

# *XML Patterns for Encoding Critical Editions for the LDLT*

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## Getting Started

These Guidelines describe how to create a critical edition for the Digital Latin Library's Library of Digital Latin Texts. The LDLT uses a customization of the standard established by the [15]. LDLT texts are in a format called XML, which uses tags wrapped in angle brackets to mark various aspects of the text. XML is a 'plain text' format, meaning writing programs like Microsoft Word are not suitable for editing it. We recommend you either purchase an XML editor, like [oXygen](#), or use a free text editor, ideally with XML support. [Atom](#), with the [linter-autocomplete-jing](#) plugin is one example. Oxygen comes with a lot of built-in TEI support, so it may give you a better experience.

There are some very basic rules to editing XML documents you should be aware of: XML tags (or elements) must nest properly. If you open one (e.g. <p>), you must close it (</p>) or have it close itself (e.g. <p t r />). You can have only one root element (<TEI> in this case). Some special characters (especially <) need to be escaped (&lt; ; is how you do a left angle bracket).

LDLT documents use a ‘schema’ to check whether the tags you've used are in the right places. In general, you can only put certain tags in certain locations, so no <div>s (which mark a section of text, e.g. a chapter) inside a <p> (a paragraph), for example (because that would be silly). The schema contains rules that enforce these kinds of restrictions. Your editing program should tell you when and where you've done something wrong, and should help you out by telling you what tags you're allowed to use at any given spot. We have provided a [template](#) file to get you started with your edition.

## Structure of an LDLT Edition

This section describes the basic structure of the file containing an edition for the LDLT. The structure of an LDLT edition resembles the structure of a traditional printed critical edition.

### Parts of an LDLT Edition

- Publication Details
- Front Matter (preface, description of manuscripts, bibliography, etc.)
- Critical Text (including critical apparatus and other critical aids)
- Indices

Since every text is unique, not every LDLT edition will have all of these sections. The nature of the text and the editor's judgment will determine the contents of an edition. The purpose of this section is to define the parts of an LDLT edition and provide guidelines for representing them in XML.

## General Structure of an LDLT Edition

The following is an example of the general overall structure of an XML file for an LDLT edition:

```
<teiHeader>
  <fileDesc>
    <titleStmt>
      <title>Title of Work</title>
      <author>Name of Author</author>
      <editor>Name of Editor</editor>
    </titleStmt>
    <editionStmt>
      <edition>First Edition</edition>
    </editionStmt>
    <publicationStmt>
      <publisher>Society for Classical Studies</publisher>
      <distributor>Digital Latin Library</distributor>
      <date>2016</date>
      <availability>
        <license target="https://creativecommons.org/licenses/by/4.0/">Distributed
under a Creative Commons Attribution 4.0 International
        License.</license>
      </availability>
    </publicationStmt>
    <seriesStmt>
```

```

    <title level="s">Library of Digital Latin Texts</title>
    <biblScope unit="vol">1</biblScope>
  </seriesStmt>
  <sourceDesc>
    <p>Born digital.</p>
  </sourceDesc>
</fileDesc>
</teiHeader>
<text>
  <front xml:id="front">
    <div type="section" xml:id="preface">
      <head>Preface</head>
      <p>General introductory remarks about the edition.</p>
      <div type="section"
        xml:id="preface-section-1">
<!--This is a section within the preface. Editors should use sections
(distinguished by <div>) to organize the content of the edition's preface.-->
        </div>
      </div>
      <div type="section" xml:id="bibliography">
        <head>Bibliography</head>
<!--This is where the bibliography for the edition is listed, including manuscript
descriptions, and lists of early editions, modern editions, and other sources cited
in the current edition. For more information on encoding the items in the
bibliography see section 3 Bibliography below. -->
        <div type="section" xml:id="conspectus">
          <head>Conspectus</head>
<!--A key to the special sigla and abbreviations used in the edition (drawn from
the @xml:id's assigned to the various items in the bibliography). The list of sigla
may be generated automatically. -->
          </div>
        </div>
      </front>
      <body>
        <div type="edition" xml:id="edition-text"
          xml:space="preserve">
          <div n="1" type="textpart" xml:
id="part1">
            <head>Title of First Part</head>

<!--Text goes here, according to the conventions laid out elsewhere in these
guidelines.--
          >
            </div>
            <div n="2" type="textpart"
t" xml:id="part2">
              <head>Title of Second Part</head>

<!--Each new major section (e.g., book, volume) has a new <div>.--
          >
            </div>
          </body>
        <back>
<!--The content of the back matter will be determined in consultation between the
editor and the staff of the DLL. Because LDLT editions are encoded, the matter
traditionally found in the back of a printed critical edition may be generated by
applications instead of having to be entered manually. Nevertheless, there is space
here for notes, indices, and other kinds of information.-->
        </back>
      </text>

```

## Publication Details

A traditional critical edition in print has a title page announcing the title of the work, its author, the editor(s), and details of publication. In an LDLT edition, these details are presented as structured data within a TEI header (<teiHeader>). For example:

```
<teiHeader>
  <fileDesc>
    <titleStmt>
      <title>Bucolica</title>
      <author>Calpurnius Siculus</author>
      <editor>Jane Doe</editor>
    </titleStmt>
    <editionStmt>
      <edition>First Edition</edition>
    </editionStmt>
    <publicationStmt>
      <publisher>Society for Classical Studies</publisher>
      <distributor>Digital Latin Library</distributor>
      <date>2016</date>
      <availability>
        <license target="https://creativecommons.org/licenses/by/4.0/">Distributed
        under a Creative Commons Attribution 4.0 International
        License.</license>
      </availability>
    </publicationStmt>
    <seriesStmt>
      <title level="s">Library of Digital Latin Texts</title>
      <biblScope unit="vol">1</biblScope>
    </seriesStmt>
    <sourceDesc>
      <p>Born digital.</p>
    </sourceDesc>
  </fileDesc>
</teiHeader>
```

Since a critical edition is often based upon many sources (e.g., manuscripts, previous editions, commentaries, etc.), the <teiHeader> for an LDLT edition does not hew strictly to the TEI guidelines for <sourceDesc>. The sources for an LDLT edition are documented and described in the edition's front matter.

Just as an editor is not expected to create the title page and document the publication information, this section of an LDLT text is the responsibility of the DLL staff.

## Front Matter

The <front> contains divisions and subdivisions (using <div>) corresponding to the preface, bibliography, and conspectus for the edition.

The **preface** lays out (in prose, using <p>) the argument for the edition. It also describes the textual tradition and its major sources. It is recommended to compile the bibliography first, to facilitate linking to the individual entries as they are mentioned in the preface.

The elements available in all TEI documents are available for use in the preface. For example, an editor might want to make a table comparing the readings of manuscript families. In that case, the editor would use `<table>` and its related elements (see the TEI guidelines for [<table>](#) for more information).

## Bibliography

The bibliography presents opportunities for leveraging the digital nature of an LDLT edition. For this reason, every item in the bibliography is encoded as structured data (contained in `<witness>` or `<bibl>`), so that the bibliography itself can become a useful tool for finding and using resources, especially those available online.

The bibliography is all the more useful as a tool if it is created and made available via [Zotero](#), an open online resource for building and managing bibliographies. It is highly recommended, but not required, that all LDLT editions have a corresponding Zotero repository for their bibliography. Editors should consult with LDLT staff about setting up and sharing a Zotero repository.

## Structure of the Bibliography

The bibliography should be organized according to the following structure:

- Manuscripts (`@xml:id="bibliography-manuscripts"`)
- Editions
  - Early Editions (`@xml:id="bibliography-editions-witnesses"`)
  - Modern Editions (`@xml:id="bibliography-editions-sources"`)
- Secondary Sources (`@xml:id="bibliography-secondary-sources"`)

Additionally, there should be a 0 (`@xml:id="bibliography-scholars"`) referred to by name in the apparatus, if they are not listed elsewhere in the bibliography (e.g., as the editor of an edition or author of an article). It is common, for example, to refer to a scholar whose unpublished notes appear in a commentary or who has corresponded with the editor. For ease of reference, these sources should be listed with information about where the information can be verified.

## Terminology: Witness and Source

Editors consult many types of documents and publications in the process of creating critical editions: manuscripts, incunabula, modern editions, monographs, articles, notes, correspondence, etc. Some of these types (i.e., manuscripts and incunables) are commonly referred to as “witnesses,” since they stand in close relationship to a certain version of the text. The term “witness” cannot be applied to the other types, since they do not cleave to one exemplar, but rather reflect a broad range of sources (including scholarly conjecture).

This issue is raised here because the model for LDLT editions requires precision in the use of the terms “witness” and “source,” particularly with regard to the encoding of the critical apparatus, where `@wit` (witness) and `@source` (external source) are used to classify variant

readings. The classification of resources as witnesses and sources also affects how they are encoded in the bibliography, since the former are contained in `<listWit>`, the latter in `<listBibl>`.

For the purposes of these guidelines, manuscripts and some incunabula retain their traditional distinction as witnesses, but that category has been enlarged to include manuscript hands, which may bear witness to alternative readings, glosses, marginalia, corrections, and conjectures. This is a departure from the [TEI's guidelines on Manuscript Description](#), which treat the manuscript itself as a witness, but consider hands as agents responsible for specific textual content. It is up to the editor to determine whether an incunabulum is a witness to a single manuscript.

All other resources cited in an edition fall under the category of “source,” a capacious term that refers to any resource external to the current edition.

## Human- and Machine-Readable Sigla, Symbols, and Abbreviations

Printed editions have long used a system of references for manuscripts and other materials in the bibliography. For example, single letters, or *sigla*, stand for manuscripts, and the last names of scholars stand for editions, commentaries, or other works of scholarship. Centuries of use have demonstrated that this system of sigla and other symbols and abbreviations is an efficient, effective, and economical way of presenting the complex information contained in critical editions. Although its development was motivated by the constraints of the printed page, its virtues for representing data commend it for other media, too. But just as the printed page has limits, so too does the digital file, which means that the traditional system requires an update to make it useful in a digital context.

