,</l>`

Example	This example encodes typographical line breaks as a means of preserving the visual appearance of a title page. The *break* attribute is used to show that the line break does not (as elsewhere) mark the start of a new word.
	`<titlePart>`
	`<lb/>With Additions, ne-<lb break="no"/>ver before Printed.`
	`</titlePart>`

Content model	`<content>`
	`<empty/>`
	`</content>`

Schema Declaration	`element lb`
	`{`
	`att.global.attribute.xmlid,`
	`att.global.attribute.n,`
	`att.global.attribute.xmllang,`
	`att.global.attribute.xmlbase,`
	`att.global.attribute.xmlspace,`
	`att.global.rendition.attribute.rend,`
	`att.global.rendition.attribute.style,`
	`att.global.rendition.attribute.rendition,`
	`att.global.linking.attribute.corresp,`
	`att.global.facs.attribute.facs,`
	`att.global.change.attribute.change,`
	`att.edition.attributes,`
	`att.spanning.attributes,`
	`att.breaking.attributes,`
	`empty`
	`}`

6.1.29. <licence>

<licence> contains information about a licence or other legal agreement applicable to the text. [2.2.4. Publication, Distribution, Licensing, etc.]	
Module	header — Specifications
Attributes	att.pointing (@target) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Member of	model.availabilityPart
Contained by	**header:** availability
May contain	**core:** bibl date graphic hi label lb measure name note p pb ptr title **header:** idno **linking:** ab **msdescription:** msDesc

	namesdates: country forename nameLink persName settlement surname **transcr:** fw character data
Note	A <licence> element should be supplied for each licence agreement applicable to the text in question. The *target* attribute may be used to reference a full version of the licence. The *when*, *notBefore*, *notAfter*, *from* or *to* attributes may be used in combination to indicate the date or dates of applicability of the licence.
Example	`<licence target="http://www.nzetc.org/tm/scholarly/tei-NZETC-Help.html#licensing"> Licence: Creative Commons At` `</licence>`

Example	`<availability>`
	` <licence target="http://creativecommons.org/licenses/by/3.0/"`
	`  notBefore="2013-01-01">`
	`  <p>The Creative Commons Attribution 3.0 Unported (CC BY 3.0) Licence`
	`  applies to this document.</p>`
	`  <p>The licence was added on January 1, 2013.</p>`
	` </licence>`
	`</availability>`

Content model	`<content>`
	` <macroRef key="macro.specialPara"/>`
	`</content>`

Schema Declaration	`element licence`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  att.pointing.attributes,`
	`  att.datable.iso.attribute.when-iso,`
	`  att.datable.iso.attribute.notBefore-iso,`
	`  att.datable.iso.attribute.notAfter-iso,`
	`  att.datable.iso.attribute.from-iso,`
	`  att.datable.iso.attribute.to-iso,`
	`  att.datable.custom.attribute.when-custom,`
	`  att.datable.custom.attribute.notBefore-custom,`
	`  att.datable.custom.attribute.notAfter-custom,`
	`  att.datable.custom.attribute.from-custom,`
	`  att.datable.custom.attribute.to-custom,`
	`  att.datable.custom.attribute.datingPoint,`
	`  att.datable.custom.attribute.datingMethod,`
	`  macro.specialPara`
	`}`

6.1.30. <line>

<line> contains the transcription of a topographic line in the source document [11.2.2. Embedded Transcription]	
Module	transcr — Specifications
Attributes	att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.linePart
Contained by	**transcr:** line surface zone
May contain	**core:** hi lb note pb **transcr:** fw line path zone character data
Note	This element should be used only to mark up writing which is topographically organized as a series of lines, horizontal or vertical. It should not be used to mark lines of verse (for which use `<l>`) nor to mark linebreaks within text which has been encoded using structural elements such as <p> (for which use <lb>).

Example	`<surface>`
	` <zone>`
	`  <line>Poem</line>`
	`  <line>As in Visions of – at</line>`
	`  <line>night –</line>`
	`  <line>All sorts of fancies running through</line>`

	<line>the head</line> </zone> </surface>
Example	<surface> <zone> <line>Hope you enjoyed</line> <line>Wales, as they said</line> <line>to Mrs FitzHerbert</line> <line>Mama</line> </zone> <zone> <line>Printed in England</line> </zone> </surface>
Content model	<content> <alternate minOccurs="0" maxOccurs="unbounded"> <textNode/> <classRef key="model.global"/> <classRef key="model.gLike"/> <classRef key="model.linePart"/> </alternate> </content>

Schema Declaration	element line
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	att.written.attributes,
	(text | model.global | model.gLike | model.linePart)*
	}

6.1.31. <measure>

<**measure**> (measure) contains a word or phrase referring to some quantity of an object or commodity, usually comprising a number, a unit, and a commodity name. [3.6.3. Numbers and Measures]	
Module	core — Specifications
Attributes	att.measurement (@unit) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.measureLike
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Example	This example references a definition of a measurement unit declared in the TEI header: <measure type="weight"> <num>2</num> pounds of flesh </measure> <measure type="currency">£10-11-6d</measure> <measure type="area" unitRef="#merk">2 <unit>merks</unit> of old extent</measure> <!-- In the TEI Header: --> <encodingDesc> <unitDecl> <unitDef xml:id="merk" type="area">

	<label>merk</label> <placeName ref="#Scotland"/> <desc>A merk was an area of land determined variably by its agricultural productivity.</desc> </unitDef> </unitDecl> </encodingDesc>
Example	<measure quantity="40" unit="hogshead" commodity="rum">2 score hh rum</measure> <measure quantity="12" unit="count" commodity="roses">1 doz. roses</measure> <measure quantity="1" unit="count" commodity="tulips">a yellow tulip</measure>
Content model	<content> <macroRef key="macro.phraseSeq"/> </content>

Schema Declaration	element measure
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	att.measurement.attributes,
	macro.phraseSeq
	}

6.1.32. <msDesc>

<msDesc> (manuscript description) contains a description of a single identifiable manuscript or other text-bearing object such as an early printed book. [10.1. Overview]	
Module	msdescription — Specifications
Attributes	att.sortable (@sortKey) att.declaring (@decls) att.docStatus (@status) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.biblLike
Contained by	**core:** hi note p title **header:** licence sourceDesc taxonomy **linking:** ab **textstructure:** body div
May contain	**core:** p **linking:** ab **msdescription:** msIdentifier physDesc
Note	Although the <msDesc> has primarily been designed with a view to encoding manuscript descriptions, it may also be used for other objects such as early printed books, fascicles, epigraphs, or any text-bearing objects that require substantial description. If an object is not text-bearing or the reasons for describing the object is not primarily the textual content, the more general `<object>` may be more suitable.
Example	<msDesc> <msIdentifier> <settlement>Oxford</settlement> <repository>Bodleian Library</repository> <idno type="Bod">MS Poet. Rawl. D. 169.</idno> </msIdentifier> <msContents> <msItem> <author>Geoffrey Chaucer</author> <title>The Canterbury Tales</title> </msItem> </msContents> <physDesc> <objectDesc> A parchment codex of 136 folios, measuring approx 28 by 19 inches, and containing 24 quires. The pages are margined and ruled throughout. Four hands have been identified in the manuscript: the first 44 folios being written in two cursive anglicana scripts, while the remainder is for the most part in a mixed secretary hand.

	<pre> </objectDesc> </physDesc> </msDesc></pre>
Content model	<pre><content> <sequence minOccurs="1" maxOccurs="1"> <elementRef key="msIdentifier"/> <classRef key="model.headLike" minOccurs="0" maxOccurs="unbounded"/> <alternate minOccurs="1" maxOccurs="1"> <classRef key="model.pLike" minOccurs="1" maxOccurs="unbounded"/> <sequence minOccurs="1" maxOccurs="1"> <elementRef key="msContents" minOccurs="0"/> <elementRef key="physDesc" minOccurs="0"/> <elementRef key="history" minOccurs="0"/> <elementRef key="additional" minOccurs="0"/> <alternate minOccurs="1" maxOccurs="1"> <elementRef key="msPart" minOccurs="0" maxOccurs="unbounded"/> <elementRef key="msFrag" minOccurs="0" maxOccurs="unbounded"/> </alternate> </sequence> </alternate> </sequence> </content></pre>
Schema Declaration	<pre>element msDesc { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style, att.global.rendition.attribute.rendition, att.global.facs.attribute.facs, att.global.change.attribute.change, att.sortable.attributes, att.declaring.attributes, att.docStatus.attributes, (msIdentifier, model.headLike*, (model.pLike+	(msContents?, physDesc?, history?, additional?, (msPart* | msFrag*))))) }</pre>

6.1.33. <msIdentifier>

<**msIdentifier**> (manuscript identifier) contains the information required to identify the manuscript or similar object being described. [10.4. The Manuscript Identifier]	
Module	msdescription — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.biblPart
Contained by	**core:** bibl **msdescription:** msDesc
May contain	**header:** idno **msdescription:** altIdentifier repository **namesdates:** country settlement
Example	<pre><msIdentifier> <settlement>San Marino</settlement> <repository>Huntington Library</repository></pre>

	<idno>MS.El.26.C.9</idno> </msIdentifier>
Schematron	<s:report test="not(parent::tei:msPart) and (local-name(*[1])='idno' or local-name(*[1])='altIdentifier' or normalize-space(.)='')">An msIdentifier must contain either a repository or location.</s:report>
Content model	<content> <sequence minOccurs="1" maxOccurs="1"> <sequence minOccurs="1" maxOccurs="1"> <classRef key="model.placeNamePart" expand="sequenceOptional"/> <elementRef key="institution" minOccurs="0"/> <elementRef key="repository" minOccurs="0"/> <elementRef key="collection" minOccurs="0" maxOccurs="unbounded"/> <elementRef key="idno" minOccurs="0" maxOccurs="unbounded"/> </sequence> <alternate minOccurs="0" maxOccurs="unbounded"> <elementRef key="msName"/> <elementRef key="objectName"/> <elementRef key="altIdentifier"/> </alternate> </sequence> </content>

Schema Declaration	element msIdentifier
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	(
	(country?, settlement?, institution?, repository?, collection*, idno*),
	(msName | objectName | altIdentifier)*
	)
	}

6.1.34. <name>

<name> (name, proper noun) contains a proper noun or noun phrase. [3.6.1. Referring Strings]	
Module	core — Specifications
Attributes	att.editLike (@evidence, @instant) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Member of	model.nameLike.agent
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp respStmt title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Note	Proper nouns referring to people, places, and organizations may be tagged instead with <persName>, <placeName>, or <orgName>, when the TEI module for names and dates is included.
Example	<name type="person">Thomas Hoccleve</name> <name type="place">Villingaholt</name> <name type="org">Vetus Latina Institut</name> <name type="person" ref="#HOC001">Occleve</name>
Content model	<content> <macroRef key="macro.phraseSeq"/> </content>

Schema Declaration	element name
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	att.datable.iso.attribute.when-iso,
	att.datable.iso.attribute.notBefore-iso,
	att.datable.iso.attribute.notAfter-iso,
	att.datable.iso.attribute.from-iso,
	att.datable.iso.attribute.to-iso,
	att.datable.custom.attribute.when-custom,
	att.datable.custom.attribute.notBefore-custom,
	att.datable.custom.attribute.notAfter-custom,
	att.datable.custom.attribute.from-custom,
	att.datable.custom.attribute.to-custom,
	att.datable.custom.attribute.datingPoint,
	att.datable.custom.attribute.datingMethod,
	att.editLike.attributes,
	macro.phraseSeq
	}

6.1.35. <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*. [13.2.1. Personal Names]	
Module	namesdates — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.persNamePart
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Example	<persName> <forename>Frederick</forename> <nameLink>van der</nameLink> <surname>Tronck</surname> </persName>
Example	<persName> <forename>Alfred</forename> <nameLink>de</nameLink> <surname>Musset</surname> </persName>
Content model	<content> <macroRef key="macro.phraseSeq"/>

```
</content>
```

Schema Declaration

```
element nameLink
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   macro.phraseSeq
}
```

6.1.36. <note>

<note> (note) contains a note or annotation. [3.9.1. Notes and Simple Annotation 2.2.6. The Notes Statement 3.12.2.8. Notes and Statement of Language 9.3.5.4. Notes within Entries]

Module

core — Specifications

Attributes

att.placement (@place) att.written (@hand) att.anchoring (@anchored, @targetEnd) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.linking (@corresp) att.global.facs (@facs) att.global.change (@change)

type — characterizes the element in some sense, using any convenient classification scheme or typology.

Derived from	att.typed
Status	Optional
Datatype	teidata.enumerated
Legal values are:	**Margin-TextZone**

Member of

model.noteLike

Contained by

core: author bibl date hi label measure name note p pubPlace publisher resp respStmt title
header: authority extent language licence
linking: ab
msdescription: altIdentifier repository
namesdates: country forename nameLink persName settlement surname
textstructure: body div text
transcr: fw line sourceDoc surface zone

May contain

core: bibl date graphic hi label lb measure name note p pb ptr title
header: idno
linking: ab
msdescription: msDesc
namesdates: country forename nameLink persName settlement surname
transcr: fw
character data

Example

In the following example, the translator has supplied a footnote containing an explanation of the term translated as "painterly":

```
And yet it is not only
 in the great line of Italian renaissance art, but even in the
 painterly <note place="bottom" type="gloss"
 resp="#MDMH">
 <term xml:lang="de">Malerisch</term>. This word has, in the German, two
 distinct meanings, one objective, a quality residing in the object,
 the other subjective, a mode of apprehension and creation. To avoid
 confusion, they have been distinguished in English as
<mentioned>picturesque</mentioned> and
<mentioned>painterly</mentioned> respectively.
</note> style of the
 Dutch genre painters of the seventeenth century that drapery has this
```

	psychological significance. <!-- elsewhere in the document --> <respStmt xml:id="MDMH"> <resp>translation from German to English</resp> <name>Hottinger, Marie Donald Mackie</name> </respStmt> For this example to be valid, the code MDMH must be defined elsewhere, for example by means of a responsibility statement in the associated TEI header.
Example	The global *n* attribute may be used to supply the symbol or number used to mark the note's point of attachment in the source text, as in the following example: Mevorakh b. Saadya's mother, the matriarch of the family during the second half of the eleventh century, <note n="126" anchored="true"> The alleged mention of Judah Nagid's mother in a letter from 1071 is, in fact, a reference to Judah's children; cf. above, nn. 111 and 54. </note> is well known from Geniza documents published by Jacob Mann. However, if notes are numbered in sequence and their numbering can be reconstructed automatically by processing software, it may well be considered unnecessary to record the note numbers.
Content model	<content> <macroRef key="macro.specialPara"/> </content>

Schema Declaration	element note
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.linking.attribute.corresp,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	att.placement.attributes,
	att.written.attributes,
	att.anchoring.attributes,
	attribute type { "MarginTextZone" }?,
	macro.specialPara
	}

6.1.37. <objectDesc>

<**objectDesc**> (object description) contains a description of the physical components making up the object which is being described. [10.7.1. Object Description]	
Module	msdescription — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.physDescPart
Contained by	**msdescription:** physDesc
May contain	**core:** p **linking:** ab
Example	<objectDesc form="codex"> <supportDesc material="mixed"> Early modern <material>parchment</material> and <material>paper</material>. </supportDesc> <layoutDesc> <layout ruledLines="25 32"/> </layoutDesc> </objectDesc>
Content model	<content> <alternate minOccurs="1" maxOccurs="1"> <classRef key="model.pLike" minOccurs="1" maxOccurs="unbounded"/> <sequence minOccurs="1" maxOccurs="1"> <elementRef key="supportDesc"

	<content>
	  minOccurs="0"/>
	  <elementRef key="layoutDesc"
	  minOccurs="0"/>
	 </sequence>
	</alternate>
	</content>

Schema Declaration	element objectDesc
	{
	  att.global.attribute.xmlid,
	  att.global.attribute.n,
	  att.global.attribute.xmllang,
	  att.global.attribute.xmlbase,
	  att.global.attribute.xmlspace,
	  att.global.rendition.attribute.rend,
	  att.global.rendition.attribute.style,
	  att.global.rendition.attribute.rendition,
	  att.global.facs.attribute.facs,
	  att.global.change.attribute.change,
	  (model.pLike+ | (supportDesc?, layoutDesc?))
	}

*6.1.38. *

** ** (paragraph) marks paragraphs in prose. [3.1. Paragraphs 7.2.5. Speech Contents]	
Module	core — Specifications
Attributes	att.declaring (@decls) att.fragmentable (@part) att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.pLike
Contained by	**core:** note **header:** application availability encodingDesc langUsage licence publicationStmt sourceDesc **msdescription:** msDesc objectDesc physDesc **textstructure:** body div
May contain	**core:** bibl date graphic hi label lb measure name note pb ptr title **header:** idno **msdescription:** msDesc **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Example	Hallgerd was outside. <q>There is blood on your axe,</q> she said. <q>What have you done?</q> <q>I have now arranged that you can be married a second time,</q> replied Thjostolf. <q>Then you must mean that Thorvald is dead,</q> she said. <q>Yes,</q> said Thjostolf. <q>And now you must think up some plan for me.</q>
Schematron	<sch:report test=" (ancestor::tei:ab or ancestor::tei:p) and not(ancestor::tei:floatingText | parent::tei:exemplum |parent::tei:item |parent::tei:note |parent::tei:q |parent::tei:quote |parent::tei:remarks |parent::tei:said |parent::tei:sp |parent::tei:stage |parent::tei:cell |parent::tei:figure)"> Abstract model violation: Paragraphs may not occur inside other paragraphs or ab elements. </sch:report>
Schematron	<sch:report test=" (ancestor::tei:l or ancestor::tei:lg) and not(ancestor::tei:floatingText |parent::tei:figure |parent::tei:note)"> Abstract model violation: Lines may not contain higher-level structural elements such as div, p, or ab, unless p is a child of figure or note, or is a descendant of floatingText. </sch:report>
Content model	<content> <macroRef key="macro.paraContent"/> </content>
Schema Declaration	

```
element p
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.declaring.attributes,
   att.fragmentable.attributes,
   att.written.attributes,
   macro.paraContent
}
```

6.1.39. <path>

<path> (path) defines any line passing through two or more points within a <surface> element. [11.1. Digital Facsimiles 11.2.2. Embedded Transcription]

Module	transcr — Specifications
Attributes	att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) points — identifies a line within the container or bounding box specified by the parent element by means of a series of two or more pairs of numbers, each of which gives the x,y coordinates of a point on the line. **Derived from:** att.coordinated **Status:** Optional **Datatype:** 2–# occurrences of teidata.point separated by whitespace
Member of	model.linePart
Contained by	**transcr:** line surface zone
May contain	Empty element
Note	Although the simplest form of a path is a straight line between two points, a line with more than two points may bend at any point. The order of coordinates in *points* is significant, because the line follows the coordinate sequence. To specify a closed polygon, use the <zone> element rather than the <path> element.