Given some guidance and experience, people can learn how to navigate the system of letters, numbers, symbols, and other typographical conventions for referring to the sources of a critical edition. If one edition uses superscript numerals to indicate the hands that wrote in a manuscript, but another uses superscript numerals to signify the number of a manuscript in a collection, a human reader can adjust to the difference in meaning without much effort. In contrast, machines need clear instructions and a reliable set of rules for reading a digital file. For example, a human might see **N<sup>2</sup>** and correctly interpret it within a particular edition as meaning “text written by the second in a succession of people who wrote in the manuscript known as codex Neapolitanus V A 8.” Without explicit instructions, a machine will interpret the same information as simply the letter “N” with a superscript numeral 2 next to it. A less experienced human reader might reach the same conclusion as the machine.

Since the audience for LDLT editions includes an entirely new class of reader (i.e., machines), it stands to reason that the reference system should be adapted to accommodate the needs of the expanded readership. For this reason, LDLT editions encode sigla and other aspects of the traditional reference system in two ways: a machine-readable version (using `@xml:id`) and a human-readable version (using `<abbr>`, with special instructions for rendering typographical conventions such as superscript and subscript notation). In some cases, the values for both will be the same, but the [14] do not allow for the traditional system of combining letters with superscript and/or subscript numerals. Nevertheless, the values of `@xml:id` and `<abbr>` should

be similar, if not identical, to each other, and they should be meaningful. Editors should follow the conventions in previous editions of the same text, changing a siglum only if it is important to the edition's argument. If the text has never been edited, the editor should choose sigla according to the principles outlined by [18] (74–75). In brief, sigla should have mnemonic value (e.g., “V” for “Vaticanus” or “P” for “Parisinus”).

Because the needs of editors will vary from edition to edition, the LDLT does not have strict rules for representing manuscript hands or similar information. The following suggestion might be useful:

Information	Example Value of <i>@xml:id</i>	Example Value of <i>&lt;abbr&gt;</i>
A single manuscript	V	V
Manuscript Hands	Vh1, Vh2	V <sup>1</sup> , V <sup>2</sup>
Multiple manuscripts from one collection	Vms1, Vms2	V <sub>1</sub> , V <sub>2</sub>
One of many indistinguishable hands	Vrec	V <sup>rec</sup>
Fragments of ancient copies	Π1, Π2	Π <sup>1</sup> , Π <sup>2</sup>
Consensus of manuscripts	ω	ω
One or more late manuscripts	ζ (see note below)	ζ
Scholia	Σ	Σ
Scholia in a certain manuscript	Σa, Σb	Σ <sup>a</sup> , Σ <sup>b</sup>
Multiple editions	Schenkl1, Schenkl2	Schenkl <sup>1</sup> , Schenkl <sup>2</sup>
Multiple books or articles by the same scholar	Burm1731, Burm1759	Burm. 1731, Burm. 1759

Note that the lower-case character "stigma" (ζ) is, for whatever reason, an illegal value for *@xml:id*, so the upper-case character (Σ) must be used in its place.

In short, **every entry, regardless of type, in the bibliography of an LDLT edition must have values for both *@xml:id* and *<abbr>***. Otherwise, the edition will not be able to make full use of the digital format. Moreover, if an entry lacks *<abbr>*, it will not be available for a print version of the edition, should one be required.

## Catch-all References

Sometimes it is necessary to use a siglum to stand for the consensus of a particular group of manuscripts (e.g., ω or ζ). Consensus sigla should be defined in the *<listWit>* as described in the section "0."

“Catch-all” references can also be useful: *codd.* or *mss.* for “the manuscripts,” *cett.* for “the other manuscripts,” *edd.* for “the editions,” etc. It might also be necessary to indicate that, in general, all editions before or after one in particular have a certain reading (e.g., *edd. ante* Burm., Burm. *sqq.*).

It is customary to define catch-all references in the *conspectus siglorum* or elsewhere in the preface. Since the conspectus will be generated automatically based on information provided in the bibliography, catch-all abbreviations and phrases must be defined in a simple list at the end of the bibliography, each with its own *@xml:id* and *<abbr>*:



- `<list>` with `@xml:id` with a value of “bibliography-catch-all” contains the catch-all references as items.
- `<item>` with `<abbr>` contains a single abbreviation or phrase used as a catch-all reference in the edition. Each `<item>` should have an `@xml:id` based on the abbreviation or phrase in `<abbr>`.

```
<list xml:id="bibliography-catch-all">
  <head>General References</head>
  <item xml:id="codd">
    <abbr type="siglum">codd.</abbr> = The manuscripts
    (<hi rend="italic">codices</hi>) not otherwise mentioned.</item>
  <item xml:id="">
    <abbr type="siglum">edd.</abbr> = The editions not otherwise
    mentioned.</item>
</list>
```

See the section "0" for guidelines on usage.

## Manuscripts

The description of manuscripts is a discipline unto itself, with long-established conventions for capturing all of the details about not only a manuscript’s contents, but also its dimensions, provenance, material, and other details. It is customary for critical editions to provide a brief prose description of the major manuscripts used for establishing the text, usually only enough to identify where the manuscript may be found for consultation, but sometimes including information about its provenance and other details relevant to the edition (e.g., manuscript hands).

The prose format for describing manuscripts is a predictable and efficient way of conveying this information to human readers, but it is not useful for making the information available to machines for processing. That is why the TEI guidelines have an entire module ([10 Manuscript Description](#)) for making manuscript descriptions available as structured data for machine-readability. This section is a customization of that module for LDLT editions.

This section establishes a minimum requirement for describing a manuscript in an LDLT edition so that the information can be processed and displayed as expected. It also includes instructions for encoding a finer degree of detail. Above all, the point is to make the information available to both human and machine readers. It is up to individual editors to use their best judgment regarding the amount of information that will be relevant to those seeking to understand the place of a manuscript in the tradition.

## Manuscript Description

The TEI’s [module for manuscript description](#) offers a model for presenting nearly every imaginable detail about a manuscript as structured data. Editors may wish to use more of the features of the module than are described here, but the LDLT viewer will display only the following:

- `<listWit>` (list of witnesses) contains the descriptions of manuscript witnesses for the edition. Separate `<listWit>` elements may be used to distinguish families of manuscripts (see section "[Manuscript Families](#)").
- `<witness>` groups the information about a single manuscript, archetype, or hyparchetype. The `@xml:id` of each `<witness>` is the unique machine-readable identifier to be used when referring to the manuscript's data (e.g., in the `@wit` of a `<rdg>` in the apparatus criticus).
- `<abbr>` contains the human-readable siglum that should be displayed on screen or printed. Any superscript or subscript characters should be encoded using `<hi>` with the appropriate value for `@rend`.
- `<msDesc>` (manuscript description) groups the elements that compose the description of the manuscript:
  - `<msIdentifier>` (manuscript identifier) groups information about the location and inventory number of the manuscript.
  - `<settlement>` contains the common English name of the place (e.g., Florence, not Firenze) where the manuscript is located.
  - `<repository>` contains the name of the library or other institution that houses the manuscript. Use the original name of the institution (e.g., Biblioteca Ambrosiana), not an English translation.
  - `<idno>` (identifier) contains the catalog or inventory information for the manuscript, including the name of the collection (e.g., Ottobonianus 1466). The point is to give enough information for a reader to be able to request more information about it.
  - `<altIdentifier>` (alternative identifier) contains other information (i.e., in addition to the `<idno>`) used to identify the manuscript. For example, the manuscript may have been recataloged, but its old number is still used.
  - `<msContents>` (manuscript contents) contains a prose description (using `<p>`) of the manuscript's contents. Encode each work with `<bibl>` with `<author>` and `<title>`.
  - `<phsyDesc>` (physical description) groups information about the manuscript.
  - `<objectDesc>` (object description) contains a prose description (using `<p>`) of the manuscript's physical characteristics (e.g., material(s), size, pagination, lines per page, etc.). It is up to the editor to decide how to present this information, but it is recommended to adopt a pattern and use it consistently (e.g., "Parchment: 261 × 160 mm.: 116 leaves: 38 verses per page"). Note that the TEI module for manuscript description has tags for these details. Editors may use them, but they will not affect the display or functionality of the LDLT edition.
  - `<handDesc>` (hand description) groups information about the distinct hands that wrote in the manuscript. `@hands` may be used to indicate the number of hands detectable in the manuscript.
  - `<handNote>` contains a prose description (using `<p>`) of a hand that wrote in the manuscript. Each `<handNote>` has an `@xml:id` with a unique identifier (based on the `@xml:id` of the manuscript) and `<abbr>` with a human-readable version of the value of the hand's `@xml:id` (see the section "0" for more information).
  - `<history>` groups information about the date of the manuscript.
  - `<origin>` contains a prose description (using `<p>`) of the manuscript's date. For a range of dates, use `<origDate>` with `@notAfter` and `@notBefore`.

- `<provenance>` contains a prose description (using `<p>`) of the manuscript's provenance, if available.

The absolute minimum required for LDLT editions can be met with `<listWit>`, `<witness>`, and `<abbr>`:

```
<listWit>
  <witness xml:id="N">
    <abbr type="siglum">N</abbr> = Codex Neapolitanus V A 8,
    saec. XV</witness>
  <witness xml:id="G">
    <abbr type="siglum">G</abbr> = Codex Gaddianus pl. 90,
    12 inf., saec. XV</witness>
</listWit>
```

That example provides enough human- and machine-readable information to identify the manuscripts in the apparatus criticus, but it leaves much to be desired by anyone hoping to learn more about the manuscripts or locate them for private study.

The following example uses all of the elements listed above to provide rich human- and machine-readable information about the same manuscripts:

```
<listWit>
  <witness xml:id="N">
    <abbr type="siglum">N</abbr> = Codex Neapolitanus V A 8 <msDesc>
      <msIdentifier>
        <settlement>Naples</settlement>
        <repository>Biblioteca Nazionale di Napoli</repository>
        <idno>V A 8</idno>
        <altIdentifier>
          <idno>380</idno>
        </altIdentifier>
      </msIdentifier>
      <msContents>
        <p>1–36r contain Cato's <bibl>
          <title>De Agricultura</title>
        </bibl>;
          20–101r, Varro's <bibl>
          <title>De Re Rustica</title>
        </bibl>;
          101r–115v, the <bibl>
          <title>Bucolica</title>
        </bibl> of
          Calpurnius and Nemesianus.</p>
        <p>The individual poems lack titles, but they are separated from
          each other by brief spaces. The following subscription appears
          at the end of the whole work: <quote xml:lang="lat">Aureliani
            Nemesiani Cartag̃ bucol' explicit: Deo gratias
              amen</quote>. Finally, another more recent hand, as
            <ref target="#Bursian">Bursian</ref> and <ref target="#Schenkl">Schenkl</ref>
            recognized, wrote <quote xml:lang="lat">Calpurnii eclogae</quote> and
            <quote xml:lang="lat">Nemesiani eclogae</quote>. The remaining leaves are
              blank.</p>
      </msContents>
```

```

<physDesc>
  <objectDesc>
    <p>Parchment: 261 × 160 mm.: 116 leaves: 38 verses per page.</p>
    <p>With respect to correcting hands, two in particular stand
      out:</p>
  </objectDesc>
  <handDesc hands="3">
    <handNote xml:id="N1">
      <abbr type="siglum">N<hi rend="superscript">1</hi>
      </abbr> belongs to the
        original copyist. See <ref target="#Ndesc-firsthand">above</ref> for a
detailed description of this hand's
        activity.</handNote>
    <handNote xml:id="N2">
      <abbr type="siglum">N<hi rend="superscript">2</hi>
      </abbr>: The manuscript was
        corrected again around the same time, but here and there the
        second hand cannot easily be distinguished from the
        first.</handNote>
    <handNote xml:id="N3">
      <abbr type="siglum">N<hi rend="superscript">3</hi>
      </abbr>: a third hand's
        emendations can be discerned in only a few places.</handNote>
  </handDesc>
</physDesc>
<history>
  <origin>
    <p>The manuscript was written at about the beginning of the
      <origDate notAfter="1500"
        notBefore="1400">fifteenth
        century</origDate>.</p>
  </origin>
  <provenance>
    <p>We know nothing about the origin and provenance of this
      manuscript except what is understood from the following
      passages written on the last leaf: <quote xml:lang="lat">Joannes
Antonius Perillus patric. neap. ac iuvenis
      apprime litteratus Jacobum Perillum hoc libro donavit
      MDCVII, Klis Juniis</quote> ("Joannes Antonius Perillus, a
      nobleman of Naples and most learned gentleman, gave this book
      to Jacob Perillus in 1667 on the first of June"), and a
      little below, <quote xml:lang="lat">Antonii Seripandi ex
      Jacobi Perilli amici opt. munere</quote> ("This book
      belongs to Antonius Seripandus, received as a gift from his
      best friend Jacob Perillus"). Later it was brought to the
      library of San Giovanni a Carbonara, and from there it came
      to the greatest library in Naples, formerly known as the
      <orgName>Reale biblioteca borbonica</orgName>, (now the
      <orgName ref="http://www.bnnonline.it">Biblioteca
        nazionale Vittorio Emanuele III</orgName>).</p>
  </provenance>
</history>
</msDesc>
</witness>
<witness xml:id="G">
  <abbr type="siglum">G</abbr> = Codex Gaddianus pl. 90,
  12 inf. <msDesc>

```

```

<msIdentifier>
  <settlement>Florence</settlement>
  <repository>Biblioteca Medicea Laurenziana</repository>
  <idno>plut. 90, 12 inf.</idno>
</msIdentifier>
<msContents>
  <p>It contains the twelve eclogues of Francesco Petrarch (ff.
    1–44), the <bibl>
    <title>Culex</title>
  </bibl> of Vergilius Maro,
    the <bibl>
    <title>Dirae</title>
  </bibl> of Vergilius Maro (ff.
    52–55), and Calpurnius and Nemesianus (ff. 55–74). A very brief,
    unattributed eclogue follows with the interlocutors Daphnis,
    Tityrus, Mopsus, and Meliboeus.</p>
  <p>The following inscription has been added to the eclogues of
    Calpurnius: <quote xml:lang="lat">Egloge Calpurnii ad nemesianum
      cartaginiensem.</quote> (<quote>The Eclogues of Calpurnius to
      Nemesianus of Carthage</quote>). Nemesianus follows
    Calpurnius with the following title prefixed:
  <quote xml:lang="lat">Aureliani nemesiani cartaginiensis egloghe
    incipiunt</quote> (<quote>Here begin the eclogues of
    Aurelianus Nemesianus of Carthage</quote>). At the end of
    each eclogue there appears an <hi rend="italic">explicit</hi>
    with the number of each eclogue, but Calpurnius' sixth eclogue
    lacks a subscription, and the following is written at the end of
    the seventh: <quote xml:lang="lat">explicit sexta egloga
      Calpurnii</quote> (<quote>Here ends the sixth eclogue of
      Calpurnius</quote>). This is explained by the fact that the
      seventh eclogue follows the sixth without any break, with the
      result that only six eclogues are attributed to Calpurnius in
      this manuscript. But in the margin, where the sixth eclogue
      ought to end, the copyist has added the following:
  <quote xml:lang="lat">aliqui volunt dicere quod ista sit alia et
    diversa egloga ubi incipit "lentus," aliqui dicunt quod est
    una etc.</quote> (<quote>Some wish to say that the eclogue
    that begins <hi rend="italic">lentus</hi> is a completely
    different eclogue; others say that it is the same,
    etc.</quote>).</p>
</msContents>
<physDesc>
  <objectDesc>
    <p>Paper: 294 × 225 mm.: 74 leaves. Individual pages generally
      have 29 verses, but some vary, with the shorter ones having
      26 and the longer ones having 32 verses.</p>
  </objectDesc>
  <handDesc hands="2">
    <handNote xml:id="G1">
      <abbr type="siglum">G<hi rend="superscript">1</hi>
    </abbr>: The copyist himself
      added almost all of the corrections either by removing
      scribal errors in the verses or adding variant readings to
      the margin. See <ref target="#Gdesc-hand">above</ref> for a
      more detailed description of this hand's activity.</handNote>
    <handNote xml:id="G2">
      <abbr type="siglum">G<hi rend="superscript">2</hi>

```

```

    </abbr>: Some corrections seem
      to have been made by another hand.</handNote>
  </handDesc>
</physDesc>
<history>
  <origin>
    <p>Written at the <origDate notAfter="1500"
      notBefore="1400">beginning of the fifteenth century</origDate>.</p>
  </origin>
</history>
</msDesc>
</witness>
</listWit>

```

## Manuscript Families, Archetypes, and Hyparchetypes

Sigla may be assigned to families of manuscripts, archetypes, and hyparchetypes so that they may be referred to in the apparatus criticus or elsewhere. As indicated in the section "0," each family, archetype, and hyparchetype must have both a unique *@xml:id* (machine-readable siglum) and an *<abbr>* (human-readable siglum).

### Manuscript Families

Since the family is not itself a physical object, but a concept (i.e., a group of related manuscripts), its siglum is assigned to *<listWit>* as the container of the individual *<witness>* elements that describe the manuscripts in the family.

In the following example, *<listWit>* has the *@xml:id* V for the machine-readable siglum; *<head>* contains the name of the family and the human-readable siglum in *<abbr>*.

```

<listWit xml:id="V">
  <head>First Family (<abbr type="siglum">V</abbr>)</head>
  <witness xml:id="A">
    <!-- Description of manuscript A -->
  </witness>
  <witness xml:id="B">
    <!-- Description of manuscript B -->
  </witness>
  <!-- Et cetera -->
</listWit>

```

### Archetypes and Hyparchetypes

An archetype is the most recent common ancestor of the known manuscripts (cf. [18] 32). A hyparchetype is the ancestor of a branch of a family of manuscripts. In editions of Latin texts, both archetypes and hyparchetypes are commonly represented with lower case Greek letters.

For example, [8] assigns the siglum  $\omega$  to the archetype of the manuscripts of Suetonius' *De Vita Caesarum*. The manuscripts can be analyzed into two families that stem from two

hyparchetypes, to which Kaster has assigned the sigla  $\alpha$  and  $\beta$ . The two families have branches, each with their own hyparchetype ( $\alpha_1 \alpha_2 \beta_1 \beta_2$ ).

Kaster lists the sigla as follows:

- $\omega$  archetypus codicum  $\alpha\beta$
- $\alpha$  hyparchetypus codicum  $\alpha_1 V \alpha_2$ 
  - \*  $\alpha_1$  hyparchetypus codicum MG
    - + M Paris. lat. 6115 s. IX<sup>1/2</sup> (an. c. 820?)
    - + G Guelf. 4573 (Gud. lat. 268), s. XI<sup>3/4</sup>
  - \* etc.