Example	`<surface ulx="0" uly="0" lrx="443" lry="272">`
	`<graphic url="facs-fig3.jpg"/>`
	`<path points="74,73 171,244"/>`
	`<path points="71,203 173,116"/>`
	`</surface>`

Schematron	<sch:rule context="tei:path[@points]"> <!-- For a <path> element, we should ensure that the last coordinate does not repeat the first coordinate, otherwise we have a closed polygon, not a path. --> <sch:let name="firstPair" value="tokenize(normalize-space(@points), ' ')[1]"/> <sch:let name="lastPair" value="tokenize(normalize-space(@points), ' ')[last()]"/> <sch:let name="firstX" value="xs:float(substring-before($firstPair, ','))"/> <sch:let name="firstY" value="xs:float(substring-after($firstPair, ','))"/> <sch:let name="lastX" value="xs:float(substring-before($lastPair, ','))"/> <sch:let name="lastY" value="xs:float(substring-after($lastPair, ','))"/> <sch:report test="$firstX eq $lastX and $firstY eq $lastY">The first and last elements of this path are the same. To specify a closed polygon, use the zone element rather than the path element. </sch:report> </sch:rule>

Content model	`<content>`
	`<empty/>`
	`</content>`

Schema Declaration	`element path`
	`{`
	`att.global.attribute.xmlid,`
	`att.global.attribute.n,`
	`att.global.attribute.xmllang,`
	`att.global.attribute.xmlbase,`

```
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.written.attributes,
   attribute points { list { * } }?,
   empty
}
```

6.1.40. <pb>

<pb> (page beginning) marks the beginning of a new page in a paginated document. [3.11.3. Milestone Elements]	
Module	core — Specifications
Attributes	att.edition (@ed, @edRef) att.spanning (@spanTo) att.breaking (@break) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.linking (@corresp) att.global.facs (@facs) att.global.change (@change)
Member of	model.milestoneLike
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **textstructure:** body div text **transcr:** fw line sourceDoc surface zone
May contain	Empty element
Note	A <pb> element should appear at the start of the page which it identifies. The global *n* attribute indicates the number or other value associated with this page. This will normally be the page number or signature printed on it, since the physical sequence number is implicit in the presence of the <pb> element itself. The *type* attribute may be used to characterize the page break in any respect. The more specialized attributes *break*, *ed*, or *edRef* should be preferred when the intent is to indicate whether or not the page break is word-breaking, or to note the source from which it derives.

Example	Page numbers may vary in different editions of a text.
	`<p> ... <pb n="145" ed="ed2"/>`
	`<!-- Page 145 in edition "ed2" starts here --> ... <pb n="283" ed="ed1"/>`
	`<!-- Page 283 in edition "ed1" starts here--> ... </p>`

Example	A page break may be associated with a facsimile image of the page it introduces by means of the *facs* attribute
	`<body>`
	` <pb n="1" facs="page1.png"/>`
	`<!-- page1.png contains an image of the page;`
	`the text it contains is encoded here -->`
	` <p>`
	`<!-- ... -->`
	` </p>`
	` <pb n="2" facs="page2.png"/>`
	`<!-- similarly, for page 2 -->`
	` <p>`
	`<!-- ... -->`
	` </p>`
	`</body>`

Content model	`<content>`
	` <empty/>`
	`</content>`

Schema Declaration	`element pb`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.linking.attribute.corresp,`
	`  att.global.facs.attribute.facs,`

```
   att.global.change.attribute.change,
   att.edition.attributes,
   att.spanning.attributes,
   att.breaking.attributes,
   empty
}
```

6.1.41. <persName>

<persName> (personal name) contains a proper noun or proper-noun phrase referring to a person, possibly including one or more of the person's forenames, surnames, honorifics, added names, etc. [13.2.1. Personal Names]	
Module	namesdates — Specifications
Attributes	att.editLike (@evidence, @instant) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Member of	model.nameLike.agent
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp respStmt title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Example	`<persName>`
	` <forename>Edward</forename>`
	` <forename>George</forename>`
	` <surname type="linked">Bulwer-Lytton</surname>, <roleName>Baron Lytton of`
	` <placeName>Knebworth</placeName>`
	` </roleName>`
	`</persName>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element persName`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  att.datable.iso.attribute.when-iso,`
	`  att.datable.iso.attribute.notBefore-iso,`
	`  att.datable.iso.attribute.notAfter-iso,`
	`  att.datable.iso.attribute.from-iso,`
	`  att.datable.iso.attribute.to-iso,`
	`  att.datable.custom.attribute.when-custom,`
	`  att.datable.custom.attribute.notBefore-custom,`
	`  att.datable.custom.attribute.notAfter-custom,`
	`  att.datable.custom.attribute.from-custom,`
	`  att.datable.custom.attribute.to-custom,`
	`  att.datable.custom.attribute.datingPoint,`
	`  att.datable.custom.attribute.datingMethod,`
	`  att.editLike.attributes,`
	`  macro.phraseSeq`
	`}`

6.1.42. <physDesc>

<**physDesc**> (physical description) contains a full physical description of a manuscript, manuscript part, or other object optionally subdivided using more specialized elements from the model.physDescPart class. [10.7. Physical Description]	
Module	msdescription — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**msdescription:** msDesc
May contain	**core:** p **linking:** ab **msdescription:** objectDesc
Example	<physDesc> <objectDesc form="codex"> <supportDesc material="perg"> <support>Parchment.</support> <extent>i + 55 leaves <dimensions scope="all" type="leaf" unit="inch"> <height>7¾</height> <width>5#</width> </dimensions> </extent> </supportDesc> <layoutDesc> <layout columns="2">In double columns.</layout> </layoutDesc> </objectDesc> <handDesc> Written in more than one hand. </handDesc> <decoDesc> With a few coloured capitals. </decoDesc> </physDesc>
Content model	<content> <sequence minOccurs="1" maxOccurs="1"> <classRef key="model.pLike" minOccurs="0" maxOccurs="unbounded"/> <classRef key="model.physDescPart" expand="sequenceOptional"/> </sequence> </content>

Schema Declaration	element physDesc
	{
	att.global.attribute.xmlid,
	att.global.attribute.n,
	att.global.attribute.xmllang,
	att.global.attribute.xmlbase,
	att.global.attribute.xmlspace,
	att.global.rendition.attribute.rend,
	att.global.rendition.attribute.style,
	att.global.rendition.attribute.rendition,
	att.global.facs.attribute.facs,
	att.global.change.attribute.change,
	(model.pLike*, objectDesc?)
	}

6.1.43. <profileDesc>

<**profileDesc**> (text-profile description) provides a detailed description of non-bibliographic aspects of a text, specifically the languages and sublanguages used, the situation in which it was produced, the participants and their setting. [2.4. The Profile Description 2.1.1. The TEI Header and Its Components]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.teiHeaderPart
Contained by	**header:** teiHeader
May contain	**header:** langUsage

Note	Although the content model permits it, it is rarely meaningful to supply multiple occurrences for any of the child elements of <profileDesc> unless these are documenting multiple texts.
Example	<profileDesc> <langUsage> <language ident="fr">French</language> </langUsage> <textDesc n="novel"> <channel mode="w">print; part issues</channel> <constitution type="single"/> <derivation type="original"/> <domain type="art"/> <factuality type="fiction"/> <interaction type="none"/> <preparedness type="prepared"/> <purpose type="entertain" degree="high"/> <purpose type="inform" degree="medium"/> </textDesc> <settingDesc> <setting> <name>Paris, France</name> <time>Late 19th century</time> </setting> </settingDesc> </profileDesc>
Content model	<content> <classRef key="model.profileDescPart" minOccurs="0" maxOccurs="unbounded"/> </content>

Schema Declaration	element profileDesc
	{
	  att.global.attribute.xmlid,
	  att.global.attribute.n,
	  att.global.attribute.xmllang,
	  att.global.attribute.xmlbase,
	  att.global.attribute.xmlspace,
	  att.global.rendition.attribute.rend,
	  att.global.rendition.attribute.style,
	  att.global.rendition.attribute.rendition,
	  att.global.facs.attribute.facs,
	  att.global.change.attribute.change,
	  model.profileDescPart*
	}

6.1.44. <ptr>

<ptr> (pointer) defines a pointer to another location. [3.7. Simple Links and Cross-References 16.1. Links]	
Module	core — Specifications
Attributes	att.cReferencing (@cRef) att.declaring (@decls) att.internetMedia (@mimeType) att.pointing (@target) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) type — characterizes the element in some sense, using any convenient classification scheme or typology. **Derived from:** att.typed **Status:** Optional **Datatype:** teidata.enumerated **Legal values are:** **isni** **orcid**
Member of	model.ptrLike
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** application authority catDesc extent language licence publicationStmt **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname

	transcr: fw
May contain	Empty element

Example	`<ptr target="#p143 #p144"/>`
	`<ptr target="http://www.tei-c.org"/>`
	`<ptr cRef="1.3.4"/>`

Schematron	<s:report test="@target and @cRef">Only one of the attributes @target and @cRef may be supplied on <s:name/>.</s:report>

Content model	`<content>`
	` <empty/>`
	`</content>`

Schema Declaration	`element ptr`
	`{`
	`  att.cReferencing.attributes,`
	`  att.declaring.attributes,`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  att.internetMedia.attributes,`
	`  att.pointing.attributes,`
	`  attribute type { "isni" | "orcid" }?,`
	`  empty`
	`}`

6.1.45. <pubPlace>

<pubPlace> (publication place) contains the name of the place where a bibliographic item was published. [3.12.2.4. Imprint, Size of a Document, and Reprint Information]	
Module	core — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.canonical (ref, @key)
Member of	model.imprintPart model.publicationStmtPart.detail
Contained by	**core:** bibl **header:** publicationStmt
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Example	`<publicationStmt>`
	` <publisher>Oxford University Press</publisher>`
	` <pubPlace>Oxford</pubPlace>`
	` <date>1989</date>`
	`</publicationStmt>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element pubPlace`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`

```
   att.canonical.attribute.key,
   macro.phraseSeq
}
```

6.1.46. <publicationStmt>

<**publicationStmt**> (publication statement) groups information concerning the publication or distribution of an electronic or other text. [2.2.4. Publication, Distribution, Licensing, etc. 2.2. The File Description]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**header:** fileDesc
May contain	**core:** date p ptr pubPlace publisher **header:** authority availability idno **linking:** ab
Note	Where a publication statement contains several members of the model.publicationStmtPart.agency or model.publicationStmtPart.detail classes rather than one or more paragraphs or anonymous blocks, care should be taken to ensure that the repeated elements are presented in a meaningful order. It is a conformance requirement that elements supplying information about publication place, address, identifier, availability, and date be given following the name of the publisher, distributor, or authority concerned, and preferably in that order.

Example	`<publicationStmt>`
	` <publisher>C. Muquardt </publisher>`
	` <pubPlace>Bruxelles &amp; Leipzig</pubPlace>`
	` <date when="1846"/>`
	`</publicationStmt>`

Example	`<publicationStmt>`
	` <publisher>Chadwyck Healey</publisher>`
	` <pubPlace>Cambridge</pubPlace>`
	` <availability>`
	`  <p>Available under licence only</p>`
	` </availability>`
	` <date when="1992">1992</date>`
	`</publicationStmt>`

Example	`<publicationStmt>`
	` <publisher>Zea Books</publisher>`
	` <pubPlace>Lincoln, NE</pubPlace>`
	` <date>2017</date>`
	` <availability>`
	`  <p>This is an open access work licensed under a Creative Commons Attribution 4.0 International license.</p>`
	` </availability>`
	` <ptr target="http://digitalcommons.unl.edu/zeabook/55"/>`
	`</publicationStmt>`

Content model	`<content>`
	` <alternate minOccurs="1" maxOccurs="1">`
	`  <sequence minOccurs="1"`
	`  maxOccurs="unbounded">`
	`  <classRef key="model.publicationStmtPart.agency"/>`
	`  <classRef key="model.publicationStmtPart.detail"`
	`  minOccurs="0" maxOccurs="unbounded"/>`
	`  </sequence>`
	`  <classRef key="model.pLike" minOccurs="1"`
	`  maxOccurs="unbounded"/>`
	` </alternate>`
	`</content>`

Schema Declaration	`element publicationStmt` `{` `  att.global.attribute.xmlid,` `  att.global.attribute.n,` `  att.global.attribute.xmllang,` `  att.global.attribute.xmlbase,` `  att.global.attribute.xmlspace,` `  att.global.rendition.attribute.rend,` `  att.global.rendition.attribute.style,` `  att.global.rendition.attribute.rendition,` `  att.global.facs.attribute.facs,` `  att.global.change.attribute.change,` `  (` `  ( model.publicationStmtPart.agency, model.publicationStmtPart.detail* )+` `	model.pLike+` `)` `}`

6.1.47. <publisher>

<**publisher**> (publisher) provides the name of the organization responsible for the publication or distribution of a bibliographic item. [3.12.2.4. Imprint, Size of a Document, and Reprint Information 2.2.4. Publication, Distribution, Licensing, etc.]	
Module	core — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.imprintPart model.publicationStmtPart.agency
Contained by	**core:** bibl **header:** publicationStmt
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	Use the full form of the name by which a company is usually referred to, rather than any abbreviation of it which may appear on a title page

Example	`<imprint>`
	` <pubPlace>Oxford</pubPlace>`
	` <publisher>Clarendon Press</publisher>`
	` <date>1987</date>`
	`</imprint>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element publisher`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  macro.phraseSeq`
	`}`

6.1.48. <repository>

<**repository**> (repository) contains the name of a repository within which manuscripts or other objects are stored, possibly forming part of an institution. [10.4. The Manuscript Identifier]	
Module	msdescription — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**msdescription:** altIdentifier msIdentifier
May contain	**core:** date hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Example	`<msIdentifier>`
	` <settlement>Oxford</settlement>`
	` <institution>University of Oxford</institution>`
	` <repository>Bodleian Library</repository>`
	` <idno>MS. Bodley 406</idno>`
	`</msIdentifier>`

Content model	`<content>` ` <macroRef key="macro.phraseSeq.limited"/>`

	`</content>`
Schema Declaration	`element repository { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style, att.global.rendition.attribute.rendition, att.global.facs.attribute.facs, att.global.change.attribute.change, macro.phraseSeq.limited }`

6.1.49. <resp>

<resp> (responsibility) contains a phrase describing the nature of a person's intellectual responsibility, or an organization's role in the production or distribution of a work. [3.12.2.2. Titles, Authors, and Editors 2.2.1. The Title Statement 2.2.2. The Edition Statement 2.2.5. The Series Statement]	
Module	core — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Contained by	**core:** respStmt
May contain	**core:** date hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	The attribute *ref*, inherited from the class att.canonical may be used to indicate the kind of responsibility in a normalized form by referring directly to a standardized list of responsibility types, such as that maintained by a naming authority, for example the list maintained at http://www.loc.gov/marc/relators/relacode.html for bibliographic usage.
Example	`<respStmt> <resp ref="http://id.loc.gov/vocabulary/relators/com.html">compiler</resp> <name>Edward Child</name> </respStmt>`
Content model	`<content> <macroRef key="macro.phraseSeq.limited"/> </content>`
Schema Declaration	`element resp { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style, att.global.rendition.attribute.rendition, att.global.facs.attribute.facs, att.global.change.attribute.change, att.datable.iso.attribute.when-iso, att.datable.iso.attribute.notBefore-iso, att.datable.iso.attribute.notAfter-iso, att.datable.iso.attribute.from-iso, att.datable.iso.attribute.to-iso, att.datable.custom.attribute.when-custom, att.datable.custom.attribute.notBefore-custom, att.datable.custom.attribute.notAfter-custom, att.datable.custom.attribute.from-custom, att.datable.custom.attribute.to-custom, att.datable.custom.attribute.datingPoint, att.datable.custom.attribute.datingMethod, macro.phraseSeq.limited }`

6.1.50. <respStmt>

<respStmt> (statement of responsibility) supplies a statement of responsibility for the intellectual content of a text, edition, recording, or series, where the specialized elements for authors, editors, etc. do not suffice or do not apply. May also be used to encode information about individuals or organizations which have played a role in the production or distribution of a bibliographic work. [3.12.2.2. Titles, Authors, and Editors 2.2.1. The Title Statement 2.2.2. The Edition Statement 2.2.5. The Series Statement]	
Module	core — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.respLike
Contained by	**core:** bibl **header:** titleStmt
May contain	**core:** name note resp **namesdates:** persName