Though no longer extant, archetypes and hyparchetypes can be referred to as witnesses to readings. Therefore, they are encoded with `<witness>`. The following example demonstrates how Kaster's list should be encoded:

```
<listWit>
  <witness xml:id="ω">
    <abbr type="siglum">ω</abbr> = archetypus codicum αβ <listWit>
    <witness xml:id="α">
      <abbr type="siglum">α</abbr> = hyparchetypus
        codicum α<hi rend="subscript">1</hi>Vα <listWit>
      <witness xml:id="α1">
        <abbr type="siglum">α<hi rend="subscript">1</hi>
        </abbr> = hyparchetypus
          codicum MG <listWit>
        <witness xml:id="M">
          <abbr type="siglum">M</abbr>
<!-- Description of witness M -->
        </witness>
        <witness xml:id="G">
          <abbr type="siglum">G</abbr>
<!-- Description of witness G -->
        </witness>
      </listWit>
    </witness>
  </listWit>
</witness>
</listWit>
```

The nesting of witnesses in this way can lead to confusion, so it is a good idea to include comments to help with navigation:

```
<listWit>
  <witness xml:id="ω">
    <abbr type="siglum">ω</abbr> = archetypus codicum αβ <listWit>
    <witness xml:id="α">
      <abbr type="siglum">α</abbr> = hyparchetypus
        codicum α<hi rend="subscript">1</hi>Vα <listWit>
```

```

<witness xml:id="α1">
  <abbr type="siglum">α<hi rend="subscript">1</hi>
</abbr> = hyparchetypus
    codicum MG <listWit>
      <witness xml:id="M">
        <abbr type="siglum">M</abbr>
<!-- Description of witness M -->
      </witness>
      <witness xml:id="G">
        <abbr type="siglum">G</abbr>
<!-- Description of witness G -->
      </witness>
    </listWit>
<!-- End of list of children of hyparchetype α1. -->
  </witness>
<!-- End of hyparchetype α1 -->
</listWit>
<!-- End of list of witnesses descending from hyparchetype α -->
</witness>
<!-- End of hyparchetype α. This is where a description of β would begin. -->
</listWit>
<!-- End of list of witnesses descending from ω. -->
</witness>
<!-- End of witness ω, archetype of αβ. -->
</listWit>
<!-- End of the initial list. -->

```

## Sources

The bibliography for early editions, modern editions, commentaries, translations, articles, notes, and other materials cited in the edition should be formatted according to the latest edition of [17]. As noted 0, it is recommended that editors use [Zotero](#) to manage the bibliography for LDLT editions, not least because Zotero can export the bibliography in Chicago style.

Items should be categorized and listed in groups for ease of reference. For example, previous editions should be listed separately from commentaries and articles. Depending on the nature of the material, it may be useful to subdivide previous editions into early and modern editions.

In keeping with the goal of human- and machine-readability, individual items in the bibliography should also be encoded in XML. To meet the **minimum requirement** for LDLT editions, individual items in the bibliography should be enclosed with <bibl> and they should have human- and machine-readable abbreviations (sigla), using <abbr> and @xml:id respectively. See the section “0” for more information.

```

<listBibl>
  <head>Previous Editions</head>
  <bibl xml:id="Barth1613">
    <abbr type="siglum">Barth 1613</abbr> = Barthius,
      Casparus. Venatici et Bucolici Poetae Latini: Gratius, Nemesianus,
      Calpurnius. Hanoviae: In Bibliopolio Willieriano, 1613.</bibl>
  <bibl xml:id="Ulit.">
    <abbr type="siglum">Ulit.</abbr> = Ulitius, Ianus. Venatio

```



Novantiqua. Leidae: Ex Officina Elzeveriana, 1645.</bibl>  
</listBibl>

For maximum functionality, it is strongly recommended to encode a greater degree of bibliographical detail, using the following:

- <editor> or <author>
- <title>
- <pubPlace> (place of publication)
- <publisher>
- <date>
- <ptr> (pointer, for the URL of a digital copy, if available)

The following sections demonstrate the recommended encoding for common types of records in a bibliography.

## Editions

To make the most of the functionality supported by the LDLT and to remain true to its data model, previous editions should be classified in one of two categories: early editions based on a single manuscript (witness), and modern critical editions based on more than one external source (source). This will have consequences for how the editions are handled in the apparatus criticus (see the section "0"). The distinction should be preserved in the bibliography with the use of two different kinds of lists: <listWit> for early editions, and <listBibl> for modern editions. In both types of list, the items should be presented in chronological order.

For more information on the terms “witness” and “source” as they are used here, see the section “0” above.

### Early Editions

Since it is often the case that an early edition is a witness to a single manuscript, early editions should be encoded in the bibliography with <witness>. Accordingly, they must be grouped in <listWit>. Since they are also printed books, they also require the use of <bibl> and its related elements.

- <listWit> (list of witnesses) contains bibliographical records for early editions.
- <witness> groups the information about an individual edition. @xml:id provides the machine-readable abbreviation for the edition.
- <abbr> (abbreviation) with @type="siglum" contains the human-readable abbreviation for the record, i.e., how the edition is referred to in the apparatus criticus.
- <bibl> (bibliographic citation) contains the following bibliographical information about the edition:
  - <editor> contains the name of the editor in the form “Last name, First name,” if known. If the name is in Latin, it should not be translated. If the name is not known, <editor> contains the word “Anonymous.”

- <title> contains either the name by which the edition is commonly known (e.g., *editio Romana*, *editio Aldina*) and/or the actual title of the edition.
- <pubPlace> (place of publication) contains the name of the place where the edition was published, as it appears on the title page (e.g., Lipsiae instead of Leipzig). If the place is unknown, the value should be “s.l.” (*sine loco*). If the place is known, but not explicitly printed in the edition, the place name should be enclosed in square brackets.
- <publisher> contains the name of the publisher, as it appears on the title page. If the publisher’s name is unknown, the value should be “s.n.” (*sine nomine*). If the publisher is known, but not explicitly printed in the edition, the publisher’s name should be enclosed in square brackets.
- <date> contains the date in arabic numerals (e.g., 1504, not MDIV or CIOICIV). If the date is unknown, the value should be “s.d.” (*sine die*). If the date is known, but not explicitly printed in the edition, the date should be enclosed in square brackets.
- <ptr> (pointer) has @target with the URL of a digital copy of the edition, if one exists.

```
<listWit xml:id="early-editions">
  <head>Early Editions</head>
  <witness xml:id="r">
    <abbr type="siglum">r</abbr> =
  <bibl>
    <editor>
      <name>Anonymous</name>
    </editor>. <title>editio
      Romana</title>. <pubPlace>[Romae]</pubPlace>:
    <publisher>Schweynheim et Pannartz</publisher>,
    <date>1471</date>
  </bibl>.</witness>
  <witness xml:id="e">
    <abbr type="siglum">e</abbr> =
  <bibl>
    <editor>
      <name>Anonymous</name>. </editor>
    <title>editio
      Veneta</title>. <pubPlace>[Venetiis]</pubPlace>:
    <publisher>Ausonius et Giradinus</publisher>,
    <date>1472</date>
  </bibl>.</witness>
  <witness xml:id="u">
    <abbr type="siglum">u</abbr> =
  <bibl>
    <editor>Anonymous</editor>. <title>editio Ang.
      Ugoleti</title>. <pubPlace>Parmae</pubPlace>: <publisher>Angelus
      Ugoletus</publisher>, <date>1492</date>
  </bibl>.</witness>
  <witness xml:id="c">
    <abbr type="siglum">c</abbr> =
  <bibl>
    <editor>Anonymous</editor>. <title>editio Coloniensis
      (Buccolica canori poetae Titi Calphurnii Siculi undecim Aeglogis
      iucunditer decantata)</title>. <pubPlace>Coloniae</pubPlace>:
    <publisher>[Henricus Quintell]</publisher>,
    <date>1505(?)</date>
```

```

    </bibl>. URL: <ptr target="http://digitale.bibliothek.uni-
halle.de/vd16/content/titleinfo/1000626"/>.</witness>
    <witness xml:id="Nordh.">
      <abbr type="siglum">Nordh.</abbr> =
    <bibl>
      <editor/>. <title>ed. Nordheimensis</title>.
      <pubPlace>[Nordheim]</pubPlace>: <publisher>s.n.</publisher>,
      <date>s.d.</date>
    </bibl>.</witness>
    <witness xml:id="s">
      <abbr type="siglum">s</abbr> = <bibl>
        <title>editio
          Ascensiana</title> = <editor>Badius, Josse
            ("Ascensius")</editor>. <title>Buccolica, cum adnotatione
              Ascensiana</title>. <pubPlace>Parhisiis, in vico
                Maturinorum</pubPlace>: <publisher>a Durando
                  Gerlerio</publisher>, <date>1503</date>
        </bibl>. URL:
    <ptr target="http://gallica.bnf.fr/ark:/12148/bpt6k841539v"/>.</witness>
    <witness xml:id="b">
      <abbr type="siglum">b</abbr> = <bibl>
        <title>editio
          Bononiensis</title> = <editor>Guidalottus Bononiensis,
            Diomedes</editor>. <title>Calpurnii et Nemesiani Poetarum
              Buccolicum Carmen</title>. <pubPlace>Bononiae</pubPlace>:
                <publisher>per Caligulam Bazalerium</publisher>,
                  <date>1504</date>
        </bibl>. URL:
    <ptr target="https://books.google.com/books?id=B1RrV7ciP6gC&pg=PT3#v=onepage&
amp;q&f=false"/>.</witness>
  </listWit>

```

## Modern Editions

The bibliography for modern editions follows the same pattern as that for early editions, except <listBibl> is used instead of <listWit>.

- <listBibl> (citation lists) contains bibliographical records for modern editions.
- <bibl> (bibliographic citation) has @xml:id with the machine-readable abbreviation for the edition. It contains the following bibliographical information about the edition:
  - <abbr> (abbreviation) contains the human-readable abbreviation for the record, i.e., how the edition is referred to in the apparatus criticus.
  - <editor> contains the name of the editor in the form “Last name, First name,” if known. If the name is in Latin, it should not be translated. If the name is not known, <editor> contains the word “Anonymous.”
  - <title> contains either the name by which the edition is commonly known (e.g., editio Romana, editio Aldina) and/or the actual title of the edition.
  - <pubPlace> (place of publication) contains the name of the place where the edition was published, as it appears on the title page (e.g., Lipsiae instead of Leipzig). If the place is unknown, the value should be “s.l.” (*sine loco*). If the place is known, but not explicitly printed in the edition, the place name should be enclosed in square brackets.