Example	`<respStmt>`
	` <resp>transcribed from original ms</resp>`
	` <persName>Claus Huitfeldt</persName>`
	`</respStmt>`

Example	`<respStmt>`
	` <resp>converted to XML encoding</resp>`
	` <name>Alan Morrison</name>`
	`</respStmt>`

Content model	`<content>`
	` <sequence minOccurs="1" maxOccurs="1">`
	`  <alternate minOccurs="1" maxOccurs="1">`
	`  <sequence minOccurs="1" maxOccurs="1">`
	`  <elementRef key="resp" minOccurs="1"`
	`  maxOccurs="unbounded"/>`
	`  <classRef key="model.nameLike.agent"`
	`  minOccurs="1" maxOccurs="unbounded"/>`
	`  </sequence>`
	`  <sequence minOccurs="1" maxOccurs="1">`
	`  <classRef key="model.nameLike.agent"`
	`  minOccurs="1" maxOccurs="unbounded"/>`
	`  <elementRef key="resp" minOccurs="1"`
	`  maxOccurs="unbounded"/>`
	`  </sequence>`
	`  </alternate>`
	`  <elementRef key="note" minOccurs="0"`
	`  maxOccurs="unbounded"/>`
	` </sequence>`
	`</content>`

Schema Declaration	`element respStmt` `{` `  att.global.attribute.xmlid,` `  att.global.attribute.n,` `  att.global.attribute.xmllang,` `  att.global.attribute.xmlbase,` `  att.global.attribute.xmlspace,` `  att.global.rendition.attribute.rend,` `  att.global.rendition.attribute.style,` `  att.global.rendition.attribute.rendition,` `  att.global.facs.attribute.facs,` `  att.global.change.attribute.change,` `  (` ` ((resp+, model.nameLike.agent+)	(model.nameLike.agent+, resp+)),` ` note*` `)` `}`

6.1.51. <settlement>

<settlement> (settlement) contains the name of a settlement such as a city, town, or village identified as a single geo-political or administrative unit. [13.2.3. Place Names]	
Module	namesdates — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom

	(@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Member of	model.placeNamePart
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** altIdentifier msIdentifier repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data

Example	`<placeName>`
	` <settlement type="town">Glasgow</settlement>`
	` <region>Scotland</region>`
	`</placeName>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element settlement`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  att.datable.iso.attribute.when-iso,`
	`  att.datable.iso.attribute.notBefore-iso,`
	`  att.datable.iso.attribute.notAfter-iso,`
	`  att.datable.iso.attribute.from-iso,`
	`  att.datable.iso.attribute.to-iso,`
	`  att.datable.custom.attribute.when-custom,`
	`  att.datable.custom.attribute.notBefore-custom,`
	`  att.datable.custom.attribute.notAfter-custom,`
	`  att.datable.custom.attribute.from-custom,`
	`  att.datable.custom.attribute.to-custom,`
	`  att.datable.custom.attribute.datingPoint,`
	`  att.datable.custom.attribute.datingMethod,`
	`  macro.phraseSeq`
	`}`

6.1.52. <sourceDesc>

<sourceDesc> (source description) describes the source(s) from which an electronic text was derived or generated, typically a bibliographic description in the case of a digitized text, or a phrase such as "born digital" for a text which has no previous existence. [2.2.7. The Source Description]	
Module	header — Specifications
Attributes	att.declarable (@default) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**header:** fileDesc
May contain	**core:** bibl p **linking:** ab **msdescription:** msDesc

Example	`<sourceDesc>`
	` <bibl>`
	`  <title level="a">The Interesting story of the Children in the Wood</title>. In`
	` <author>Victor E Neuberg</author>, <title>The Penny Histories</title>.`
	` <publisher>OUP</publisher>`
	`  <date>1968</date>. </bibl>`

	`</sourceDesc>`

Example	`<sourceDesc>`
	` <p>Born digital: no previous source exists.</p>`
	`</sourceDesc>`

Content model	`<content>`
	` <alternate minOccurs="1" maxOccurs="1">`
	`  <classRef key="model.pLike" minOccurs="1"`
	`  maxOccurs="unbounded"/>`
	`  <alternate minOccurs="1"`
	`  maxOccurs="unbounded">`
	`  <classRef key="model.biblLike"/>`
	`  <classRef key="model.sourceDescPart"/>`
	`  <classRef key="model.listLike"/>`
	`  </alternate>`
	` </alternate>`
	`</content>`

Schema Declaration	`element sourceDesc` `{` `  att.global.attribute.xmlid,` `  att.global.attribute.n,` `  att.global.attribute.xmllang,` `  att.global.attribute.xmlbase,` `  att.global.attribute.xmlspace,` `  att.global.rendition.attribute.rend,` `  att.global.rendition.attribute.style,` `  att.global.rendition.attribute.rendition,` `  att.global.facs.attribute.facs,` `  att.global.change.attribute.change,` `  att.declarable.attributes,` `  (` `  model.pLike+` `	(model.biblLike | model.sourceDescPart | model.listLike)+` `)` `}`

6.1.53. <sourceDoc>

<sourceDoc> contains a transcription or other representation of a single source document potentially forming part of a *dossier génétique* or collection of sources. [11.1. Digital Facsimiles 11.2.2. Embedded Transcription]	
Module	transcr — Specifications
Attributes	att.declaring (@decls) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.resource
Contained by	**textstructure:** TEI
May contain	**core:** graphic lb note pb **transcr:** fw surface
Note	This element may be used as an alternative to `<facsimile>` for TEI documents containing only page images, or for documents containing both images and transcriptions. Transcriptions may be provided within the <surface> elements making up a source document, in parallel with them as part of a <text> element, or in both places if the encoder wishes to distinguish these two modes of transcription.

Example	`<sourceDoc>`
	` <surfaceGrp n="leaf1">`
	`  <surface facs="page1.png">`
	`  <zone>All the writing on page 1</zone>`
	`  </surface>`
	`  <surface>`
	`  <graphic url="page2-highRes.png"/>`
	`  <graphic url="page2-lowRes.png"/>`
	`  <zone>`
	`  <line>A line of writing on page 2</line>`
	`  <line>Another line of writing on page 2</line>`
	`  </zone>`
	`  </surface>`
	` </surfaceGrp>`
	`</sourceDoc>`

Content model	`<content>`
	` <alternate minOccurs="1"`
	`  maxOccurs="unbounded">`
	`  <classRef key="model.global"/>`
	`  <classRef key="model.graphicLike"/>`

```
  <elementRef key="surface"/>
  <elementRef key="surfaceGrp"/>
 </alternate>
</content>
```

Schema Declaration

```
element sourceDoc
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.declaring.attributes,
   ( model.global | model.graphicLike | surface | surfaceGrp )+
}
```

6.1.54. <surface>

<surface> defines a written surface as a two-dimensional coordinate space, optionally grouping one or more graphic representations of that space, zones of interest within that space, and transcriptions of the writing within them. [11.1. Digital Facsimiles 11.2.2. Embedded Transcription]

Module	transcr — Specifications
Attributes	att.declaring (@decls) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.coordinated (points, @ulx, @uly, @lrx, @lry)
Contained by	**transcr:** sourceDoc surface zone
May contain	**core:** graphic label lb note pb **transcr:** fw line path surface zone
Note	The <surface> element represents any two-dimensional space on some physical surface forming part of the source material, such as a piece of paper, a face of a monument, a billboard, a scroll, a leaf etc. The coordinate space defined by this element may be thought of as a grid *lrx* - *ulx* units wide and *uly* - *lry* units high. The <surface> element may contain graphic representations or transcriptions of written zones, or both. The coordinate values used by every <zone> element contained by this element are to be understood with reference to the same grid. Where it is useful or meaningful to do so, any grouping of multiple <surface> elements may be indicated using the `<surfaceGrp>` element.

Example

```
<facsimile>
 <surface ulx="0" uly="0" lrx="200" lry="300">
  <graphic url="Bovelles-49r.png"/>
 </surface>
</facsimile>
```

Content model

```
<content>
 <sequence minOccurs="1" maxOccurs="1">
  <alternate minOccurs="0"
   maxOccurs="unbounded">
   <classRef key="model.global"/>
   <classRef key="model.labelLike"/>
   <classRef key="model.graphicLike"/>
  </alternate>
  <sequence minOccurs="0"
   maxOccurs="unbounded">
   <alternate minOccurs="1" maxOccurs="1">
    <elementRef key="zone"/>
    <elementRef key="line"/>
    <elementRef key="path"/>
    <elementRef key="surface"/>
    <elementRef key="surfaceGrp"/>
   </alternate>
   <classRef key="model.global"
    minOccurs="0" maxOccurs="unbounded"/>
  </sequence>
 </sequence>
</content>
```

Schema Declaration

```
element surface
{
```

```
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.coordinated.attribute.ulx,
   att.coordinated.attribute.uly,
   att.coordinated.attribute.lrx,
   att.coordinated.attribute.lry,
   att.declaring.attributes,
   (
      ( model.global | model.labelLike | model.graphicLike )*,
      ( ( zone | line | path | surface | surfaceGrp ), model.global* )*
   )
}
```

6.1.55. <surname>

<surname> (surname) contains a family (inherited) name, as opposed to a given, baptismal, or nick name. [13.2.1. Personal Names]	
Module	namesdates — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Member of	model.persNamePart
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** date graphic hi lb measure name note pb ptr title **header:** idno **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Example	`<surname type="combine">St John Stevas</surname>`

Content model	`<content>`
	` <macroRef key="macro.phraseSeq"/>`
	`</content>`

Schema Declaration	`element surname`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  macro.phraseSeq`
	`}`

6.1.56. <taxonomy>

<taxonomy> (taxonomy) defines a typology either implicitly, by means of a bibliographic citation, or explicitly by a structured taxonomy. [2.3.7. The Classification Declaration]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**header:** classDecl taxonomy

May contain	**core:** bibl **header:** category taxonomy **msdescription:** msDesc
Note	Nested taxonomies are common in many fields, so the <taxonomy> element can be nested.
Example	<taxonomy xml:id="tax.b"> <bibl>Brown Corpus</bibl> <category xml:id="tax.b.a"> <catDesc>Press Reportage</catDesc> <category xml:id="tax.b.a1"> <catDesc>Daily</catDesc> </category> <category xml:id="tax.b.a2"> <catDesc>Sunday</catDesc> </category> <category xml:id="tax.b.a3"> <catDesc>National</catDesc> </category> <category xml:id="tax.b.a4"> <catDesc>Provincial</catDesc> </category> <category xml:id="tax.b.a5"> <catDesc>Political</catDesc> </category> <category xml:id="tax.b.a6"> <catDesc>Sports</catDesc> </category> </category> <category xml:id="tax.b.d"> <catDesc>Religion</catDesc> <category xml:id="tax.b.d1"> <catDesc>Books</catDesc> </category> <category xml:id="tax.b.d2"> <catDesc>Periodicals and tracts</catDesc> </category> </category> </taxonomy>
Example	<taxonomy> <category xml:id="literature"> <catDesc>Literature</catDesc> <category xml:id="poetry"> <catDesc>Poetry</catDesc> <category xml:id="sonnet"> <catDesc>Sonnet</catDesc> <category xml:id="shakesSonnet"> <catDesc>Shakespearean Sonnet</catDesc> </category> <category xml:id="petraSonnet"> <catDesc>Petrarchan Sonnet</catDesc> </category> </category> <category xml:id="haiku"> <catDesc>Haiku</catDesc> </category> </category> <category xml:id="drama"> <catDesc>Drama</catDesc> </category> </category> <category xml:id="meter"> <catDesc>Metrical Categories</catDesc> <category xml:id="feet"> <catDesc>Metrical Feet</catDesc> <category xml:id="iambic"> <catDesc>Iambic</catDesc> </category> <category xml:id="trochaic"> <catDesc>trochaic</catDesc> </category> </category> <category xml:id="feetNumber"> <catDesc>Number of feet</catDesc> <category xml:id="pentameter"> <catDesc>>Pentameter</catDesc> </category> <category xml:id="tetrameter"> <catDesc>>Tetrameter</catDesc> </category> </category> </category> </taxonomy> <!-- elsewhere in document --> <lg ana="#shakesSonnet #iambic #pentameter"> <l>Shall I compare thee to a summer's day</l> <!-- ... -->

	`</lg>`

Content model	`<content>`
	` <alternate minOccurs="1" maxOccurs="1">`
	`  <alternate minOccurs="1" maxOccurs="1">`
	`   <alternate minOccurs="1"`
	`    maxOccurs="unbounded">`
	`    <elementRef key="category"/>`
	`    <elementRef key="taxonomy"/>`
	`   </alternate>`
	`   <sequence minOccurs="1" maxOccurs="1">`
	`    <alternate minOccurs="1"`
	`     maxOccurs="unbounded">`
	`     <classRef key="model.descLike"`
	`      minOccurs="1" maxOccurs="1"/>`
	`     <elementRef key="equiv" minOccurs="1"`
	`      maxOccurs="1"/>`
	`     <elementRef key="gloss" minOccurs="1"`
	`      maxOccurs="1"/>`
	`    </alternate>`
	`    <alternate minOccurs="0"`
	`     maxOccurs="unbounded">`
	`     <elementRef key="category"/>`
	`     <elementRef key="taxonomy"/>`
	`    </alternate>`
	`   </sequence>`
	`  </alternate>`
	`  <sequence minOccurs="1" maxOccurs="1">`
	`   <classRef key="model.biblLike"/>`
	`   <alternate minOccurs="0"`
	`    maxOccurs="unbounded">`
	`    <elementRef key="category"/>`
	`    <elementRef key="taxonomy"/>`
	`   </alternate>`
	`  </sequence>`
	` </alternate>`
	`</content>`

Schema Declaration	`element taxonomy`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  (`
	`  (`
	`  ( category | taxonomy )+`
	`  | ( ( model.descLike | equiv | gloss )+, ( category | taxonomy )* )`
	`  )`
	`  | ( model.biblLike, ( category | taxonomy )* )`
	`  )`
	`}`

6.1.57. <teiHeader>

<teiHeader> (TEI header) supplies descriptive and declarative metadata associated with a digital resource or set of resources. [2.1.1. The TEI Header and Its Components 15.1. Varieties of Composite Text]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**textstructure:** TEI
May contain	**header:** encodingDesc fileDesc profileDesc
Note	One of the few elements unconditionally required in any TEI document.

Example	`<teiHeader>`
	` <fileDesc>`
	`  <titleStmt>`
	`   <title>Shakespeare: the first folio (1623) in electronic form</title>`
	`   <author>Shakespeare, William (1564–1616)</author>`
	`   <respStmt>`
	`    <resp>Originally prepared by</resp>`
	`    <name>Trevor Howard-Hill</name>`
	`   </respStmt>`
	`   <respStmt>`

```
    <resp>Revised and edited by</resp>
    <name>Christine Avern-Carr</name>
   </respStmt>
  </titleStmt>
  <publicationStmt>
   <distributor>Oxford Text Archive</distributor>
   <address>
    <addrLine>13 Banbury Road, Oxford OX2 6NN, UK</addrLine>
   </address>
   <idno type="OTA">119</idno>
   <availability>
    <p>Freely available on a non-commercial basis.</p>
   </availability>
   <date when="1968">1968</date>
  </publicationStmt>
  <sourceDesc>
   <bibl>The first folio of Shakespeare, prepared by Charlton Hinman (The Norton Facsimile,
       1968)</bibl>
  </sourceDesc>
 </fileDesc>
 <encodingDesc>
  <projectDesc>
   <p>Originally prepared for use in the production of a series of old-spelling
       concordances in 1968, this text was extensively checked and revised for use during the
       editing of the new Oxford Shakespeare (Wells and Taylor, 1989).</p>
  </projectDesc>
  <editorialDecl>
   <correction>
    <p>Turned letters are silently corrected.</p>
   </correction>
   <normalization>
    <p>Original spelling and typography is retained, except that long s and ligatured
        forms are not encoded.</p>
   </normalization>
  </editorialDecl>
  <refsDecl xml:id="ASLREF">
   <cRefPattern matchPattern="(\S+) ([^.]+)\.(.*)"
    replacementPattern="#xpath(//div1[@n='$1']/div2/[@n='$2']//lb[@n='$3'])">
    <p>A reference is created by assembling the following, in the reverse order as that
        listed here: <list>
      <item>the <att>n</att> value of the preceding <gi>lb</gi>
      </item>
      <item>a period</item>
      <item>the <att>n</att> value of the ancestor <gi>div2</gi>
      </item>
      <item>a space</item>
      <item>the <att>n</att> value of the parent <gi>div1</gi>
      </item>
     </list>
    </p>
   </cRefPattern>
  </refsDecl>
 </encodingDesc>
 <revisionDesc>
  <list>
   <item>
    <date when="1989-04-12">12 Apr 89</date> Last checked by CAC</item>
   <item>
    <date when="1989-03-01">1 Mar 89</date> LB made new file</item>
  </list>
 </revisionDesc>
</teiHeader>
```

Content model

```
<content>
 <sequence minOccurs="1" maxOccurs="1">
  <elementRef key="fileDesc"/>
  <classRef key="model.teiHeaderPart"
   minOccurs="0" maxOccurs="unbounded"/>
  <elementRef key="revisionDesc"
   minOccurs="0"/>
 </sequence>
</content>
```