- <publisher> contains the name of the publisher, as it appears on the title page. If the publisher's name is unknown, the value should be "s.n." (*sine nomine*). If the publisher is known, but not explicitly printed in the edition, the publisher's name should be enclosed in square brackets.
- <date> contains the date in arabic numerals (e.g., 1504, not MDIV or CIOIOIV). If the date is unknown, the value should be "s.d." (*sine die*). If the date is known, but not explicitly printed in the edition, the date should be enclosed in square brackets.
- <ptr> (pointer) has @target with the URL of a digital copy of the edition, if one exists.

```
<listBibl xml:id="modern-editions">
  <head>Modern Editions</head>
  <bibl xml:id="n">
    <abbr type="siglum">n</abbr> = <editor>Brassicanus,
      Johannes Alexander</editor>. <title>editio Brassicani</title>.
    <pubPlace>Argentorati (Strasbourg)</pubPlace>: <publisher>Iohannis
      Knoblochus</publisher>, <date>1519</date>. URL:
    <ptr target="https://books.google.com/books?id=n8JSAAAcAAJ&pg=PA1#v=onepage&
    amp;q&f=false"/>.</bibl>
    <bibl xml:id="Vienn.">
      <abbr type="siglum">Vienn.</abbr> =
      <editor>Anonymous</editor>. <title>ed. Viennensis</title>.
      <pubPlace>s.l.</pubPlace>, <date>s.d.</date>
    </bibl>
    <bibl xml:id="g">
      <abbr type="siglum">g</abbr> = <editor>Logus,
        Georgius</editor>. <title>editio Augustana</title>.
      <pubPlace>Augustae Vindelicorum</pubPlace>: <publisher>in officina
        Henrici Steyner</publisher>, <date>1534</date>. URL:
      <ptr target="http://daten.digital-sammlungen.de/~db/0003/bsb00038602/images/">
    </bibl>
    <bibl xml:id="Tig.">
      <abbr type="siglum">Tig.</abbr> =
      <editor>Anonymous</editor>. <title>editio Tigurina</title>
      <pubPlace>Tiguri</pubPlace>: <pubPlace>apud Christophorum
        Froschouerum</pubPlace>, <date>1537</date>. URL:
      <ptr target="http://reader.digital-sammlungen.de/resolve/display/bsb11088503.html"/>.</bibl>
    <bibl xml:id="Gryph.">
      <abbr type="siglum">Gryph.</abbr> =
      <editor>Anonymous</editor>. <title>editio Gryph.</title>
      <pubPlace>Lugduni</pubPlace>: <publisher>apud Seb.
        Gyrphium</publisher>, <date>1537</date>. URL:
      <ptr target="https://books.google.com/books?id=JpJXAAAcAAJ&pg=PA1#v=onepage&
      amp;q&f=false"/>.</bibl>
    <bibl xml:id="o">
      <abbr type="siglum">o</abbr> =
      <editor>Anonymous</editor>. <title>ed. Oporiniana</title>
      <pubPlace>Basileae</pubPlace>: <publisher>Johannes
        Oporinus</publisher>, <date>1546</date>.URL:
      <ptr target="https://books.google.com/books?id=cKqCwvkiRiTgC&pg=PP5#v=onepage&
      amp;q&f=false"/>
    </bibl>
    <bibl xml:id="p">
      <abbr type="siglum">p</abbr> = <title>ed.
        Pitheoeana</title> = <editor>Pitheoeus, Petrus</editor>.
```

<title>Epigrammata et poematia vetera</title>.  
 <pubPlace>Parisiis</pubPlace>: <publisher>Dionysius  
 Duvallius</publisher>, <date>1590</date>. URL:  
 <ptr target="https://books.google.com/books?id=F\_E6AAAAcAAJ&pg=PR6#v=onepage&amp;q&f=false"/>  
 </bibl>  
 <bibl xml:id="edAurel">  
 <abbr type="siglum">Aurel.</abbr> =  
 <editor>Anonymous</editor>. <title>Corpus omnium veterum poetarum  
 latinorum (Volumen Secundum)</title>. <pubPlace>Aureliae  
 Allobrogum</pubPlace>: <publisher>Samuel Crispinus</publisher>,  
 <date>1611</date>. URL: <ptr target="https://books.google.com/books?id=Q-EPAAAAQAAJ&pg=PP5#v=onepage&pg&q&f=false"/>  
 </bibl>  
 <bibl xml:id="Barth1613">  
 <abbr type="siglum">Barth 1613</abbr> =  
 <title>ed. Barthii</title> = <editor>Barthius, Casparus</editor>.  
 <title>Venatici et Bucolici Poetae Latini: Gratius, Nemesianus,  
 Calpurnius</title>. <pubPlace>Hanoviae</pubPlace>: <publisher>In  
 Bibliopolio Willieriano</publisher>, <date>1613</date>. URL:  
 <ptr target="https://books.google.com/books?id=SEVXAAAAcAAJ&pg=PP7#v=onepage&amp;q&f=false"/>  
 </bibl>  
 <bibl xml:id="Ulit.">  
 <abbr type="siglum">Ulit.</abbr> = <title>ed.  
 Ulitii</title> = <editor>Ulitius, Ianus</editor>. <title>Venatio  
 Novantiqua</title>. <pubPlace>Leidae</pubPlace>: <publisher>Ex  
 Officina Elzeveriana</publisher>, <date>1645</date>. URL:  
 <ptr target="https://books.google.com/books?id=Yb09AAAAcAAJ&pg=PR4#v=onepage&amp;q&f=false"/>  
 </bibl>  
 <bibl xml:id="h">  
 <abbr type="siglum">h</abbr> = ed. Haverkamp et Brucii  
 = <editor>Anonymous</editor>. <title>Poetae Latini Rei Venaticae  
 Scriptores et Bucolici Antiqui</title>. <pubPlace>Lugduni Batavorum  
 et Hagae Comitum</pubPlace>: apud Johannem Arnoldum Langerak, P.  
 Gosse, et J. Neaulme; Rutg. Christoph. Alberts, J. Vander Kloot,  
 <date>1728</date>. URL:  
 <ptr target="https://books.google.com/books?id=nJVAAAAcAAJ&pg=PP9#v=onepage&amp;q&f=false"/>  
 </bibl>  
 <bibl xml:id="Burm1731">  
 <abbr type="siglum">Burm. 1731</abbr> =  
 <title>editio Burmanni</title> = <editor>Burmannus, Petrus (Pieter  
 Burman)</editor>. <title>Poetae Latini Minores, Tom. I</title>.  
 <pubPlace>Leidae</pubPlace>: <publisher>apud Conradum Wishoff et  
 Danielelem Goedval</publisher>, <date>1731</date>. URL:  
 <ptr target="https://books.google.com/books?id=uKZAAAAcAAJ&pg=PP9#v=onepage&amp;q&f=false"/>  
 </bibl>  
 <bibl xml:id="t">  
 <abbr type="siglum">t</abbr> = <title>ed.  
 Mitaviensis</title> = <editor>Anonymous</editor>. <title>M. Aurelii  
 Olympii Nemesiani Eclogae IV et T. Calpurnii Siculi Eclogae VII ad  
 Nemesianum Carthaginiensem, cum notis selectis Titii, Martelli,  
 Ulitii, et Petri Burmanni integris.</title>  
 <pubPlace>Mitaviae</pubPlace>: <publisher>apud Jacob. Frider.