Schema Declaration

```
element teiHeader
{
   att.global.attribute.xmlid,
   att.global.attribute.n,
   att.global.attribute.xmllang,
   att.global.attribute.xmlbase,
   att.global.attribute.xmlspace,
   att.global.rendition.attribute.rend,
   att.global.rendition.attribute.style,
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   ( fileDesc, model.teiHeaderPart*, revisionDesc? )
}
```

6.1.58. <text>

<text> (text) contains a single text of any kind, whether unitary or composite, for example a poem or drama, a collection of essays, a novel, a dictionary, or a corpus sample. [4. Default Text Structure 15.1. Varieties of Composite Text]	
Module	textstructure — Specifications
Attributes	att.declaring (@decls) att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.t.global.change (@change)
Member of	model.resource
Contained by	**textstructure:** TEI
May contain	**core:** lb note pb **textstructure:** body **transcr:** fw
Note	This element should not be used to represent a text which is inserted at an arbitrary point within the structure of another, for example as in an embedded or quoted narrative; the `<floatingText>` is provided for this purpose.
Example	<text> <front> <docTitle> <titlePart>Autumn Haze</titlePart> </docTitle> </front> <body> <l>Is it a dragonfly or a maple leaf</l> <l>That settles softly down upon the water?</l> </body> </text>
Example	The body of a text may be replaced by a group of nested texts, as in the following schematic: <text> <front> <!-- front matter for the whole group --> </front> <group> <text> <!-- first text --> </text> <text> <!-- second text --> </text> </group> </text>
Content model	<content> <sequence minOccurs="1" maxOccurs="1"> <classRef key="model.global" minOccurs="0" maxOccurs="unbounded"/> <sequence minOccurs="0" maxOccurs="1"> <elementRef key="front"/> <classRef key="model.global" minOccurs="0" maxOccurs="unbounded"/> </sequence> <alternate minOccurs="1" maxOccurs="1"> <elementRef key="body"/> <elementRef key="group"/> </alternate> <classRef key="model.global" minOccurs="0" maxOccurs="unbounded"/> <sequence minOccurs="0" maxOccurs="1"> <elementRef key="back"/> <classRef key="model.global" minOccurs="0" maxOccurs="unbounded"/> </sequence> </sequence> </content>
Schema Declaration	element text { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style,

```
   att.global.rendition.attribute.rendition,
   att.global.facs.attribute.facs,
   att.global.change.attribute.change,
   att.declaring.attributes,
   att.written.attributes,
   (
      model.global*,
      ( front, model.global* )?,
      ( body | group ),
      model.global*,
      ( back, model.global* )?
   )
}
```

6.1.59. <title>

<title> (title) contains a title for any kind of work. [3.12.2.2. Titles, Authors, and Editors 2.2.1. The Title Statement 2.2.5. The Series Statement]

Module	core — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Member of	model.emphLike
Contained by	**core:** author bibl date hi label measure name note p pubPlace publisher resp title **header:** authority catDesc extent language licence titleStmt **linking:** ab **msdescription:** repository **namesdates:** country forename nameLink persName settlement surname **transcr:** fw
May contain	**core:** bibl date graphic hi label lb measure name note pb ptr title **header:** idno **msdescription:** msDesc **namesdates:** country forename nameLink persName settlement surname **transcr:** fw character data
Note	The attributes *key* and *ref*, inherited from the class att.canonical may be used to indicate the canonical form for the title; the former, by supplying (for example) the identifier of a record in some external library system; the latter by pointing to an XML element somewhere containing the canonical form of the title.
Example	`<title>Information Technology and the Research Process: Proceedings of a conference held at Cranfield Institute of Technology, UK, 18–21 July 1989</title>`
Example	`<title>Hardy's Tess of the D'Urbervilles: a machine readable edition</title>`
Example	`<title type="full"> <title type="main">Synthèse</title> <title type="sub">an international journal for epistemology, methodology and history of science</title> </title>`
Content model	`<content> <macroRef key="macro.paraContent"/> </content>`
Schema Declaration	`element title { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style, att.global.rendition.attribute.rendition, att.global.facs.attribute.facs, att.global.change.attribute.change, att.datable.iso.attribute.when-iso,`

```
   att.datable.iso.attribute.notBefore-iso,
   att.datable.iso.attribute.notAfter-iso,
   att.datable.iso.attribute.from-iso,
   att.datable.iso.attribute.to-iso,
   att.datable.custom.attribute.when-custom,
   att.datable.custom.attribute.notBefore-custom,
   att.datable.custom.attribute.notAfter-custom,
   att.datable.custom.attribute.from-custom,
   att.datable.custom.attribute.to-custom,
   att.datable.custom.attribute.datingPoint,
   att.datable.custom.attribute.datingMethod,
   macro.paraContent
}
```

6.1.60. <titleStmt>

<titleStmt> (title statement) groups information about the title of a work and those responsible for its content. [2.2.1. The Title Statement 2.2. The File Description]	
Module	header — Specifications
Attributes	att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.facs (@facs) att.global.change (@change)
Contained by	**header:** fileDesc
May contain	**core:** author respStmt title

Example	`<titleStmt>`
	` <title>Capgrave's Life of St. John Norbert: a machine-readable transcription</title>`
	` <respStmt>`
	`  <resp>compiled by</resp>`
	`  <name>P.J. Lucas</name>`
	` </respStmt>`
	`</titleStmt>`

Content model	`<content>`
	` <sequence minOccurs="1" maxOccurs="1">`
	`  <elementRef key="title" minOccurs="1"`
	`  maxOccurs="unbounded"/>`
	`  <classRef key="model.respLike"`
	`  minOccurs="0" maxOccurs="unbounded"/>`
	` </sequence>`
	`</content>`

Schema Declaration	`element titleStmt`
	`{`
	`  att.global.attribute.xmlid,`
	`  att.global.attribute.n,`
	`  att.global.attribute.xmllang,`
	`  att.global.attribute.xmlbase,`
	`  att.global.attribute.xmlspace,`
	`  att.global.rendition.attribute.rend,`
	`  att.global.rendition.attribute.style,`
	`  att.global.rendition.attribute.rendition,`
	`  att.global.facs.attribute.facs,`
	`  att.global.change.attribute.change,`
	`  ( title+, model.respLike* )`
	`}`

6.1.61. <zone>

<zone> defines any two-dimensional area within a <surface> element. [11.1. Digital Facsimiles 11.2.2. Embedded Transcription]	
Module	transcr — Specifications
Attributes	att.coordinated (@ulx, @uly, @lrx, @lry, @points) att.written (@hand) att.global (@xml:id, @n, @xml:lang, @xml:base, @xml:space) att.global.rendition (@rend, @style, @rendition) att.global.linking (@corresp) att.global.facs (@facs) att.global.change (@change) att.global.source (@source) att.typed (type, @subtype) type — characterizes the element in some sense, using any convenient classification scheme or typology. **Derived from:** att.typed **Status:** Optional **Datatype:** teidata.enumerated

	Legal values are:	**DamageZone** **DefaultLine** **DropCapitalLine** **DropCapitalZone** **GraphicZone** **HeadingLine** **InterlinearLine** **MainZone** **MarginTextZone** **NumberingZone** **QuireMarksZone** **RunningTitleZone** **StampZone** **TableZone** **TitlePageZone**
Member of	model.linePart	
Contained by	**transcr:** line surface zone	
May contain	**core:** graphic hi lb note pb	

	transcr: fw line path surface zone character data
Note	The position of every zone for a given surface is always defined by reference to the coordinate system defined for that surface. A graphic element contained by a zone represents the whole of the zone. A zone may be of any shape. The attribute *points* may be used to define a polygonal zone, using the coordinate system defined by its parent surface. A zone is always a closed polygon. Repeating the initial coordinate at the end of the sequence is optional. To encode an unclosed path, use the <path> element.
Example	<surface ulx="14.54" uly="16.14" lrx="0" lry="0"> <graphic url="stone.jpg"/> <zone points="4.6,6.3 5.25,5.85 6.2,6.6 8.19222,7.4125 9.89222,6.5875 10.9422,6.1375 11.4422,6.7125 8.21722,8.3125 6.2,7.65"/> </surface> This example defines a non-rectangular zone: see the illustration in section .
Example	<facsimile> <surface ulx="50" uly="20" lrx="400" lry="280"> <zone ulx="0" uly="0" lrx="500" lry="321"> <graphic url="graphic.png"/> </zone> </surface> </facsimile> This example defines a zone which has been defined as larger than its parent surface in order to match the dimensions of the graphic it contains.
Content model	<content> <alternate minOccurs="0" maxOccurs="unbounded"> <textNode/> <classRef key="model.gLike"/> <classRef key="model.graphicLike"/> <classRef key="model.global"/> <elementRef key="surface"/> <classRef key="model.linePart"/> </alternate> </content>
Schema Declaration	element zone { att.global.attribute.xmlid, att.global.attribute.n, att.global.attribute.xmllang, att.global.attribute.xmlbase, att.global.attribute.xmlspace, att.global.rendition.attribute.rend, att.global.rendition.attribute.style, att.global.rendition.attribute.rendition, att.global.linking.attribute.corresp, att.global.facs.attribute.facs, att.global.change.attribute.change, att.global.source.attribute.source, att.coordinated.attributes, att.typed.attribute.subtype, att.written.attributes, attribute type { "DamageZone" | "DefaultLine" | "DropCapitalLine" | "DropCapitalZone" | "GraphicZone" | "HeadingLine" | "InterlinearLine" | "MainZone" | "MarginTextZone" | "NumberingZone" | "QuireMarksZone" | "RunningTitleZone" | "StampZone" | "TableZone" | "TitlePageZone" }?, (text | model.gLike | model.graphicLike | model.global | surface

```
    | model.linePart
  )*
}
```

6.2. Model classes

6.2.1. model.applicationLike

model.applicationLike groups elements used to record application-specific information about a document in its header.	
Module	tei — Specifications
Used by	appInfo
Members	application

6.2.2. model.attributable

model.attributable groups elements that contain a word or phrase that can be attributed to a source. [3.3.3. Quotation 4.3.2. Floating Texts]	
Module	tei — Specifications
Used by	macro.phraseSeq model.inter
Members	model.quoteLike

6.2.3. model.availabilityPart

model.availabilityPart groups elements such as licences and paragraphs of text which may appear as part of an availability statement [2.2.4. Publication, Distribution, Licensing, etc.]	
Module	tei — Specifications
Used by	availability
Members	licence

6.2.4. model.biblLike

model.biblLike groups elements containing a bibliographic description. [3.12. Bibliographic Citations and References]	
Module	tei — Specifications
Used by	model.inter sourceDesc taxonomy
Members	bibl msDesc

6.2.5. model.biblPart

model.biblPart groups elements which represent components of a bibliographic description. [3.12. Bibliographic Citations and References]	
Module	tei — Specifications
Used by	bibl
Members	model.imprintPart[pubPlace publisher] model.respLike[author respStmt] availability bibl extent msIdentifier

6.2.6. model.common

model.common groups common chunk- and inter-level elements. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	body div
Members	model.divPart[model.lLike model.pLike[ab p]] model.entryLike model.inter[model.attributable[model.quoteLike] model.biblLike[bibl msDesc] model.egLike model.labelLike[label] model.listLike model.oddDecl model.stageLike]
Note	This class defines the set of chunk- and inter-level elements; it is used in many content models, including those for textual divisions.

6.2.7. model.dateLike

model.dateLike groups elements containing temporal expressions. [3.6.4. Dates and Times 13.4. Dates]

Module	tei — Specifications
Used by	model.pPart.data
Members	date

6.2.8. model.divBottom

model.divBottom groups elements appearing at the end of a text division. [4.2. Elements Common to All Divisions]	
Module	tei — Specifications
Used by	body div
Members	model.divBottomPart model.divWrapper

6.2.9. model.divLike

model.divLike groups elements used to represent un-numbered generic structural divisions.	
Module	tei — Specifications
Used by	body div
Members	div

6.2.10. model.divPart

model.divPart groups paragraph-level elements appearing directly within divisions. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	macro.specialPara model.common
Members	model.lLike model.pLike[ab p]
Note	Note that this element class does not include members of the model.inter class, which can appear either within or between paragraph-level items.

6.2.11. model.divTop

model.divTop groups elements appearing at the beginning of a text division. [4.2. Elements Common to All Divisions]	
Module	tei — Specifications
Used by	body div
Members	model.divTopPart[model.headLike] model.divWrapper

6.2.12. model.divTopPart

model.divTopPart groups elements which can occur only at the beginning of a text division. [4.6. Title Pages]	
Module	tei — Specifications
Used by	model.divTop
Members	model.headLike

6.2.13. model.emphLike

model.emphLike groups phrase-level elements which are typographically distinct and to which a specific function can be attributed. [3.3. Highlighting and Quotation]	
Module	tei — Specifications
Used by	model.highlighted model.limitedPhrase
Members	title

6.2.14. model.encodingDescPart

model.encodingDescPart groups elements which may be used inside <encodingDesc> and appear multiple times.	
Module	tei — Specifications
Used by	encodingDesc

Members	appInfo classDecl

6.2.15. model.global

model.global groups elements which may appear at any point within a TEI text. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	bibl body date div line macro.paraContent macro.phraseSeq macro.phraseSeq.limited macro.specialPara sourceDoc surface text zone
Members	model.global.edit model.global.meta model.milestoneLike[fw lb pb] model.noteLike[note]

6.2.16. model.graphicLike

model.graphicLike groups elements containing images, formulae, and similar objects. [3.10. Graphics and Other Non-textual Components]	
Module	tei — Specifications
Used by	model.phrase sourceDoc surface zone
Members	graphic

6.2.17. model.hiLike

model.hiLike groups phrase-level elements which are typographically distinct but to which no specific function can be attributed. [3.3. Highlighting and Quotation]	
Module	tei — Specifications
Used by	model.highlighted model.limitedPhrase model.linePart
Members	hi

6.2.18. model.highlighted

model.highlighted groups phrase-level elements which are typographically distinct. [3.3. Highlighting and Quotation]	
Module	tei — Specifications
Used by	bibl model.phrase
Members	model.emphLike[title] model.hiLike[hi]

6.2.19. model.imprintPart

model.imprintPart groups the bibliographic elements which occur inside imprints. [3.12. Bibliographic Citations and References]	
Module	tei — Specifications
Used by	model.biblPart
Members	pubPlace publisher

6.2.20. model.inter

model.inter groups elements which can appear either within or between paragraph-like elements. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	macro.paraContent macro.specialPara model.common
Members	model.attributable[model.quoteLike] model.biblLike[bibl msDesc] model.egLike model.labelLike[label] model.listLike model.oddDecl model.stageLike

6.2.21. model.labelLike

model.labelLike groups elements used to gloss or explain other parts of a document.	
Module	tei — Specifications
Used by	application model.inter surface
Members	label

6.2.22. model.limitedPhrase

model.limitedPhrase groups phrase-level elements excluding those elements primarily intended for transcription of existing sources. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	catDesc macro.phraseSeq.limited
Members	model.emphLike[title] model.hiLike[hi] model.pPart.data[model.addressLike model.dateLike[date] model.measureLike[measure] model.nameLike[model.nameLike.agent[name persName] model.offsetLike model.persNamePart[forename nameLink surname] model.placeStateLike[model.placeNamePart[country settlement]] idno]] model.pPart.editorial model.pPart.msdesc model.phrase.xml model.ptrLike[ptr]

6.2.23. model.linePart

model.linePart groups transcriptional elements which appear within lines or zones of a source-oriented transcription within a <sourceDoc> element.	
Module	tei — Specifications
Used by	line zone
Members	model.hiLike[hi] line path zone

6.2.24. model.measureLike

model.measureLike groups elements which denote a number, a quantity, a measurement, or similar piece of text that conveys some numerical meaning. [3.6.3. Numbers and Measures]	
Module	tei — Specifications
Used by	model.pPart.data
Members	measure

6.2.25. model.milestoneLike

model.milestoneLike groups milestone-style elements used to represent reference systems. [1.3. The TEI Class System 3.11.3. Milestone Elements]	
Module	tei — Specifications
Used by	model.global
Members	fw lb pb

6.2.26. model.nameLike

model.nameLike groups elements which name or refer to a person, place, or organization.	
Module	tei — Specifications
Used by	model.pPart.data
Members	model.nameLike.agent[name persName] model.offsetLike model.persNamePart[forename nameLink surname] model.placeStateLike[model.placeNamePart[country settlement]] idno
Note	A superset of the naming elements that may appear in datelines, addresses, statements of responsibility, etc.

6.2.27. model.nameLike.agent

model.nameLike.agent groups elements which contain names of individuals or corporate bodies. [3.6. Names, Numbers, Dates, Abbreviations, and Addresses]	
Module	tei — Specifications
Used by	model.nameLike respStmt
Members	name persName
Note	This class is used in the content model of elements which reference names of people or organizations.