Hinzium</publisher>, <date>1774</date>. URL:  
<ptr target="https://books.google.com/books?id=eNUPAAAAAYAAJ&pg=PP11#v=onepage&q&f=false"/>.</bibl>  
<bibl xml:id="Wernsd.">  
<abbr type="siglum">Wernsd.</abbr> = <title>ed.  
Wernsdorfii</title> = <editor>Wernsdorf, Iohannes  
Christianus.</editor>  
<title>Poetae Latini Minores, Tomus Primus</title>.  
<pubPlace>Altenburgi</pubPlace>: <pubPlace>ex officina  
Richterica</pubPlace>, <date>1780</date>. URL:  
<ptr target="https://books.google.com/books?id=A8w9AAAAcAAJ&pg=PR1#v=onepage&q&f=false"/>  
</bibl>  
<bibl xml:id="Beck">  
<abbr type="siglum">Beck</abbr> = <editor>Beck,  
Christian Daniel</editor>. <title>T. Calpurnii Siculi Eclogae  
XI</title>. <pubPlace>Lipsiae</pubPlace>: <publisher>in libraria  
Weidmannia</publisher>, <date>1803</date>. URL:  
<ptr target="https://books.google.com/books?id=w6QBAAAAAYAAJ&pg=PR2#v=onepage&q&f=false"/>  
</bibl>  
<bibl xml:id="Glaeser">  
<abbr type="siglum">Glaeser</abbr> =  
<editor>Glaeser, C. E.</editor>  
<title>T. Calpurnii Siculi Eclogae</title>.  
<pubPlace>Gottingae</pubPlace>: <publisher>sumptibus  
Dieterichianis</publisher>, <date>1842</date>. URL:  
<ptr target="https://books.google.com/books?id=4sdEAAAAIAAJ&pg=PP5#v=onepage&q&f=false"/>  
</bibl>  
<bibl xml:id="Baehr.">  
<abbr type="siglum">Baehr.</abbr> = ed. Baehrensii  
= <editor>Baehrens, Aemilius</editor>. <title>Poetae Latini Minores,  
Volumen III</title>. <pubPlace>Lipsiae</pubPlace>: <publisher>in  
aedibus B. G. Teubneri</publisher>, 1881. URL:  
<ptr target="https://books.google.com/books?id=CjUOAAAAAYAAJ&pg=PA1#v=onepage&q&f=false"/>  
</bibl>  
<listBibl xml:id="Schenkl">  
<head>utriusque edition. Schenkl. consensus</head>  
<bibl xml:id="Schenkl1">  
<abbr type="siglum">Schenkl<hi rend="super">1</hi>  
</abbr> = <editor>Schenkl, Henricus</editor>.  
<title>Calpurnii et Nemesiani Bucolica</title>.  
<pubPlace>Lipsiae</pubPlace>: sumptus fecit G. Freytag,  
<date>1885</date>. URL  
<ptr target="https://books.google.com/books?id=kuVGAQAAIAAJ&pg=PR1#v=onepage&q&f=false"/>  
</bibl>  
<bibl xml:id="Schenkl2">  
<abbr type="siglum">Schenkl<hi rend="super">2</hi>  
</abbr> = <editor>Schenkl, Henricus</editor>.  
<title>T. Calpurni Siculi Bucolica</title> in  
<ref target="Postgate1905">Postgate 1905</ref>: 197–205. URL:  
<ptr target="https://books.google.com/books?id=\_DMOAAAAAYAAJ&pg=RA1-PA194#v=onepage&q&f=false"/>  
</bibl>

```

</listBibl>
<bibl xml:id="Keene">
  <abbr type="siglum">Keene</abbr> = <editor>Keene,
    Charles Haines</editor>. <title>The Eclogues of Calpurnius Siculus
    and M. Aurelius Olympius Nemesianus</title>.
  <pubPlace>London</pubPlace>: <publisher>Bell</publisher>, 1887.
  URL: <ptr target="https://archive.org/details/ecloguesofcalpur00calpuoft"/>
</bibl>
<bibl xml:id="Giarratano">
  <abbr type="siglum">Giarratano</abbr> =
  <editor>Giarratano, Caesar</editor>. <title>Calpurnii et Nemesiani
    Bucolica</title>. <pubPlace>Neapoli</pubPlace>: apud Detken et
    Rocholl, <date>1910</date>.</bibl>
</listBibl>

```

If it is necessary to group two or more editions together (e.g., first and second editions) and refer to them as a unit with one siglum, another <listBibl> should enclose the group:

```

<listBibl>
  <head>Modern Editions</head>
  <listBibl xml:id="i">
    <head>
      <abbr type="siglum">i</abbr> = utriusque ed. Florent.
        consensus</head>
    <bibl xml:id="i1">
      <abbr type="siglum">i<hi rend="super">1</hi>
      </abbr>
      = <editor>Anonymous</editor>. <title>editio Florentina
        prior</title>. <pubPlace>Florentiae</pubPlace>:
        <publisher>Philippi de Giunta</publisher>, <date>1504</date>.
        URL:
        <ptr target="https://books.google.com/books?id=LVJmAAAAcAAJ&pg=PP7#v=onepage&
        amp;q&f=false"/>
      </bibl>
    <bibl xml:id="i2">
      <abbr type="siglum">i<hi rend="super">2</hi>
      </abbr>
      = <editor>Anonymous</editor>. <title>editio Florentina
        posterior</title> = Titius, Robertus. <title>M. Aurelii Olympii
        Nemesiani Carthaginiensis, T. Calphurnii Siculi
        Bucolica</title>. <pubPlace>Florentiae</pubPlace>: <publisher>apud
        Philippum Iunctam</publisher>, <date>1590</date>. URL:
        <ptr target="https://books.google.com/books?id=9SEvnoZgKe4C&pg=PR1#v=onepage&
        amp;q&f=false"/>
      </bibl>
    </listBibl>
  <listBibl xml:id="l">
    <head>
      <abbr type="siglum">l</abbr> = utriusque ed. Ald.
        consensus</head>
    <bibl xml:id="l1">
      <abbr type="siglum">l<hi rend="super">1</hi>
      </abbr>
      = <editor>Anonymous</editor>. <title>editio Aldina prior</title>.
      <pubPlace>Venetiis</pubPlace>: <publisher>in aedibus Aldi, et
        Andreae Soceri</publisher>

```

```

    <date>1518</date>. URL:
<ptr target="http://gateway.proquest.com/openurl?url_ver=Z39.88-
2004&res_dat=xri:eurobo:&rft_dat=xri:eurobo:rec:ita-bnc-ald-00000030-001"/>
</bibl>
<bibl xml:id="l2">
  <abbr type="siglum">l<hi rend="super">2</hi>
  </abbr>
  = <editor>Anonymous</editor>. <title>editio Aldina
    posterior</title>. <pubPlace>Venetiis</pubPlace>: <publisher>in
    aedibus heredum Aldi Manutii, et Andreae Soceri</publisher>,
  <date>1519</date>. URL:
<ptr target="https://books.google.com/books?id=EYg6AAAAcAAJ&pg=PA1#v=onepage&
  amp;q&f=false"/>
</bibl>
</listBibl>
</listBibl>

```

## Other Sources

Bibliographical information for items other than editions should be gathered in a general bibliography (using <listBibl>), formatted according to the most recent edition of [17], and presented in alphabetical order.

The following sections provide instructions for encoding different types of resources commonly found in the bibliographies of critical editions.

## Books

The following information about books, commentaries, monographs, collections of essays, etc., should be encoded:

- <bibl> (bibliographic citation) has @xml:id with the machine-readable abbreviation for the book. It contains the following bibliographical information about the book:
  - <abbr> (abbreviation) contains the human-readable abbreviation for the record, i.e., how the book is referred to in the apparatus criticus.
  - <author> contains the name of the author in the form “Last name, First name,” if known. If the name is in Latin, it should not be translated. If the name is not known, <author> should contain the word “Anonymous.”
  - <title> contains either the name by which the edition is commonly known (e.g., *editio Romana*, *editio Aldina*) and/or the actual title of the edition.
  - <pubPlace> (place of publication) contains the name of the place where the edition was published, as it appears on the title page (e.g., Lipsiae instead of Leipzig). If the place is unknown, the value should be “s.l.” (*sine loco*). If the place is known, but not explicitly printed in the edition, the place name should be enclosed in square brackets.
  - <publisher> contains the name of the publisher, as it appears on the title page. If the publisher’s name is unknown, the value should be “s.n.” (*sine nomine*). If the publisher is known, but not explicitly printed in the edition, the publisher’s name should be enclosed in square brackets.



- `<date>` contains the date in arabic numerals (e.g., 1504, not MDIV or CIOICIV). If the date is unknown, the value should be “s.d.” (*sine die*). If the date is known, but not explicitly printed in the edition, the date should be enclosed in square brackets.
- `<ptr>` (pointer) has `@target` with the URL of a digital copy of the edition, if one exists.

```
<bibl xml:id="Haupt1854">
  <abbr type="siglum">Haupt 1854</abbr>.
  <author>Haupt, Moriz</author>. <title>De Carminibus Bucolicis
    Calpurnii et Nemesiani</title>. <pubPlace>Berolini</pubPlace>:
  <publisher>Typis Academicis</publisher>, <date>1854</date>. URL:
  <ptr target="https://books.google.com/books?id=8SwUAAAAQAAJ&pg=PP5#v=onepage&
    amp;q&f=false"/>.
</bibl>
```

This will be rendered as follows: **Haupt 1854** = Haupt, Moriz. *De Carminibus Bucolicis Calpurnii et Nemesiani*. Berolini: Typis Academics, 1854. URL:

<https://books.google.com/books?id=8SwUAAAAQAAJ&pg=PP5#v=onepage&q&f=false>.

## Articles

As with other items in the bibliography, articles in journals and periodicals should be formatted according to the latest edition of [17]. The minimum required encoding for articles is as follows:

```
<bibl xml:id="Lucas">
  <abbr type="siglum">Lucas</abbr> = Lucas, Hans. "Zu
  Calpurnius." Wiener Studien 22 (1901): 139–40. URL:
  https://books.google.com/books?id=gbmMVZEcoGMC&pg=PA139#v=onepage&q&f=false.
</bibl>
```

It is strongly recommended to encode more details:

- `<bibl>` (bibliographic citation) has `@xml:id` with the machine-readable abbreviation for the book. It contains the following bibliographical information about the book:
  - `<abbr>` (abbreviation) contains the human-readable abbreviation for the record, i.e., how the article is referred to in the apparatus criticus.
  - `<author>` contains the name of the author in the form “Last name, First name.”
  - `<title>` with `@level="a"` contains the title of the article. Quotation marks for the title should be outside of `<title>` (e.g., “`<title>Article Title</title>`”, not `<title>Article Title</title>`).
  - `<title>` with `@level="j"` contains the title of the journal or periodical.
  - `<biblScope>` (scope of bibliographic reference) is used with `@unit` to indicate details of publication:
    - \* `@unit="volume"` contains the volume number of the journal in which the article has been published.
    - \* `@unit="page"` contains the inclusive pages where the article may be found.
  - `<date>` contains the year of publication.