6.2.28. model.noteLike

model.noteLike groups globally-available note-like elements. [3.9. Notes, Annotation, and Indexing]	
Module	tei — Specifications
Used by	model.global
Members	note

6.2.29. model.pLike

model.pLike groups paragraph-like elements.	
Module	tei — Specifications
Used by	application availability encodingDesc langUsage model.divPart msDesc objectDesc physDesc publicationStmt sourceDesc
Members	ab p

6.2.30. model.pPart.data

model.pPart.data groups phrase-level elements containing names, dates, numbers, measures, and similar data. [3.6. Names, Numbers, Dates, Abbreviations, and Addresses]	
Module	tei — Specifications
Used by	bibl model.limitedPhrase model.phrase
Members	model.addressLike model.dateLike[date] model.measureLike[measure] model.nameLike[model.nameLike.agent[name persName] model.offsetLike model.persNamePart[forename nameLink surname] model.placeStateLike[model.placeNamePart[country settlement]] idno]

6.2.31. model.pPart.edit

model.pPart.edit groups phrase-level elements for simple editorial correction and transcription. [3.5. Simple Editorial Changes]	
Module	tei — Specifications
Used by	bibl model.phrase
Members	model.pPart.editorial model.pPart.transcriptional

6.2.32. model.persNamePart

model.persNamePart groups elements which form part of a personal name. [13.2.1. Personal Names]	
Module	namesdates — Specifications
Used by	model.nameLike
Members	forename nameLink surname

6.2.33. model.phrase

model.phrase groups elements which can occur at the level of individual words or phrases. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	date macro.paraContent macro.phraseSeq macro.specialPara
Members	model.graphicLike[graphic] model.highlighted[model.emphLike[title] model.hiLike[hi]] model.lPart model.pPart.data[model.addressLike model.dateLike[date] model.measureLike[measure] model.nameLike[model.nameLike.agent[name persName] model.offsetLike model.persNamePart[forename nameLink surname] model.placeStateLike[model.placeNamePart[country settlement]] idno]] model.pPart.edit[model.pPart.editorial model.pPart.transcriptional] model.pPart.msdesc model.phrase.xml model.ptrLike[ptr] model.ptrLike.form model.segLike model.specDescLike
Note	This class of elements can occur within paragraphs, list items, lines of verse, etc.

6.2.34. model.physDescPart

model.physDescPart groups specialized elements forming part of the physical description of a manuscript or similar written source.	
Module	msdescription — Specifications
Used by	physDesc
Members	objectDesc

6.2.35. model.placeNamePart

model.placeNamePart groups elements which form part of a place name. [13.2.3. Place Names]	
Module	tei — Specifications
Used by	altIdentifier model.placeStateLike msIdentifier
Members	country settlement

6.2.36. model.placeStateLike

model.placeStateLike groups elements which describe changing states of a place.	
Module	tei — Specifications
Used by	model.nameLike
Members	model.placeNamePart[country settlement]

6.2.37. model.profileDescPart

model.profileDescPart groups elements which may be used inside <profileDesc> and appear multiple times.	
Module	tei — Specifications
Used by	profileDesc
Members	langUsage

6.2.38. model.ptrLike

model.ptrLike groups elements used for purposes of location and reference. [3.7. Simple Links and Cross-References]	
Module	tei — Specifications
Used by	application bibl model.limitedPhrase model.phrase model.publicationStmtPart.detail
Members	ptr

6.2.39. model.publicationStmtPart.agency

model.publicationStmtPart.agency groups the child elements of a <publicationStmt> element of the TEI header that indicate an authorising agent. [2.2.4. Publication, Distribution, Licensing, etc.]	
Module	tei — Specifications
Used by	publicationStmt
Members	authority publisher
Note	The ‘agency’ child elements, while not required, are required if one of the ‘detail’ child elements is to be used. It is not valid to have a ‘detail’ child element without a preceding ‘agency’ child element. See also model.publicationStmtPart.detail.

6.2.40. model.publicationStmtPart.detail

model.publicationStmtPart.detail groups the agency-specific child elements of the <publicationStmt> element of the TEI header. [2.2.4. Publication, Distribution, Licensing, etc.]	
Module	tei — Specifications
Used by	publicationStmt
Members	model.ptrLike[ptr] availability date idno pubPlace
Note	A ‘detail’ child element may not occur unless an ‘agency’ child element precedes it.

	See also model.publicationStmtPart.agency.

6.2.41. model.resource

model.resource groups separate elements which constitute the content of a digital resource, as opposed to its metadata. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	TEI
Members	sourceDoc text

6.2.42. model.respLike

model.respLike groups elements which are used to indicate intellectual or other significant responsibility, for example within a bibliographic element.	
Module	tei — Specifications
Used by	model.biblPart titleStmt
Members	author respStmt

6.2.43. model.teiHeaderPart

model.teiHeaderPart groups high level elements which may appear more than once in a TEI header.	
Module	tei — Specifications
Used by	teiHeader
Members	encodingDesc profileDesc

6.3. Attribute classes

6.3.1. att.anchoring

att.anchoring (anchoring) provides attributes for use on annotations, e.g. notes and groups of notes describing the existence and position of an anchor for annotations.		
Module	tei — Specifications	
Members	note	
Attributes	anchored	(anchored) indicates whether the copy text shows the exact place of reference for the note. **Status** Optional **Datatype** teidata.truthValue **Default** true **Note** In modern texts, notes are usually anchored by means of explicit footnote or endnote symbols. An explicit indication of the phrase or line annotated may however be used instead (e.g. ‘page 218, lines 3–4’). The *anchored* attribute indicates whether any explicit location is given, whether by symbol or by prose cross-reference. The value true indicates that such an explicit location is indicated in the copy text; the value false indicates that the copy text does not indicate a specific place of attachment for the note. If the specific symbols used in the copy text at the location the note is anchored are to be recorded, use the *n* attribute.
	targetEnd	(target end) points to the end of the span to which the note is attached, if the note is not embedded in the text at that point. **Status** Optional **Datatype** 1–# occurrences of teidata.pointer separated by white-space **Note** This attribute is retained for backwards compatibility; it may be removed at a subsequent release of the Guidelines. The recommended way of pointing to a span of el-

	ements is by means of the range function of XPointer, as further described in 16.2.4.6. range().

Example	`<p>(...) tamen reuerendos dominos archiepiscopum et canonicos Leopolienses necnon episcopum in duplicibus Quatuortemporibus<anchor xml:id="A55234"/> totaliter expediui...</p>`
	`<!-- elsewhere in the document -->`
	`<noteGrp targetEnd="#A55234">`
	`<note xml:lang="en"> Quatuor Tempora, so called dry fast days.`
	`</note>`
	`<note xml:lang="pl"> Quatuor Tempora, tzw. Suche dni postne.`
	`</note>`
	`</noteGrp>`

6.3.2. att.breaking

att.breaking provides attributes to indicate whether or not the element concerned is considered to mark the end of an orthographic token in the same way as whitespace. [3.11.3. Milestone Elements]

Module	tei — Specifications	
Members	lb pb	

Attributes	break	indicates whether or not the element bearing this attribute should be considered to mark the end of an orthographic token in the same way as whitespace.
		Status Recommended
		Datatype teidata.enumerated
		Sample values include
		yes the element bearing this attribute is considered to mark the end of any adjacent orthographic token irrespective of the presence of any adjacent whitespace
		no the element bearing this attribute is considered not to mark the end of any adjacent orthographic token irrespective of the presence of any adjacent whitespace
		maybe the encoding does not take any position on this issue.
		In the following lines from the ‘Dream of the Rood’, linebreaks occur in the middle of the words *l#ðost* and *reord-berendum*.
		`<ab> ...e#esa tome iu ic#æs #e#orden #ita heardo#t .`
		`leodum la<lb break="no"/> ðost ærþan ichim lifes`
		`#e# rihtne #erymde reord be<lb break="no"/>`
		`rendum h#æt me þa#e#eorðode #uldres ealdor ofer...`
		`</ab>`

6.3.3. att.cReferencing

att.cReferencing provides attributes that may be used to supply a *canonical reference* as a means of identifying the target of a pointer.

Module	tei — Specifications	
Members	ptr	
Attributes	cRef	(canonical reference) specifies the destination of the pointer by supplying a canonical reference expressed using the scheme defined in a `<refsDecl>` element in the TEI header **Status** Optional **Datatype** teidata.text **Note** The value of *cRef* should be constructed so that when the algorithm for the resolution of canonical references (described in section 16.2.5. Canonical References) is applied to it the result is a valid URI reference to the intended target.

	The <refsDecl> to use may be indicated with the *decls* attribute. Currently these Guidelines only provide for a single canonical reference to be encoded on any given <ptr> element.

6.3.4. att.canonical

att.canonical provides 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. [13.1.1. Linking Names and Their Referents]

Module	tei — Specifications	
Members	att.naming[att.personal[forename name persName surname] author country pubPlace repository settlement] authority catDesc date publisher resp respStmt title	

Attributes	key	provides an externally-defined means of identifying the entity (or entities) being named, using a coded value of some kind.
		Status Optional
		Datatype teidata.text
		`<author>`
		` <name key="name 427308"`
		`  type="organisation">[New Zealand Parliament, Legislative Council]</name>`
		`</author>`
		`<author>`
		` <name key="Hugo, Victor (1802-1885)"`
		`  ref="http://www.idref.fr/026927608">Victor Hugo</name>`
		`</author>`
		Note The value may be a unique identifier from a database, or any other externally-defined string identifying the referent.
		No particular syntax is proposed for the values of the *key* attribute, since its form will depend entirely on practice within a given project. For the same reason, this attribute is not recommended in data interchange, since there is no way of ensuring that the values used by one project are distinct from those used by another. In such a situation, a preferable approach for magic tokens which follows standard practice on the Web is to use a *ref* attribute whose value is a tag URI as defined in RFC 4151.

	ref	(reference) provides an explicit means of locating a full definition or identity for the entity being named by means of one or more URIs.
		Status Optional
		Datatype 1–# occurrences of teidata.pointer separated by white-space
		`<name ref="http://viaf.org/viaf/109557338"`
		` type="person">Seamus Heaney</name>`
		Note The value must point directly to one or more XML elements or other resources by means of one or more URIs, separated by whitespace. If more than one is supplied the implication is that the name identifies several distinct entities.

6.3.5. att.coordinated

att.coordinated provides attributes that can be used to position their parent element within a two dimensional coordinate system.

Module	transcr — Specifications	
Members	line path surface zone	
Attributes	ulx	gives the x coordinate value for the upper left corner of a rectangular space. **Status** Optional **Datatype** teidata.numeric

	uly	gives the y coordinate value for the upper left corner of a rectangular space. **Status** Optional **Datatype** teidata.numeric
	lrx	gives the x coordinate value for the lower right corner of a rectangular space. **Status** Optional **Datatype** teidata.numeric
	lry	gives the y coordinate value for the lower right corner of a rectangular space. **Status** Optional **Datatype** teidata.numeric
	points	identifies a two dimensional area by means of a series of pairs of numbers, each of which gives the x,y coordinates of a point on a line enclosing the area. **Status** Optional **Datatype** 3–# occurrences of teidata.point separated by whitespace

6.3.6. att.datable

att.datable provides attributes for normalization of elements that contain dates, times, or datable events. [3.6.4. Dates and Times 13.4. Dates]	
Module	tei — Specifications
Members	altIdentifier application author country date idno licence name persName resp settlement title
Attributes	att.datable.w3c (@when) att.datable.iso (@when-iso, @notBefore-iso, @notAfter-iso, @from-iso, @to-iso) att.datable.custom (@when-custom, @notBefore-custom, @notAfter-custom, @from-custom, @to-custom, @datingPoint, @datingMethod)
Note	This 'superclass' provides attributes that can be used to provide normalized values of temporal information. By default, the attributes from the att.datable.w3c class are provided. If the module for names & dates is loaded, this class also provides attributes from the att.datable.iso and att.datable.custom classes. In general, the possible values of attributes restricted to the W3C datatypes form a subset of those values available via the ISO 8601 standard. However, the greater expressiveness of the ISO datatypes may not be needed, and there exists much greater software support for the W3C datatypes.

6.3.7. att.datable.custom

att.datable.custom provides attributes for normalization of elements that contain datable events to a custom dating system (i.e. other than the Gregorian used by W3 and ISO). [13.4. Dates]		
Module	namesdates — Specifications	
Members	att.datable[altIdentifier application author country date idno licence name persName resp settlement title]	

Attributes	when-custom	supplies the value of a date or time in some custom standard form.
		Status Optional
		Datatype 1–# occurrences of teidata.word separated by whitespace
		The following are examples of custom date or time formats that are *not* valid ISO or W3C format normalizations, normalized to a different dating system
		`<p>Alhazen died in Cairo on the`
		`<date when="1040-03-06"`
		`when-custom="431-06-12"> 12th day of Jumada t-Tania, 430 AH`
		`</date>.</p>`
		`<p>The current world will end at the`
		`<date when="2012-12-21"`
		`when-custom="13.0.0.0.0">end of B'ak'tun 13</date>.</p>`

```
<p>The Battle of Meggidu
 (<date when-custom="Thutmose_III:23">23rd year of reign of Thutmose III</date>).</p>
<p>Esidorus bixit in pace annos LXX plus minus sub
<date when-custom="Ind:4-10-11">die XI mensis Octobris indictione IIII</date>
</p>
```

Not all custom date formulations will have Gregorian equivalents.The *when-custom* attribute and other custom dating are not constrained to a datatype by the TEI, but individual projects are recommended to regularize and document their dating formats.

notBefore-custom — specifies the earliest possible date for the event in some custom standard form.

Status Optional

Datatype 1–# occurrences of teidata.word separated by whitespace

notAfter-custom — specifies the latest possible date for the event in some custom standard form.

Status Optional

Datatype 1–# occurrences of teidata.word separated by whitespace

from-custom — indicates the starting point of the period in some custom standard form.

Status Optional

Datatype 1–# occurrences of teidata.word separated by whitespace

```
<event xml:id="FIRE1"
 datingMethod="#julian"
 from-custom="1666-09-02"
 to-custom="1666-09-05">
 <head>The Great Fire of London</head>
 <p>The Great Fire of London burned through a large part
   of the city of London.</p>
</event>
```

to-custom — indicates the ending point of the period in some custom standard form.

Status Optional

Datatype 1–# occurrences of teidata.word separated by whitespace

datingPoint — supplies a pointer to some location defining a named point in time with reference to which the datable item is understood to have occurred

Status Optional

Datatype teidata.pointer

datingMethod — supplies a pointer to a `<calendar>` element or other means of interpreting the values of the custom dating attributes.

Status Optional

Datatype teidata.pointer

```
Contayning the Originall, Antiquity, Increa#e, Moderne
 e#tate, and de#cription of that Citie, written in the yeare
<date when-custom="1598"
 calendar="#julian"
 datingMethod="#julian">1598</date>. by Iohn Stow
 Citizen of London.
```

In this example, the *calendar* attribute points to a `<calendar>` element for the Julian calendar, specifying that the text content of the <date> element is a Julian date, and the *datingMethod* attribute also points to the Julian calendar to indicate that the content of the *when-custom* attribute value is Julian too.

```
<date when="1382-06-28"
 when-custom="6890-06-20"
 datingMethod="#creationOfWorld"> µ### ####### ### <num>#</num> ##### <num>###</num>
</date>
```

In this example, a date is given in a Mediaeval text measured "from the creation of the world", which is normalised (in *when*) to the Gregorian date, but is also normalized (in *when-custom*) to a machine-actionable, numeric version of the date from the Creation.

	Note	Note that the *datingMethod* attribute (unlike *calendar* defined in att.datable) defines the calendar or dating system to which the date described by the parent element is normalized (i.e. in the *when-custom* or other *X-custom* attributes), *not* the calendar of the original date in the element.

6.3.8. att.datable.iso

att.datable.iso provides attributes for normalization of elements that contain datable events using the ISO 8601 standard. [3.6.4. Dates and Times 13.4. Dates]

Module	namesdates — Specifications	
Members	att.datable[altIdentifier application author country date idno licence name persName resp settlement title]	

Attributes	when-iso	supplies the value of a date or time in a standard form.
		Status Optional
		Datatype teidata.temporal.iso
		The following are examples of ISO date, time, and date & time formats that are *not* valid W3C format normalizations.
		`<date when-iso="1996-09-24T07:25+00">Sept. 24th, 1996 at 3:25 in the morning</date>`
		`<date when-iso="1996-09-24T03:25-04">Sept. 24th, 1996 at 3:25 in the morning</date>`
		`<time when-iso="1999-01-04T20:42-05">4 Jan 1999 at 8:42 pm</time>`
		`<time when-iso="1999-W01-1T20,70-05">4 Jan 1999 at 8:42 pm</time>`
		`<date when-iso="2006-05-18T10:03">a few minutes after ten in the morning on Thu 18 May</dat`
		`<time when-iso="03:00">3 A.M.</time>`
		`<time when-iso="14">around two</time>`
		`<time when-iso="15,5">half past three</time>`
		All of the examples of the *when* attribute in the att.datable.w3c class are also valid with respect to this attribute.
		`He likes to be punctual. I said <q>`
		`<time when-iso="12">around noon</time>`
		`</q>, and he showed up at <time when-iso="12:00:00">12 O'clock</time> on the dot.`
		The second occurence of `<time>` could have been encoded with the *when* attribute, as 12:00:00 is a valid time with respect to the W3C *XML Schema Part 2: Datatypes Second Edition* specification. The first occurence could not.

	notBefore-iso	specifies the earliest possible date for the event in standard form, e.g. yyyy-mm-dd. **Status** Optional **Datatype** teidata.temporal.iso
	notAfter-iso	specifies the latest possible date for the event in standard form, e.g. yyyy-mm-dd. **Status** Optional **Datatype** teidata.temporal.iso
	from-iso	indicates the starting point of the period in standard form. **Status** Optional **Datatype** teidata.temporal.iso
	to-iso	indicates the ending point of the period in standard form. **Status** Optional **Datatype** teidata.temporal.iso
Note	The value of these attributes should be a normalized representation of the date, time, or combined date & time intended, in any of the standard formats specified by ISO 8601, using the Gregorian calendar. If both *when-iso* and *dur-iso* are specified, the values should be interpreted as indicating a span of time by its starting time (or date) and duration. That is, `<date when-iso="2007-06-01" dur-iso="P8D"/>`	

	indicates the same time period as `<date when-iso="2007-06-01/P8D"/>` In providing a 'regularized' form, no claim is made that the form in the source text is incorrect; the regularized form is simply that chosen as the main form for purposes of unifying variant forms under a single heading.

6.3.9. att.datable.w3c

att.datable.w3c provides attributes for normalization of elements that contain datable events conforming to the W3C *XML Schema Part 2: Datatypes Second Edition*. [3.6.4. Dates and Times 13.4. Dates]

Module	tei — Specifications
Members	att.datable[altIdentifier application author country date idno licence name persName resp settlement title]

Attributes	when — supplies the value of the date or time in a standard form, e.g. yyyy-mm-dd.
	Status Optional
	Datatype teidata.temporal.w3c
	Examples of W3C date, time, and date & time formats.
	`<p>`
	`<date when="1945-10-24">24 Oct 45</date>`
	`<date when="1996-09-24T07:25:00Z">September 24th, 1996 at 3:25 in the morning</date>`
	`<time when="1999-01-04T20:42:00-05:00">Jan 4 1999 at 8 pm</time>`
	`<time when="14:12:38">fourteen twelve and 38 seconds</time>`
	`<date when="1962-10">October of 1962</date>`
	`<date when="--06-12">June 12th</date>`
	`<date when="---01">the first of the month</date>`
	`<date when="--08">August</date>`
	`<date when="2006">MMVI</date>`
	`<date when="0056">AD 56</date>`
	`<date when="-0056">56 BC</date>`
	`</p>`
	`This list begins in`
	`the year 1632, more precisely on Trinity Sunday, i.e. the Sunday after`
	`Pentecost, in that year the`
	`<date calendar="#julian"`
	`when="1632-06-06">27th of May (old style)</date>.`
	`<opener>`
	`<dateline>`
	`<placeName>Dorchester, Village,</placeName>`
	`<date when="1828-03-02">March 2d. 1828.</date>`
	`</dateline>`
	`<salute>To`
	`Mrs. Cornell,</salute> Sunday <time when="12:00:00">noon.</time>`
	`</opener>`

Schematron	<sch:rule context="tei:*[@when]"> <sch:report test="@notBefore|@notAfter|@from|@to" role="nonfatal">The @when attribute cannot be used with any other att.datable.w3c attributes.</sch:report> </sch:rule>
Schematron	<sch:rule context="tei:*[@from]"> <sch:report test="@notBefore" role="nonfatal">The @from and @notBefore attributes cannot be used together.</sch:report> </sch:rule>
Schematron	<sch:rule context="tei:*[@to]"> <sch:report test="@notAfter" role="nonfatal">The @to and @notAfter attributes cannot be used together.</sch:report> </sch:rule>
Example	`<date from="1863-05-28" to="1863-06-01">28 May through 1 June 1863</date>`
Note	The value of these attributes should be a normalized representation of the date, time, or combined date & time intended, in any of the standard formats specified by *XML Schema Part 2: Datatypes Second Edition*, using the Gregorian calendar. The most commonly-encountered format for the date portion of a temporal attribute is `yyyy-mm-dd`, but `yyyy`, `--mm`, `---dd`, `yyyy-mm`, or `--mm-dd` may also be used. For the time part, the form `hh:mm:ss` is used. Note that this format does not currently permit use of the value 0000 to represent the year 1 BCE; instead the value -0001 should be used.

6.3.10. att.declarable

att.declarable provides attributes for those elements in the TEI header which may be independently selected by means of the special purpose *decls* attribute. [15.3. Associating Contextual Information with a Text]

Module	tei — Specifications
Members	availability bibl langUsage sourceDesc
Attributes	default — indicates whether or not this element is selected by default when its parent is selected. **Status** Optional **Datatype** teidata.truthValue **Legal values are:** **true** This element is selected if its parent is selected **false** This element can only be selected explicitly, unless it is the only one of its kind, in which case it is selected if its parent is selected.[Default]
Note	The rules governing the association of declarable elements with individual parts of a TEI text are fully defined in chapter 15.3. Associating Contextual Information with a Text. Only one element of a particular type may have a *default* attribute with a value of true.

6.3.11. att.declaring

att.declaring provides attributes for elements which may be independently associated with a particular declarable element within the header, thus overriding the inherited default for that element. [15.3. Associating Contextual Information with a Text]	
Module	tei — Specifications
Members	ab body div graphic msDesc p ptr sourceDoc surface text
Attributes	decls — identifies one or more *declarable elements* within the header, which are understood to apply to the element bearing this attribute and its content. **Status** Optional **Datatype** 1–# occurrences of teidata.pointer separated by white-space
Note	The rules governing the association of declarable elements with individual parts of a TEI text are fully defined in chapter 15.3. Associating Contextual Information with a Text.

6.3.12. att.dimensions

att.dimensions provides attributes for describing the size of physical objects.	
Module	tei — Specifications
Members	date
Attributes	att.ranging (@atLeast, @atMost, @min, @max, @confidence)

6.3.13. att.divLike

att.divLike provides attributes common to all elements which behave in the same way as divisions. [4. Default Text Structure]	
Module	tei — Specifications
Members	div
Attributes	att.fragmentable (@part)

6.3.14. att.docStatus

att.docStatus provides attributes for use on metadata elements describing the status of a document.	
Module	tei — Specifications
Members	bibl msDesc
Attributes	status — describes the status of a document either currently or, when associated with a dated element, at the time indicated.

	Status Optional **Datatype** teidata.enumerated **Sample values include:** **approved** **candidate** **cleared** **deprecated** **draft** [Default] **embargoed** **expired** **frozen** **galley** **proposed** **published** **recommendation** **submitted** **unfinished** **withdrawn**

Example	`<revisionDesc status="published">`
	`<change when="2010-10-21" status="published"/>`
	`<change when="2010-10-02" status="cleared"/>`
	`<change when="2010-08-02" status="embargoed"/>`
	`<change when="2010-05-01" status="frozen" who="#MSM"/>`
	`<change when="2010-03-01" status="draft" who="#LB"/>`
	`</revisionDesc>`

6.3.15. att.editLike

att.editLike provides attributes describing the nature of an encoded scholarly intervention or interpretation of any kind. [3.5. Simple Editorial Changes 10.3.1. Origination 13.3.2. The Person Element 11.3.1.1. Core Elements for Transcriptional Work]

Module	tei — Specifications

Members	date name persName
Attributes	evidence — indicates the nature of the evidence supporting the reliability or accuracy of the intervention or interpretation. **Status** Optional **Datatype** 1–# occurrences of teidata.enumerated separated by whitespace **Suggested values include:** **internal** there is internal evidence to support the intervention. **external** there is external evidence to support the intervention. **conjecture** the intervention or interpretation has been made by the editor, cataloguer, or scholar on the basis of their expertise. instant — indicates whether this is an instant revision or not. **Status** Optional **Datatype** teidata.xTruthValue **Default** false
Note	The members of this attribute class are typically used to represent any kind of editorial intervention in a text, for example a correction or interpretation, or to date or localize manuscripts etc. Each pointer on the *source* (if present) corresponding to a witness or witness group should reference a bibliographic citation such as a `<witness>`, <msDesc>, or <bibl> element, or another external bibliographic citation, documenting the source concerned.

6.3.16. att.edition

att.edition provides attributes identifying the source edition from which some encoded feature derives.	
Module	tei — Specifications
Members	lb pb
Attributes	ed — (edition) supplies a sigil or other arbitrary identifier for the source edition in which the associated feature (for example, a page, column, or line break) occurs at this point in the text. **Status** Optional **Datatype** 1–# occurrences of teidata.word separated by whitespace edRef — (edition reference) provides a pointer to the source edition in which the associated feature (for example, a page, column, or line break) occurs at this point in the text. **Status** Optional **Datatype** 1–# occurrences of teidata.pointer separated by whitespace

Example	`<l>Of Mans First Disobedience,<lb ed="1674"/> and<lb ed="1667"/> the Fruit</l>`
	`<l>Of that Forbidden Tree, whose<lb ed="1667 1674"/> mortal tast</l>`
	`<l>Brought Death into the World,<lb ed="1667"/> and all<lb ed="1674"/> our woe,</l>`

Example	`<listBibl>`
	` <bibl xml:id="stapledon1937">`
	`  <author>Olaf Stapledon</author>,`
	` <title>Starmaker</title>, <publisher>Methuen</publisher>, <date>1937</date>`
	` </bibl>`
	` <bibl xml:id="stapledon1968">`
	`  <author>Olaf Stapledon</author>,`
	` <title>Starmaker</title>, <publisher>Dover</publisher>, <date>1968</date>`
	` </bibl>`
	`</listBibl>`
	`<!-- ... -->`

```
<p>Looking into the future aeons from the supreme moment of
 the cosmos, I saw the populations still with all their
 strength maintaining the<pb n="411" edRef="#stapledon1968"/>essentials of their ancient culture,
 still living their personal lives in zest and endless
 novelty of action, … I saw myself still
 preserving, though with increasing difficulty, my lucid
 con-<pb n="291" edRef="#stapledon1937"/>sciousness;</p>
```

6.3.17. att.fragmentable

att.fragmentable provides attributes for representing fragmentation of a structural element, typically as a consequence of some overlapping hierarchy.

Module	tei — Specifications
Members	att.divLike[div] ab p
Attributes	part — specifies whether or not its parent element is fragmented in some way, typically by some other overlapping structure: for example a speech which is divided between two or more verse stanzas, a paragraph which is split across a page division, a verse line which is divided between two speakers. **Status** Optional **Datatype** teidata.enumerated **Legal values are:** **Y** (yes) the element is fragmented in some (unspecified) respect **N** (no) the element is not fragmented, or no claim is made as to its completeness[Default] **I** (initial) this is the initial part of a fragmented element **M** (medial) this is a medial part of a fragmented element **F** (final) this is the final part of a fragmented element **Note** The values I, M, or F should be used only where it is clear how the element may be reconstituted.

6.3.18. att.global.change

att.global.change provides attributes allowing its member elements to specify one or more states or revision campaigns with which they are associated.

Module	transcr — Specifications
Members	att.global[TEI ab altIdentifier appInfo application author authority availability bibl body catDesc category classDecl country date div encodingDesc extent fileDesc forename fw graphic hi idno label langUsage language lb licence line measure msDesc msIdentifier name nameLink note objectDesc p path pb persName physDesc profileDesc ptr pubPlace publicationStmt publisher repository resp respStmt settlement sourceDesc sourceDoc surface surname taxonomy teiHeader text title titleStmt zone]
Attributes	change — points to one or more <change> elements documenting a state or revision campaign to which the element bearing this attribute and its children have been assigned by the encoder. **Status** Optional **Datatype** 1–# occurrences of teidata.pointer separated by white-space

6.3.19. att.global.facs

att.global.facs provides attributes used to express correspondence between an element and all or part of a facsimile image or surface. [11.1. Digital Facsimiles]	
Module	transcr — Specifications
Members	att.global[TEI ab altIdentifier appInfo application author authority availability bibl body catDesc category classDecl country date div encodingDesc extent fileDesc forename fw graphic hi idno label langUsage language lb licence line measure msDesc msIdentifier name nameLink note objectDesc p path pb persName physDesc profileDesc ptr pubPlace publicationStmt publisher repository resp respStmt settlement sourceDesc sourceDoc surface surname taxonomy teiHeader text title titleStmt zone]
Attributes	facs (facsimile) points to one or more images, portions of an image, or surfaces which correspond to the current element. **Status** Optional **Datatype** 1–# occurrences of teidata.pointer separated by white-space

6.3.20. att.global.linking

att.global.linking provides a set of attributes for hypertextual linking. [16. Linking, Segmentation, and Alignment]	
Module	linking — Specifications
Members	att.global[TEI ab altIdentifier appInfo application author authority availability bibl body catDesc category classDecl country date div encodingDesc extent fileDesc forename fw graphic hi idno label langUsage language lb licence line measure msDesc msIdentifier name nameLink note objectDesc p path pb persName physDesc profileDesc ptr pubPlace publicationStmt publisher repository resp respStmt settlement sourceDesc sourceDoc surface surname taxonomy teiHeader text title titleStmt zone]
Attributes	corresp (corresponds) points to elements that correspond to the current element in some way. **Status** Optional **Datatype** 1–# occurrences of teidata.pointer separated by white-space

```
<group>
 <text xml:id="t1-g1-t1"
  xml:lang="mi">
  <body xml:id="t1-g1-t1-body1">
   <div type="chapter">
    <head>He Whakamaramatanga mo te Ture Hoko, Riihi hoki, i nga Whenua Maori, 1876.</head>
    <p>…</p>
   </div>
  </body>
 </text>
 <text xml:id="t1-g1-t2"
  xml:lang="en">
  <body xml:id="t1-g1-t2-body1"
   corresp="#t1-g1-t1-body1">
   <div type="chapter">
    <head>An Act to regulate the Sale, Letting, and Disposal of Native Lands, 1876.</head>
    <p>…</p>
   </div>
  </body>
 </text>
</group>
```

In this example a `<group>` contains two <text>s, each containing the same document in a different language. The correspondence is indicated using *corresp*. The language is indicated using *xml:lang*, whose value is inherited; both the tag with the *corresp* and the tag pointed to by the *corresp* inherit the value from their immediate parent.

```
<!-- In a placeography called "places.xml" --><place xml:id="LOND1"
 corresp="people.xml#LOND2 people.xml#GENI1">
 <placeName>London</placeName>
 <desc>The city of London...</desc>
</place>
<!-- In a literary personography called "people.xml" -->
```

```
<person xml:id="LOND2"
 corresp="places.xml#LOND1 #GENI1">
 <persName type="lit">London</persName>
 <note>
  <p>Allegorical character representing the city of <placeName ref="places.xml#LOND1">Londo
 </note>
</person>
<person xml:id="GENI1"
 corresp="places.xml#LOND1 #LOND2">
 <persName type="lit">London’s Genius</persName>
 <note>
  <p>Personification of London’s genius. Appears as an
     allegorical character in mayoral shows.
  </p>
 </note>
</person>
```

In this example, a `<place>` element containing information about the city of London is linked with two `<person>` elements in a literary personography. This correspondence represents a slightly looser relationship than the one in the preceding example; there is no sense in which an allegorical character could be substituted for the physical city, or vice versa, but there is obviously a correspondence between them.

6.3.21. att.global.rendition

att.global.rendition provides rendering attributes common to all elements in the TEI encoding scheme. [1.3.1.1.3. Rendition Indicators]

Module	tei — Specifications
Members	att.global[TEI ab altIdentifier appInfo application author authority availability bibl body catDesc category classDecl country date div encodingDesc extent fileDesc forename fw graphic hi idno label langUsage language lb licence line measure msDesc msIdentifier name nameLink note objectDesc p path pb persName physDesc profileDesc ptr pubPlace publicationStmt publisher repository resp respStmt settlement sourceDesc sourceDoc surface surname taxonomy teiHeader text title titleStmt zone]
Attributes	rend — (rendition) indicates how the element in question was rendered or presented in the source text. **Status** Optional **Datatype** 1–# occurrences of teidata.word separated by whitespace

```
<head rend="align(center) case(allcaps)">
 <lb/>To The <lb/>Duchesse <lb/>of <lb/>Newcastle,
<lb/>On Her <lb/>
 <hi rend="case(mixed)">New Blazing-World</hi>.
</head>
```

Note These Guidelines make no binding recommendations for the values of the *rend* attribute; the characteristics of visual presentation vary too much from text to text and the decision to record or ignore individual characteristics varies too much from project to project. Some potentially useful conventions are noted from time to time at appropriate points in the Guidelines. The values of the *rend* attribute are a set of sequence-indeterminate individual tokens separated by whitespace.

style — contains an expression in some formal style definition language which defines the rendering or presentation used for this element in the source text

Status Optional

Datatype teidata.text

```
<head style="text-align: center; font-variant: small-caps">
 <lb/>To The <lb/>Duchesse <lb/>of <lb/>Newcastle, <lb/>On Her
<lb/>
 <hi style="font-variant: normal">New Blazing-World</hi>.
</head>
```

Note Unlike the attribute values of *rend*, which uses whitespace as a separator, the *style* attribute may contain whitespace. This attribute is intended for recording inline

		stylistic information concerning the source, not any particular output. The formal language in which values for this attribute are expressed may be specified using the `<styleDefDecl>` element in the TEI header. If *style* and *rendition* are both present on an element, then *style* overrides or complements *rendition*. *style* should not be used in conjunction with *rend*, because the latter does not employ a formal style definition language.

	rendition	points to a description of the rendering or presentation used for this element in the source text.
		Status Optional
		Datatype 1–# occurrences of teidata.pointer separated by white-space
		`<head rendition="#ac #sc">`
		`<lb/>To The <lb/>Duchesse <lb/>of <lb/>Newcastle, <lb/>On Her <lb/>`
		`<hi rendition="#normal">New Blazing-World</hi>.`
		`</head>`
		`<!-- elsewhere... -->`
		`<rendition xml:id="sc" scheme="css">font-variant: small-caps</rendition>`
		`<rendition xml:id="normal" scheme="css">font-variant: normal</rendition>`
		`<rendition xml:id="ac" scheme="css">text-align: center</rendition>`
		Note The *rendition* attribute is used in a very similar way to the *class* attribute defined for XHTML but with the important distinction that its function is to describe the appearance of the source text, not necessarily to determine how that text should be presented on screen or paper.
		If *rendition* is used to refer to a style definition in a formal language like CSS, it is recommended that it not be used in conjunction with *rend*. Where both *rendition* and *rend* are supplied, the latter is understood to override or complement the former.
		Each URI provided should indicate a `<rendition>` element defining the intended rendition in terms of some appropriate style language, as indicated by the *scheme* attribute.