— `<ptr>` with `@target` provide the URL of a digital copy of the article, if available.

```
<bibl xml:id="Lucas">
  <abbr type="siglum">Lucas</abbr> = <author>Lucas,
    Hans</author>. "<title level="a">Zu Calpurnius</title>."
<title level="j">Wiener Studien</title>
  <biblScope unit="volume">22</biblScope> (<date>1901</date>):
  <biblScope unit="page">139–40</biblScope>. URL:
  <ptr target="https://books.google.com/books?id=gbmMVZEcoGMC&pg=PA139#v=onepage&q&f=false"/>.
</bibl>
```

## Reviews

A review of an edition or other work should be handled in the same way as a journal article, with the exception that the title should begin with the words “Review of” followed by the title of the work being reviewed.

```
<bibl xml:id="Jacoby">
  <abbr type="siglum">Jacoby</abbr> = <author>Jacoby,
    Karl</author>. <title level="a">Review of ‘Calpurnii et Nemesiani
    Bucolica recensuit Henricus Schenkl, Lipsiae, G. Freytag, Pragae,
    F. Tempsky, 1885’</title>. <title level="j">Wochenschrift für
    klassische Philologie</title>
  <biblScope unit="volume">3</biblScope> (<date>1886</date>):
  <biblScope unit="page">1287–94</biblScope>. URL:
  <ptr target="https://books.google.de/books?id=q5blAAAAMAAJ&hl=de&pg=RA7-PA41#v=onepage&q&f=false"/>.
</bibl>
```

## List of Scholars

Occasionally it is necessary to refer to a scholar whose unpublished work has been quoted or paraphrased elsewhere. For example, editors often cite Heinsius’ unpublished conjectures, found in books in his own library. But “Heins.” does not help a reader find more information, which is why the bibliography of an LDLT edition must include a list of scholars mentioned by name in the edition, with information about where to find more information, if it is available.

- `<listPerson>` with `@xml:id="bibliography-scholars"` groups the information identifying the scholars.
- `<person>` groups information about an individual. It has a machine-readable siglum in `@xml:id` as described in the section “0.”
- `<persName>` (personal name) groups the information about an individual’s name. For identification purposes, it is helpful, but not required, to use `@ref` with the [Virtual International Authority File \(VIAF\)](#) permalink for that person. The following information is contained by `<persName>`
  - `<abbr>` with `@type="siglum"` contains the name or abbreviated name used to refer to the person in the edition (e.g., Heins.), as described in the section “0.”

- <forename> contains the scholar’s first and middle names (middle name optional), or initials, of the scholar. A separate <forename> should be used for the first and middle names.
- <surname> contains the scholar’s last name.
- <addname> (additional name) contains an additional or alternate name by which a scholar is known. If a scholar is commonly known by a Latinized form of his or her name, that name should be inserted in <addname>.
- <note> contains further information about the nature of the citation (e.g., “personal correspondence with editor”), with <ref> (reference) containing a reference to the entry in the bibliography that has citations of the scholar. @target with the xml:id of that entry will point the reader to that entry.

```
<person xml:id="Heins.">
  <persName ref="http://viaf.org/viaf/24651364">
    <abbr type="siglum">Heins.</abbr> = <forename>Nicolaus</forename>
    <surname>Heinsius</surname>
  </persName>
  <note>Cited in <ref target="#Burman1731">Burman 1731</ref>.</note>
</person>
```

References such as this will be rendered in digital media and in print as follows:

Scholars Cited in this Edition

- **Heins.** = Nicolaus Heinsius. Cited in **Error! Reference source not found..**

## Edition Text

The edition text corresponds to the text printed “above the line” of the critical apparatus in a traditional edition. It is composed of lemmata, that is, text judged by the editor to be authentic, accurate, and/or authoritative.

There may be more than one authoritative version of a text, depending on the text and/or the approach adopted by the editor. Authors sometimes edit and revise their work over time. Scribes often record the version of the text that makes sense in their context. Scholars and other readers offer conjectures for problematic passages. But an editor must make decisions about the text an edition presents to readers. Those decisions are part of the editor’s argument about the text, and they are on display in the official edition text in its initial state.

“Initial state” is an important phrase. Since the digital version of an LDLT allows readers to swap readings from the critical apparatus into the main text, it is possible to encounter many versions of the text in one viewing of it, but the official edition text in its default initial state (i.e., what is displayed when the edition is opened for the first time, with default settings) is the starting point for those interactions.

This section establishes guidelines for encoding the information typically found in the edition text.

## Prose

The aim of this section is to provide guidance for marking up the structure of prose texts, using the generic model of book, chapter, and paragraph for the main components of a work.

Individual texts may have different structures, so editors should consult with LDLT staff about the best way to encode the structure.

In a traditional critical edition, numbers are printed in the margin and/or in the text itself. It is not always clear whether the numbers are meant to mark syntactic units, reflect the numbering of pages or sections in a canonical edition, or signify something else entirely. An advantage to semantically encoding the reference scheme is that it makes the scheme's significance explicit. For that reason, a human- and machine-readable reference scheme is essential for an LDLT edition. If the structure is not encoded according to these guidelines, search and browse functionality will not be supported.

### Prose: Structure of the Work

For an LDLT edition of a prose text, the top-level <div> has the @type "edition"; this division contains the entire text of the edition. The next <div> will normally have the @type "textpart" with @subtype "book" and @n to indicate the number of the book.

```
<div type="edition">
  <div n="1" subtype="book" type="textpart">
    <!-- Text goes here. -->
  </div>
</div>
```

If a different division scheme is required, editors should consult LDLT staff.

### Prose: Structure of Paragraphs

The individual sections of a prose work should be encoded as follows:

- <milestone> may be used to mark the sections of a canonical edition, if the current edition uses a different scheme.
- <p> (paragraph) contains the text of a chapter or other basic section in a prose work. @n must be used to reflect the numbering scheme of the edition. Note that the TEI Guidelines define the paragraph as 'the fundamental organizational unit for all prose texts'. The unique characteristics of some texts may require a different approach. In those cases, editors should work with LDLT staff to identify the best way to encode the text in question.
- <seg> (segment) contains a segment of a paragraph (e.g., a sentence or a more general "section"). If <seg> is used, @n must be used to reflect the numbering scheme of the edition.

```
<div type="edition">
  <div n="1" subtype="book" type="textpart">
    <p n="1">
```

```

<seg n="1">Gallia est omnis divisa in partes tres, quarum unam
    incolunt Belgae, aliam Aquitani, tertiam qui ipsorum lingua Celtae,
    nostra Galli appellantur.</seg>
<seg n="2">Hi omnes lingua, institutis, legibus inter se differunt.
    Gallos ab Aquitanis Garumna flumen, a Belgis Matrona et Sequana
    dividit.</seg>
<seg n="3">Horum omnium fortissimi sunt Belgae, propterea quod a cultu
    atque humanitate provinciae longissime absunt, minimeque ad eos
    mercatores saepe commeant atque ea quae ad effeminandos animos
    pertinent important, proximique sunt Germanis, qui trans Rhenum
    incolunt, quibuscum continenter bellum gerunt.</seg>
<seg n="4">Qua de causa Helvetii quoque reliquos Gallos virtute
    praecedunt, quod fere cotidianis proeliis cum Germanis contendunt,
    cum aut suis finibus eos prohibent aut ipsi in eorum finibus bellum
    gerunt.</seg>
<seg n="5">Eorum una, pars, quam Gallos obtinere dictum est, initium
    capit a flumine Rhodano, continetur Garumna flumine, Oceano,
    finibus Belgarum, attingit etiam ab Sequanis et Helvetiis flumen
    Rhenum, vergit ad septentriones.</seg>
<seg n="6">Belgae ab extremis Galliae finibus oriuntur, pertinent ad
    inferiorem partem fluminis Rheni, spectant in septentrionem et
    orientem solem.</seg>
<seg n="7">Aquitania a Garumna flumine ad Pyrenaeos montes et eam
    partem Oceani quae est ad Hispaniam pertinet; spectat inter occasum
    solis et septentriones.</seg>
</p>
</div>
</div>

```

That text will be rendered as follows:

Liber I

<sup>1</sup>Gallia est omnis divisa in partes tres, quarum unam incolunt Belgae, aliam Aquitani, tertiam qui ipsorum lingua Celtae, nostra Galli appellantur. <sup>2</sup>Hi omnes lingua, institutis, legibus inter se differunt. Gallos ab Aquitanis Garumna flumen, a Belgis Matrona et Sequana dividit. <sup>3</sup>Horum omnium fortissimi sunt Belgae, propterea quod a cultu atque humanitate provinciae longissime absunt, minimeque ad eos mercatores saepe commeant atque ea quae ad effeminandos animos pertinent important, proximique sunt Germanis, qui trans Rhenum incolunt, quibuscum continenter bellum gerunt. <sup>4</sup>Qua de causa Helvetii quoque reliquos Gallos virtute praecedunt, quod fere cotidianis proeliis cum Germanis contendunt, cum aut suis finibus eos prohibent aut ipsi in eorum finibus bellum gerunt. <sup>5</sup>Eorum una, pars, quam Gallos obtinere dictum est, initium capit a flumine Rhodano, continetur Garumna flumine, Oceano, finibus Belgarum, attingit etiam ab Sequanis et Helvetiis flumen Rhenum, vergit ad septentriones. <sup>6</sup>Belgae ab extremis Galliae finibus oriuntur, pertinent ad inferiorem partem fluminis Rheni, spectant in septentrionem et orientem solem. <sup>7</sup>Aquitania a Garumna flumine ad Pyrenaeos montes et eam partem Oceani quae est ad Hispaniam pertinet; spectat inter occasum solis et septentriones.

## Verse

The [verse module](#) of the TEI Guidelines offers many possibilities for marking up various aspects of prosody, but the LDLT is primarily concerned with the [core tags](#) for encoding the structure of

verse texts. This does not mean that editors and others should avoid using the verse module. It means only that the LDLT does not provide functionality for any markup not described here.