6.3.22. att.global.responsibility

att.global.responsibility provides attributes indicating the agent responsible for some aspect of the text, the markup or something asserted by the markup, and the degree of certainty associated with it. [1.3.1.1.4. Sources, certainty, and responsibility 3.5. Simple Editorial Changes 11.3.2.2. Hand, Responsibility, and Certainty Attributes 17.3. Spans and Interpretations 13.1.1. Linking Names and Their Referents]

Module	tei — Specifications	
Members	att.global[TEI ab altIdentifier appInfo application author authority availability bibl body catDesc category classDecl country date div encodingDesc extent fileDesc forename fw graphic hi idno label langUsage language lb licence line measure msDesc msIdentifier name nameLink note objectDesc p path pb persName physDesc profileDesc ptr pubPlace publicationStmt publisher repository resp respStmt settlement sourceDesc sourceDoc surface surname taxonomy teiHeader text title titleStmt zone]	
Attributes	cert	(certainty) signifies the degree of certainty associated with the intervention or interpretation. **Status** Optional **Datatype** teidata.probCert
	resp	(responsible party) indicates the agency responsible for the intervention or interpretation, for example an editor or transcriber. **Status** Optional **Datatype** 1–# occurrences of teidata.pointer separated by white-space

	Note	To reduce the ambiguity of a *resp* pointing directly to a person or organization, we recommend that *resp* be used to point not to an agent (`<person>` or `<org>`) but to a <respStmt>, <author>, `<editor>` or similar element which clarifies the exact role played by the agent. Pointing to multiple <respStmt>s allows the encoder to specify clearly each of the roles played in part of a TEI file (creating, transcribing, encoding, editing, proofing etc.).

Example		`Blessed are the`
		`<choice>`
		` <sic>cheesemakers</sic>`
		` <corr resp="#editor" cert="high">peacemakers</corr>`
		`</choice>: for they shall be called the children of God.`

Example		`<!-- in the <text> ... --><lg>`
		`<!-- ... -->`
		` <l>Punkes, Panders, ba#e extortionizing`
		`  sla<choice>`
		`  <sic>n</sic>`
		`  <corr resp="#JENS1_transcriber">u</corr>`
		`  </choice>es,</l>`
		`<!-- ... -->`
		`</lg>`
		`<!-- in the <teiHeader> ... -->`
		`<!-- ... -->`
		`<respStmt xml:id="JENS1_transcriber">`
		` <resp when="2014">Transcriber</resp>`
		` <name>Janelle Jenstad</name>`
		`</respStmt>`

6.3.23. att.global.source

att.global.source provides attributes used by elements to point to an external source. [1.3.1.1.4. Sources, certainty, and responsibility 3.3.3. Quotation 8.3.4. Writing]

Module	tei — Specifications	
Members	att.global[TEI ab altIdentifier appInfo application author authority availability bibl body catDesc category classDecl country date div encodingDesc extent fileDesc forename fw graphic hi idno label langUsage language lb licence line measure msDesc msIdentifier name nameLink note objectDesc p path pb persName physDesc profileDesc ptr pubPlace publicationStmt publisher repository resp respStmt settlement sourceDesc sourceDoc surface surname taxonomy teiHeader text title titleStmt zone]	
Attributes	source	specifies the source from which some aspect of this element is drawn.
		Status Optional
		Datatype 1–# occurrences of teidata.pointer separated by white-space
		Schematron <sch:rule context="tei:*/@source"> <sch:let name="srcs" value="tokenize(normalize-space(.),' ')"/> <sch:report test="(parent::tei:classRef | parent::tei:dataRef | parent::tei:elementRef | parent::tei:macroRef | parent::tei:moduleRef | parent::tei:schemaSpec) and $srcs[2]"> When used on a schema description element (like <sch:value-of select="name(..)"/>), the @source attribute should have only 1 value. (This one has <sch:value-of select="count($srcs)"/>.) </sch:report> </sch:rule>
		Note The *source* attribute points to an external source. When used on an element describing a schema component (`<classRef>`, `<dataRef>`, `<elementRef>`, `<macroRef>`, `<moduleRef>`, or `<schemaSpec>`), it identifies the source from which declarations for the components should be obtained. On other elements it provides a pointer to the bibliographical source from which a quotation or citation is drawn. In either case, the location may be provided using any form of URI, for example an absolute URI, a relative URI, a private scheme URI of the form `tei:x.y.z`, where `x.y.z` indicates the version number, e.g.

	`tei:4.3.2` for TEI P5 release 4.3.2 or (as a special case) `tei:current` for whatever is the latest release, or a private scheme URI that is expanded to an absolute URI as documented in a `<prefixDef>`. When used on elements describing schema components, *source* should have only one value; when used on other elements multiple values are permitted.

Example	`<p>`
	`<!-- ... --> As Willard McCarty (<bibl xml:id="mcc_2012">2012, p.2</bibl>) tells us, <quote source="#mcc_2012">`
	`term.</quote>`
	`<!-- ... -->`
	`</p>`

Example	`<p>`
	`<!-- ... -->`
	` <quote source="#chicago_15_ed">Grammatical theories are in flux, and the more we learn, the`
	`less we seem to know.</quote>`
	`<!-- ... -->`
	`</p>`
	`<!-- ... -->`
	`<bibl xml:id="chicago_15_ed">`
	` <title level="m">The Chicago Manual of Style</title>,`
	`<edition>15th edition</edition>. <pubPlace>Chicago</pubPlace>: <publisher>University of`
	`Chicago Press</publisher> (<date>2003</date>), <biblScope unit="page">p.147</biblScope>.`
	
	`</bibl>`

Example	`<elementRef key="p" source="tei:2.0.1"/>` Include in the schema an element named <p> available from the TEI P5 2.0.1 release.

Example	`<schemaSpec ident="myODD"`
	` source="mycompiledODD.xml">`
	`<!-- further declarations specifying the components required -->`
	`</schemaSpec>`
	Create a schema using components taken from the file mycompiledODD.xml.

6.3.24. att.internetMedia

att.internetMedia provides attributes for specifying the type of a computer resource using a standard taxonomy.		
Module	tei — Specifications	
Members	att.media[graphic] ptr	
Attributes	mimeType	(MIME media type) specifies the applicable multimedia internet mail extension (MIME) media type **Status** Optional **Datatype** 1–# occurrences of teidata.word separated by whitespace

Example	In this example *mimeType* is used to indicate that the URL points to a TEI XML file encoded in UTF-8.
	`<ref mimeType="application/tei+xml; charset=UTF-8"`
	` target="https://raw.githubusercontent.com/TEIC/TEI/dev/P5/Source/guidelines-en.xml"/>`	

Note	This attribute class provides an attribute for describing a computer resource, typically available over the internet, using a value taken from a standard taxonomy. At present only a single taxonomy is supported, the Multipurpose Internet Mail Extensions (MIME) Media Type system. This typology of media types is defined by the Internet Engineering Task Force in RFC 2046. The list of types is maintained by the Internet Assigned Numbers Authority (IANA). The *mimeType* attribute must have a value taken from this list.	

6.3.25. att.measurement

att.measurement provides attributes to represent a regularized or normalized measurement.		
Module	tei — Specifications	
Members	measure	
Attributes	unit	(unit) indicates the units used for the measurement, usually using the standard symbol for the desired units. **Status** Optional **Datatype** teidata.enumerated

	Suggested values include:	**m** (metre) SI base unit of length **kg** (kilogram) SI base unit of mass **s** (second) SI base unit of time **Hz** (hertz) SI unit of frequency **Pa** (pascal) SI unit of pressure or stress **#** (ohm) SI unit of electric resistance **L** (litre) 1 dm³ **t** (tonne) 10³ kg **ha** (hectare) 1 hm² **Å** (ångström) 10#¹# m **mL** (millilitre) **cm** (centimetre) **dB** (decibel) see remarks, below **kbit** (kilobit) 10³ or 1000 bits **Kibit** (kibibit) 2¹# or 1024 bits **kB** (kilobyte) 10³ or 1000 bytes **KiB** (kibibyte) 2¹# or 1024 bytes **MB** (megabyte) 10# or 1#000#000 bytes **MiB** (mebibyte) 2²# or 1#048#576 bytes
	Note	If the measurement being represented is not expressed in a particular unit, but rather is a number of discrete items, the unit count should be used, or the *unit* attribute may be left unspecified. Wherever appropriate, a recognized SI unit name should be used (see further http://www.bipm.org/en/publications/si-brochure/; http://physics.nist.gov/cuu/Units/). The list above is indicative rather than exhaustive.
Schematron	<sch:rule context="tei:*[@unitRef]"> <sch:report test="@unit" role="info">The @unit attribute may be unnecessary when @unitRef is present.</sch:report> </sch:rule>	
Note	This attribute class provides a triplet of attributes that may be used either to regularize the values of the measurement being encoded, or to normalize them with respect to a standard measurement system. `<l>So weren't you gonna buy <measure quantity="0.5" unit="gal" commodity="ice cream">half a gallon</measure>, baby</l>`	

```
<l>So won't you go and buy <measure quantity="1.893" unit="L"
  commodity="ice cream">half
   a gallon</measure>, baby?</l>
```

The unit should normally be named using the standard symbol for an SI unit (see further http://www.bipm.org/en/publications/si-brochure/; http://physics.nist.gov/cuu/Units/). However, encoders may also specify measurements using informally defined units such as lines or characters.

6.3.26. att.media

att.media provides attributes for specifying display and related properties of external media.	
Module	tei — Specifications
Members	graphic
Attributes	att.internetMedia (@mimeType)

6.3.27. att.naming

att.naming provides attributes common to elements which refer to named persons, places, organizations etc. [3.6.1. Referring Strings 13.3.6. Names and Nyms]	
Module	tei — Specifications
Members	att.personal[forename name persName surname] author country pubPlace repository settlement
Attributes	att.canonical (@key, @ref)

6.3.28. att.placement

att.placement provides attributes for describing where on the source page or object a textual element appears. [3.5.3. Additions, Deletions, and Omissions 11.3.1.4. Additions and Deletions]

Module	tei — Specifications
Members	fw label note
Attributes	place — specifies where this item is placed. **Status**: Recommended **Datatype**: 1–# occurrences of teidata.enumerated separated by whitespace **Suggested values include:** **top** — at the top of the page **bottom** — at the foot of the page **margin** — in the margin (left, right, or both) **opposite** — on the opposite, i.e. facing, page **overleaf** — on the other side of the leaf **above** — above the line **right** — to the right, e.g. to the right of a vertical line of text, or to the right of a figure **below** — below the line **left** — to the left, e.g. to the left of a vertical line of text, or to the left of a figure **end**

	at the end of e.g. chapter or volume.
	inline within the body of the text.
	inspace in a predefined space, for example left by an earlier scribe.
	`<add place="margin">[An addition written in the margin]</add>`
	`<add place="bottom opposite">[An addition written at the foot of the current page and also on the facing page]</add>`
	`<note place="bottom">Ibid, p.7</note>`

6.3.29. att.pointing

att.pointing provides a set of attributes used by all elements which point to other elements by means of one or more URI references. [1.3.1.1.2. Language Indicators 3.7. Simple Links and Cross-References]		
Module	tei — Specifications	
Members	licence note ptr	
Attributes	target	specifies the destination of the reference by supplying one or more URI References **Status** Optional **Datatype** 1–# occurrences of teidata.pointer separated by white-space **Note** One or more syntactically valid URI references, separated by whitespace. Because whitespace is used to separate URIs, no whitespace is permitted inside a single URI. If a whitespace character is required in a URI, it should be escaped with the normal mechanism, e.g. `TEI%20Consortium`.

6.3.30. att.ranging

att.ranging provides attributes for describing numerical ranges.		
Module	tei — Specifications	
Members	att.dimensions[date]	
Attributes	atLeast	gives a minimum estimated value for the approximate measurement. **Status** Optional **Datatype** teidata.numeric
	atMost	gives a maximum estimated value for the approximate measurement. **Status** Optional **Datatype** teidata.numeric
	min	where the measurement summarizes more than one observation or a range, supplies the minimum value observed. **Status** Optional **Datatype** teidata.numeric
	max	where the measurement summarizes more than one observation or a range, supplies the maximum value observed. **Status** Optional **Datatype** teidata.numeric
	confidence	specifies the degree of statistical confidence (between zero and one) that a value falls within the range specified by *min* and *max*, or the proportion of observed values that fall within that range. **Status** Optional

	Datatype teidata.probability
Example	`The MS. was lost in transmission by mail from <del rend="overstrike"> <gap reason="illegible" extent="one or two letters" atLeast="1" atMost="2" unit="chars"/> </del> Philadelphia to the Graphic office, New York.`

6.3.31. att.resourced

att.resourced provides attributes by which a resource (such as an externally held media file) may be located.		
Module	tei — Specifications	
Members	graphic	
Attributes	url	(uniform resource locator) specifies the URL from which the media concerned may be obtained. **Status** Required **Datatype** teidata.pointer

6.3.32. att.sortable

att.sortable provides attributes for elements in lists or groups that are sortable, but whose sorting key cannot be derived mechanically from the element content. [9.1. Dictionary Body and Overall Structure]		
Module	tei — Specifications	
Members	bibl idno msDesc	
Attributes	sortKey	supplies the sort key for this element in an index, list or group which contains it. **Status** Optional **Datatype** teidata.word `David's other principal backer, Josiah ha-Kohen <index indexName="NAMES"> <term sortKey="Azarya_Josiah_Kohen">Josiah ha-Kohen b. Azarya</term> </index> b. Azarya, son of one of the last gaons of Sura was David's own first cousin.` **Note** The sort key is used to determine the sequence and grouping of entries in an index. It provides a sequence of characters which, when sorted with the other values, will produced the desired order; specifics of sort key construction are application-dependent Dictionary order often differs from the collation sequence of machine-readable character sets; in English-language dictionaries, an entry for *4-H* will often appear alphabetized under ‘fourh’, and *McCoy* may be alphabetized under ‘maccoy’, while *A1*, *A4*, and *A5* may all appear in numeric order ‘alphabetized’ between ‘a-’ and ‘AA’. The sort key is required if the orthography of the dictionary entry does not suffice to determine its location.

6.3.33. att.spanning

att.spanning provides attributes for elements which delimit a span of text by pointing mechanisms rather than by enclosing it. [11.3.1.4. Additions and Deletions 1.3.1. Attribute Classes]		
Module	tei — Specifications	
Members	lb pb	
Attributes	spanTo	indicates the end of a span initiated by the element bearing this attribute. **Status** Optional **Datatype** teidata.pointer **Schematron** The @spanTo attribute must point to an element following the current element <sch:rule context="tei:*[@spanTo]"> <sch:assert test="id(substring(@spanTo,2)) and follow-

	ing::*[@xml:id=substring(current()/@spanTo,2)]">The element indicated by @spanTo (<sch:value-of select="@spanTo"/>) must follow the current element <sch:name/> </sch:assert> </sch:rule>
Note	The span is defined as running in document order from the start of the content of the pointing element to the end of the content of the element pointed to by the *spanTo* attribute (if any). If no value is supplied for the attribute, the assumption is that the span is coextensive with the pointing element. If no content is present, the assumption is that the starting point of the span is immediately following the element itself.

6.3.34. att.written

att.written provides attributes to indicate the hand in which the content of an element was written in the source being transcribed. [1.3.1. Attribute Classes]		
Module	tei — Specifications	
Members	ab div fw hi label line note p path text zone	
Attributes	hand	points to a `<handNote>` element describing the hand considered responsible for the content of the element concerned. **Status** Optional **Datatype** teidata.pointer

6.4. Macros

6.4.1. macro.paraContent

macro.paraContent (paragraph content) defines the content of paragraphs and similar elements. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	ab hi p title
Content model	`<content> <alternate minOccurs="0" maxOccurs="unbounded"> <textNode/> <classRef key="model.gLike"/> <classRef key="model.phrase"/> <classRef key="model.inter"/> <classRef key="model.global"/> <elementRef key="lg"/> <classRef key="model.lLike"/> </alternate> </content>`
Declaration	`macro.paraContent = ( text | model.gLike | model.phrase | model.inter | model.global | lg | model.lLike )*`

6.4.2. macro.phraseSeq

macro.phraseSeq (phrase sequence) defines a sequence of character data and phrase-level elements. [1.4.1. Standard Content Models]	
Module	tei — Specifications
Used by	author country extent forename fw label measure name nameLink persName pubPlace publisher settlement surname
Content model	`<content> <alternate minOccurs="0" maxOccurs="unbounded">`

	<content> <textNode/> <classRef key="model.gLike"/> <classRef key="model.attributable"/> <classRef key="model.phrase"/> <classRef key="model.global"/> </alternate> </content>
Declaration	macro.phraseSeq = (text | model.gLike | model.attributable | model.phrase | model.global)*

6.4.3. macro.phraseSeq.limited

macro.phraseSeq.limited (limited phrase sequence) defines a sequence of character data and those phrase-level elements that are not typically used for transcribing extant documents. [1.4.1. Standard Content Models]	
Module	tei — Specifications
Used by	authority language repository resp
Content model	<content> <alternate minOccurs="0" maxOccurs="unbounded"> <textNode/> <classRef key="model.limitedPhrase"/> <classRef key="model.global"/> </alternate> </content>
Declaration	macro.phraseSeq.limited = (text | model.limitedPhrase | model.global)*

6.4.4. macro.specialPara

macro.specialPara ('special' paragraph content) defines the content model of elements such as notes or list items, which either contain a series of component-level elements or else have the same structure as a paragraph, containing a series of phrase-level and inter-level elements. [1.3. The TEI Class System]	
Module	tei — Specifications
Used by	licence note
Content model	<content> <alternate minOccurs="0" maxOccurs="unbounded"> <textNode/> <classRef key="model.gLike"/> <classRef key="model.phrase"/> <classRef key="model.inter"/> <classRef key="model.divPart"/> <classRef key="model.global"/> </alternate> </content>

Declaration	macro.specialPara =
	  (
	  text
	  | model.gLike
	  | model.phrase
	  | model.inter
	  | model.divPart
	  | model.global
	  )*

6.5. Datatypes

6.5.1. teidata.certainty

teidata.certainty defines the range of attribute values expressing a degree of certainty.	
Module	tei — Specifications
Used by	teidata.probCert
Content model	<content> <valList type="closed"> <valItem ident="high"/> <valItem ident="medium"/>

	<valItem ident="low"/> <valItem ident="unknown"/> </valList> </content>
Declaration	teidata.certainty = "high" | "medium" | "low" | "unknown"
Note	Certainty may be expressed by one of the predefined symbolic values high, medium, or low. The value unknown should be used in cases where the encoder does not wish to assert an opinion about the matter.

6.5.2. teidata.duration.iso

teidata.duration.iso defines the range of attribute values available for representation of a duration in time using ISO 8601 standard formats	
Module	tei — Specifications
Used by	
Content model	<content> <dataRef name="token" restriction="[0-9.,DHMPRSTWYZ/:+\-]+"/> </content>
Declaration	teidata.duration.iso = token { pattern = "[0-9.,DHMPRSTWYZ/:+\-]+" }
Example	<time dur-iso="PT0,75H">three-quarters of an hour</time>
Example	<date dur-iso="P1,5D">a day and a half</date>
Example	<date dur-iso="P14D">a fortnight</date>
Example	<time dur-iso="PT0.02S">20 ms</time>
Note	A duration is expressed as a sequence of number-letter pairs, preceded by the letter P; the letter gives the unit and may be Y (year), M (month), D (day), H (hour), M (minute), or S (second), in that order. The numbers are all unsigned integers, except for the last, which may have a decimal component (using either `.` or `,` as the decimal point; the latter is preferred). If any number is *0*, then that number-letter pair may be omitted. If any of the H (hour), M (minute), or S (second) number-letter pairs are present, then the separator `T` must precede the first 'time' number-letter pair. For complete details, see ISO 8601 *Data elements and interchange formats — Information interchange — Representation of dates and times*.

6.5.3. teidata.duration.w3c

teidata.duration.w3c defines the range of attribute values available for representation of a duration in time using W3C datatypes.	
Module	tei — Specifications
Used by	
Content model	<content> <dataRef name="duration"/> </content>
Declaration	teidata.duration.w3c = xsd:duration
Example	<time dur="PT45M">forty-five minutes</time>
Example	<date dur="P1DT12H">a day and a half</date>
Example	<date dur="P7D">a week</date>
Example	<time dur="PT0.02S">20 ms</time>
Note	A duration is expressed as a sequence of number-letter pairs, preceded by the letter P; the letter gives the unit and may be Y (year), M (month), D (day), H (hour), M (minute), or S (second), in that order. The numbers are all unsigned integers, except for the `S` number, which may have a decimal component (using `.` as the decimal point). If any number is *0*, then that number-letter pair may be omitted. If any of the H (hour), M (minute), or S (second) number-letter pairs are present, then the separator `T` must precede the first 'time' number-letter pair.

	For complete details, see the W3C specification.

6.5.4. teidata.enumerated

teidata.enumerated defines the range of attribute values expressed as a single XML name taken from a list of documented possibilities.	
Module	tei — Specifications
Used by	Element: • ab/@type • availability/@status • fw/@type • idno/@type • note/@type • ptr/@type • zone/@type

Content model	`<content>`
	` <dataRef key="teidata.word"/>`
	`</content>`

Declaration	`teidata.enumerated = teidata.word`
Note	Attributes using this datatype must contain a single 'word' which contains only letters, digits, punctuation characters, or symbols: thus it cannot include whitespace. Typically, the list of documented possibilities will be provided (or exemplified) by a value list in the associated attribute specification, expressed with a `<valList>` element.

6.5.5. teidata.language

teidata.language defines the range of attribute values used to identify a particular combination of human language and writing system. [6.1. Language Identification]	
Module	tei — Specifications
Used by	Element: • language/@ident

Content model	`<content>`
	` <alternate>`
	`  <dataRef name="language"/>`
	`  <valList>`
	`  <valItem ident=""/>`
	`  </valList>`
	` </alternate>`
	`</content>`

Declaration	`teidata.language = xsd:language | ( "" )`
Note	The values for this attribute are language 'tags' as defined in BCP 47. Currently BCP 47 comprises RFC 5646 and RFC 4647; over time, other IETF documents may succeed these as the best current practice. A 'language tag', per BCP 47, is assembled from a sequence of components or *subtags* separated by the hyphen character (-, U+002D). The tag is made of the following subtags, in the following order. Every subtag except the first is optional. If present, each occurs only once, except the fourth and fifth components (variant and extension), which are repeatable. **language** The IANA-registered code for the language. This is almost always the same as the ISO 639 2-letter language code if there is one. The list of available registered language subtags can be found at http://www.iana.org/assignments/language-subtag-registry. It is recommended that this code be written in lower case. **script** The ISO 15924 code for the script. These codes consist of 4 letters, and it is recommended they be written with an initial capital, the other three letters in lower case. The canonical list of codes is maintained by the Unicode Consor-

tium, and is available at http://unicode.org/iso15924/iso15924-codes.html. The IETF recommends this code be omitted unless it is necessary to make a distinction you need.

region
Either an ISO 3166 country code or a UN M.49 region code that is registered with IANA (not all such codes are registered, e.g. UN codes for economic groupings or codes for countries for which there is already an ISO 3166 2-letter code are not registered). The former consist of 2 letters, and it is recommended they be written in upper case; the list of codes can be searched or browsed at https://www.iso.org/obp/ui/#search/code/. The latter consist of 3 digits; the list of codes can be found at http://unstats.un.org/unsd/methods/m49/m49.htm.

variant
An IANA-registered variation. These codes are used to indicate additional, well-recognized variations that define a language or its dialects that are not covered by other available subtags.

extension
An extension has the format of a single letter followed by a hyphen followed by additional subtags. These exist to allow for future extension to BCP 47, but as of this writing no such extensions are in use.

private use
An extension that uses the initial subtag of the single letter *x* (i.e., starts with `x-`) has no meaning except as negotiated among the parties involved. These should be used with great care, since they interfere with the interoperability that use of RFC 4646 is intended to promote. In order for a document that makes use of these subtags to be TEI-conformant, a corresponding <language> element must be present in the TEI header.

There are two exceptions to the above format. First, there are language tags in the IANA registry that do not match the above syntax, but are present because they have been 'grandfathered' from previous specifications.

Second, an entire language tag can consist of only a private use subtag. These tags start with `x-`, and do not need to follow any further rules established by the IETF and endorsed by these Guidelines. Like all language tags that make use of private use subtags, the language in question must be documented in a corresponding <language> element in the TEI header.

Examples include

sn
Shona

zh-TW
Taiwanese

zh-Hant-HK
Chinese written in traditional script as used in Hong Kong

en-SL
English as spoken in Sierra Leone

pl
Polish

es-MX
Spanish as spoken in Mexico

es-419
Spanish as spoken in Latin America

The W3C Internationalization Activity has published a useful introduction to BCP 47, Language tags in HTML and XML.

6.5.6. teidata.name

teidata.name defines the range of attribute values expressed as an XML Name.	
Module	tei — Specifications
Used by	Element: • application/@ident
Content model	<content> <dataRef name="Name"/> </content>

Declaration	`teidata.name = xsd:Name`
Note	Attributes using this datatype must contain a single word which follows the rules defining a legal XML name (see https://www.w3.org/TR/REC-xml/#dt-name): for example they cannot include whitespace or begin with digits.

6.5.7. teidata.numeric

teidata.numeric defines the range of attribute values used for numeric values.	
Module	tei — Specifications
Used by	
Content model	`<content> <alternate> <dataRef name="double"/> <dataRef name="token" restriction="(\-?[\d]+/\-?[\d]+)"/> <dataRef name="decimal"/> </alternate> </content>`
Declaration	`teidata.numeric = xsd:double | token { pattern = "(\-?[\d]+/\-?[\d]+)" } | xsd:decimal`
Note	Any numeric value, represented as a decimal number, in floating point format, or as a ratio. To represent a floating point number, expressed in scientific notation, 'E notation', a variant of 'exponential notation', may be used. In this format, the value is expressed as two numbers separated by the letter E. The first number, the significand (sometimes called the mantissa) is given in decimal format, while the second is an integer. The value is obtained by multiplying the mantissa by 10 the number of times indicated by the integer. Thus the value represented in decimal notation as 1000.0 might be represented in scientific notation as 10E3. A value expressed as a ratio is represented by two integer values separated by a solidus (/) character. Thus, the value represented in decimal notation as 0.5 might be represented as a ratio by the string 1/2.

6.5.8. teidata.pattern

teidata.pattern defines attribute values which are expressed as a regular expression.	
Module	tei — Specifications
Used by	
Content model	`<content> <dataRef name="token"/> </content>`
Declaration	`teidata.pattern = token`
Note	A regular expression, often called a *pattern*, is an expression that describes a set of strings. They are usually used to give a concise description of a set, without having to list all elements. For example, the set containing the three strings *Handel*, *Händel*, and *Haendel* can be described by the pattern `H(ä|ae?)ndel` (or alternatively, it is said that the pattern `H(ä|ae?)ndel` *matches* each of the three strings) Wikipedia This TEI datatype is mapped to the XSD token datatype, and may therefore contain any string of characters. However, it is recommended that the value used conform to the particular flavour of regular expression syntax supported by XSD Schema.

6.5.9. teidata.point

teidata.point defines the data type used to express a point in cartesian space.	
Module	tei — Specifications
Used by	Element: • path/@points
Content model	

	<content> <dataRef name="token" restriction="(-?[0-9]+(\.[0-9]+)?,-?[0-9]+(\.[0-9]+)?)"/> </content>
Declaration	teidata.point = token { pattern = "(-?[0-9]+(\.[0-9]+)?,-?[0-9]+(\.[0-9]+)?)" }
Example	<facsimile> <surface ulx="0" uly="0" lrx="400" lry="280"> <zone points="220,100 300,210 170,250 123,234"> <graphic url="handwriting.png"/> </zone> </surface> </facsimile>
Note	A point is defined by two numeric values, which should be expressed as decimal numbers. Neither number can end in a decimal point. E.g., both 0.0,84.2 and 0,84 are allowed, but 0.,84. is not.

6.5.10. teidata.pointer

teidata.pointer defines the range of attribute values used to provide a single URI, absolute or relative, pointing to some other resource, either within the current document or elsewhere.	
Module	tei — Specifications
Used by	
Content model	<content> <dataRef restriction="\S+" name="anyURI"/> </content>
Declaration	teidata.pointer = xsd:anyURI { pattern = "\S+" }
Note	The range of syntactically valid values is defined by RFC 3986 *Uniform Resource Identifier (URI): Generic Syntax*. Note that the values themselves are encoded using RFC 3987 *Internationalized Resource Identifiers* (IRIs) mapping to URIs. For example, `https://secure.wikimedia.org/wikipedia/en/wiki/%` is encoded as `https://secure.wikimedia.org/wikipedia/en/wiki/%25` while `http://-mr----nx.mirbg4--n✖###.#########-#####.####/` is encoded as `http://ckbbajlc6dj7bxne2c.xn--wgbh1c/`

6.5.11. teidata.probCert

teidata.probCert defines a range of attribute values which can be expressed either as a numeric probability or as a coded certainty value.	
Module	tei — Specifications
Used by	
Content model	<content> <alternate> <dataRef key="teidata.probability"/> <dataRef key="teidata.certainty"/> </alternate> </content>
Declaration	teidata.probCert = teidata.probability | teidata.certainty

6.5.12. teidata.probability

teidata.probability defines the range of attribute values expressing a probability.	
Module	tei — Specifications
Used by	teidata.probCert
Content model	<content> <dataRef name="double"/> </content>
Declaration	teidata.probability = xsd:double

Note	Probability is expressed as a real number between 0 and 1; 0 representing *certainly false* and 1 representing *certainly true*.

6.5.13. teidata.replacement

teidata.replacement defines attribute values which contain a replacement template.	
Module	tei — Specifications
Used by	
Content model	`<content> <textNode/> </content>`
Declaration	`teidata.replacement = text`

6.5.14. teidata.temporal.iso

teidata.temporal.iso defines the range of attribute values expressing a temporal expression such as a date, a time, or a combination of them, that conform to the international standard *Data elements and interchange formats – Information interchange – Representation of dates and times*.	
Module	tei — Specifications
Used by	
Content model	`<content> <alternate> <dataRef name="date"/> <dataRef name="gYear"/> <dataRef name="gMonth"/> <dataRef name="gDay"/> <dataRef name="gYearMonth"/> <dataRef name="gMonthDay"/> <dataRef name="time"/> <dataRef name="dateTime"/> <dataRef name="token" restriction="[0-9.,DHMPRSTWYZ/:+\-]+"/> </alternate> </content>`
Declaration	`teidata.temporal.iso = xsd:date | xsd:gYear | xsd:gMonth | xsd:gDay | xsd:gYearMonth | xsd:gMonthDay | xsd:time | xsd:dateTime | token { pattern = "[0-9.,DHMPRSTWYZ/:+\-]+" }`
Note	If it is likely that the value used is to be compared with another, then a time zone indicator should always be included, and only the dateTime representation should be used. For all representations for which ISO 8601 describes both a *basic* and an *extended* format, these Guidelines recommend use of the extended format. While ISO 8601 permits the use of both `00:00` and `24:00` to represent midnight, these Guidelines strongly recommend against the use of `24:00`.

6.5.15. teidata.temporal.w3c

teidata.temporal.w3c defines the range of attribute values expressing a temporal expression such as a date, a time, or a combination of them, that conform to the W3C *XML Schema Part 2: Datatypes Second Edition* specification.	
Module	tei — Specifications
Used by	
Content model	`<content> <alternate> <dataRef name="date"/> <dataRef name="gYear"/> <dataRef name="gMonth"/> <dataRef name="gDay"/> <dataRef name="gYearMonth"/> <dataRef name="gMonthDay"/> <dataRef name="time"/>`

	<content> <dataRef name="dateTime"/> </alternate> </content>
Declaration	teidata.temporal.w3c = xsd:date | xsd:gYear | xsd:gMonth | xsd:gDay | xsd:gYearMonth | xsd:gMonthDay | xsd:time | xsd:dateTime
Note	If it is likely that the value used is to be compared with another, then a time zone indicator should always be included, and only the dateTime representation should be used.

6.5.16. teidata.text

teidata.text defines the range of attribute values used to express some kind of identifying string as a single sequence of Unicode characters possibly including whitespace.	
Module	tei — Specifications
Used by	
Content model	<content> <dataRef name="string"/> </content>
Declaration	teidata.text = string
Note	Attributes using this datatype must contain a single ‘token’ in which whitespace and other punctuation characters are permitted.

6.5.17. teidata.truthValue

teidata.truthValue defines the range of attribute values used to express a truth value.	
Module	tei — Specifications
Used by	
Content model	<content> <dataRef name="boolean"/> </content>
Declaration	teidata.truthValue = xsd:boolean
Note	The possible values of this datatype are 1 or true, or 0 or false. This datatype applies only for cases where uncertainty is inappropriate; if the attribute concerned may have a value other than true or false, e.g. unknown, or inapplicable, it should have the extended version of this datatype: teidata.xTruthValue.

6.5.18. teidata.versionNumber

teidata.versionNumber defines the range of attribute values used for version numbers.	
Module	tei — Specifications
Used by	Element: • application/@version
Content model	<content> <dataRef name="token" restriction="[\d]+[a-z]*[\d]*(\.[\d]+[a-z]*[\d]*){0,3}"/> </content>
Declaration	teidata.versionNumber = token { pattern = "[\d]+[a-z]*[\d]*(\.[\d]+[a-z]*[\d]*){0,3}" }

6.5.19. teidata.word

teidata.word defines the range of attribute values expressed as a single word or token.

Module	tei — Specifications
Used by	teidata.enumerated
Content model	`<content> <dataRef name="token" restriction="[^\p{C}\p{Z}]+"/> </content>`
Declaration	`teidata.word = token { pattern = "[^\p{C}\p{Z}]+" }`
Note	Attributes using this datatype must contain a single ‘word’ which contains only letters, digits, punctuation characters, or symbols: thus it cannot include whitespace.

6.5.20. teidata.xTruthValue

teidata.xTruthValue (extended truth value) defines the range of attribute values used to express a truth value which may be unknown.	
Module	tei — Specifications
Used by	
Content model	`<content> <alternate> <dataRef name="boolean"/> <valList> <valItem ident="unknown"/> <valItem ident="inapplicable"/> </valList> </alternate> </content>`
Declaration	`teidata.xTruthValue = xsd:boolean | ( "unknown" | "inapplicable" )`
Note	In cases where where uncertainty is inappropriate, use the datatype teidata.TruthValue.

6.5.21. teidata.xpath

teidata.xpath defines attribute values which contain an XPath expression.	
Module	tei — Specifications
Used by	
Content model	`<content> <textNode/> </content>`
Declaration	`teidata.xpath = text`
Note	Any XPath expression using the syntax defined in 6.2.. When writing programs that evaluate XPath expressions, programmers should be mindful of the possibility of malicious code injection attacks. For further information about XPath injection attacks, see the article at OWASP.