## Verse: Structure of the Collection

For an LDLT edition of a verse text, the top-level <div> has the @type “edition”; this division contains the entire text of the edition. The next <div> will normally have the @type “textpart” with @subtype “book” and @n to indicate the number of the book. <div> with @type=“poem” contains the parts of a single poem (e.g., stanzas or lines). If there is more than one poem in a book, @n should be used to number the poems. @met with the name of the meter may also be used, if the editor wishes to identify the meter. If a different division scheme is required, editors should consult LDLT staff.

```
<div type="edition">
  <div subtype="book" type="textpart">
    <div met="First Asclepiadean" n="1"
      type="poem">
<!-- Text of poem goes here -->
    </div>
  </div>
</div>
```

## Verse: Structure of a Poem

- <lg> (line group) groups one or more verse lines that form a stanza or a couplet; @type may be used to identify the grouping (e.g., “stanza” or “couplet”).
- <l> (line) contains the text of a single line of verse, with @n and the number of the line.

```
<div n="2" type="book">
  <div met="Alcaic Strophe" n="1" type="poem">
    <lg type="stanza">
      <l n="1">Motum ex Metello consule civicum</l>
      <l n="2">bellique causas et vitia et modos</l>
      <l n="3">ludumque Fortunae gravisque</l>
      <l n="4">principum amicitias et arma</l>
    </lg>
  </div>
</div>
```

## Text in Languages Other than Latin

If text in languages other than Latin is encoded, language becomes available as a criterion for searching and filtering.

- <foreign> contains text in any language other than Latin.
- @xml:lang identifies the language by [ISO 639-2 code](#).

For example, authors of Latin texts often use Greek words and phrases, as Macrobius does at Saturnalia 1.17.64: ‘Ἀπόλλωνα Διδυμαῖον vocant, quod geminam speciem sui niminis praefert ipse inluminando formandoque lunam’. That should be encoded as follows:

```
<p>
  <foreign xml:lang="grc">Ἀπόλλωνα Διδυμαῖον</foreign> vocant, quod geminam
    speciem sui numinis praefert ipse inluminando formandoque lunam.
</p>
```

## Speech

This section discusses how to encode the following kinds of speech:

- direct speech
- dialogue in a play or other setting

### Direct Speech

Quotation of direct speech may be handled in two ways: with punctuation alone or with semantic markup.

If an editor wishes to use standard punctuation to represent direct speech, the current edition of [17] should be the guide.

The following rules apply to the semantic markup of direct speech:

`<said>` (speech) contains text spoken by real people or fictional characters.

`@who` identifies the speaker (optional). Values for `@who` should be recorded elsewhere (e.g., preface, appendix) in a `<list>` with `@type="speakers"`. They can also be incorporated into `<listPerson>` as described below in the section “0.”

For example, Julius Caesar’s famous words before crossing the Rubicon, as reported by Suetonius, should be encoded as follows:

```
<p>tunc Caesar, <said who="#Caesar">eatur,</said> inquit,
<said who="#Caesar">quo deorum ostenta et inimicorum iniquitas uocat: iacta alea
  esto.</said>
</p>
```

`<said>` may be nested inside `<said>` to indicate quotation within a quotation.

## Dialogue

In texts with interlocutors, the label for a speaker is a “paratext,” or aid to the reader; it is not, strictly speaking, part of the text itself. For that reason, these guidelines treat labels for speakers as metadata associated with the point in the text where a character begins to speak. For example, the first line of Vergil’s *Eclogues* is spoken by the character Corydon, but “Corydon” or

"C" is not part of the text of the first line. Otherwise, the line would not scan properly as dactylic hexameter.

Texts that feature interlocutors (e.g., drama, dialogue) should use one of the following methods to indicate a change in speaker.

## Labels

Labels are the simplest way of indicating a change of speakers, since they do not add a new layer of hierarchy to the markup.

`<label>` with `@type="speaker"` may be used as a simple way of indicating a change of speaker in verse and prose texts.

```
<p>
<label type="speaker">Laelius</label>Atqui, Cato, gratissimum nobis, ut
etiam pro Scipione pollicear, feceris, si, quoniam speramus, volumus
quidem certe, senes fieri, multo ante a te didicerimus quibus facillime
rationibus ingravescentem aetatem ferre possimus.
</p>
<p>
<label type="speaker">Cato</label>Faciam vero, Laeli, praesertim si
utrique vestrum, ut dicis, gratum futurum est.
</p>

<l n="1">
  <label type="speaker">C.</label>Nondum Solis equos declinis mitigat
  aestas,
</l>
<l n="2">quamvis et madidis incumbant prela racemis</l>
<l n="3">et spument rauco ferventia musta susurro.</l>
<l n="4">cernis ut ecce pater quas tradidit, Ornyte, vaccae</l>
<l n="5">molle sub hirsuta latus explicuere genista?</l>
<l n="6">nos quoque vicinis cur non succedimus umbris?</l>
<l n="7">torrida cur solo defendimus ora galero?</l>
```

Since `<label>` is treated as metadata and thus ignored as part of the actual text, it will be omitted from searches of the text itself.

Because `<label>` is less hierarchical than `<sp>` (below), it is a good choice if there is dispute in the sources about the attribution of lines to speakers. If used with `@exclude`, it can enable the swapping of variants, to allow readers to see the text with alternate attributions.

```
<l n="1">
  <label type="speaker">
    <app>
      <lem exclude="#rdg1.04-label-C"
        source="#Ulit. #Wernsd. #Glaeser" wit="#G #P #A #φ"
        xml:id="lem1.01-label-C">C.</lem>
      <rdg source="#p" wit="#N #π #χ"
        xml:id="rdg1.01-label-omit"/>
      <rdg wit="#ε #β #γ #μ #ρ"
```



```

    xml:id="rdg1.01-label-0">0.</rdg>
  </app>
</label>Nondum Solis equos declinis mitigat aestas,
</l>
<l n="2">quamvis et madidis incumbant prela racemis</l>
<l n="3">et spument rauco ferventia musta susurro.</l>
<l n="4">
  <app>
    <lem/>
    <rdg exclude="#lem1.01-label-C" wit="#V"
      xml:id="rdg1.04-label-C">
        <label type="speaker">C.</label>
      </rdg>
    </app>cernis ut ecce pater quas tradidit, Ornyte, vaccae
  </l>
<l n="5">molle sub hirsuta latus explicuere genista?</l>
<l n="6">nos quoque vicinis cur non succedimus umbris?</l>
<l n="7">torrida cur solo defendimus ora galero?</l>

```

In this example, the first line is attributed to Corydon, but some manuscripts and editions omit the label, and others attribute the lines to Ornytus. One family of manuscripts, **V**, attributes the fourth line to Corydon. *@exclude* has been used here to indicate that whenever the `<lem>` in line 1.1 is displayed, the variant reading in line 1.4 will not be displayed, since that would be a contradiction. Since the variant in line 1.4 does not contradict the variants in line 1.1, there is no need to use *@exclude* in those cases.

Note also the placement of `<label>` in the example above: in the first line, `<label>` is outside of `<app>` because the editor of the text is asserting that a label belongs there, but he is also indicating that there is disagreement in the sources about the contents of the label; in the fourth line, the editor asserts that a label does not belong on that line, but he also indicates that a variant reading inserts a label there.

## Semantic Markup of Speakers

If it is desirable to mark the beginning and ending points of a character's speech, `<sp>` and `<speaker>` may be used.

- `<sp>` (speech) groups elements related to a person or character's speech.
- *@who* is used with `<sp>` to identify the speaker.
- `<speaker>` contains a human-readable label identifying the person or character speaking the text.

These features can be used in verse and prose texts:

```

<sp who="Corydon">
  <speaker>C.</speaker>
  <l n="1">Nondum Solis equos declinis mitigat aestas,</l>
  <l n="2">quamvis et madidis incumbant prela racemis</l>
  <l n="3">et spument rauco ferventia musta susurro.</l>
  <l n="4">cernis ut ecce pater quas tradidit, Ornyte, vaccae</l>
  <l n="5">molle sub hirsuta latus explicuere genista?</l>

```

```

<l n="6">nos quoque vicinis cur non succedimus umbris?</l>
<l n="7">torrida cur solo defendimus ora galero?</l>
</sp>

<sp who="Laelius">
  <speaker>Laelius</speaker>
  <p>Atqui, Cato, gratissimum nobis, ut etiam pro Scipione pollicear,
    feceris, si, quoniam speramus, volumus quidem certe, senes fieri,
    multo ante a te didicerimus quibus facillime rationibus ingravescentem
    aetatem ferre possimus.</p>
</sp>
<sp who="Cato">
  <speaker>Cato</speaker>
  <p>Faciam vero, Laeli, praesertim si utrique vestrum, ut dicis, gratum
    futurum est.</p>
</sp>

```

The hierarchy involved in this method makes it impossible to enable the swapping of variant attributions. At most, <app> can be used to indicate where variant attributions are found.

```

<sp who="Corydon">
  <speaker>
    <app>
      <lem source="#Ulit. #Wernsd. #Glaeser"
        wit="#G #P #A #φ">C.</lem>
      <rdg wit="#N #π #χ"/>
      <rdg wit="#ε #β #γ #μ #ρ">0.</rdg>
    </app>
  </speaker>
  <l n="1">Nondum Solis equos declinis mitigat aestas,</l>
  <l n="2">quamvis et madidis incumbant prela racemis</l>
  <l n="3">et spument rauco ferventia musta susurro.</l>
  <l n="4">
    <app>
      <lem/>
      <rdg exclude="#lem1.01-label-C" wit="#V"
        xml:id="rdg1.04-label-C">
        <label type="speaker">C.</label>
      </rdg>
    </app>cernis ut ecce pater quas tradidit, Ornyte, vaccae</l>
  <l n="5">molle sub hirsuta latus explicuere genista?</l>
  <l n="6">nos quoque vicinis cur non succedimus umbris?</l>
  <l n="7">torrida cur solo defendimus ora galero?</l>
</sp>

```

In this example, lines 1–7 are attributed to Corydon. An entry in the critical apparatus for line 1 will indicated that some manuscripts omit the label, but others attribute the lines to Ornytus. The critical apparatus for line 4 will show that the manuscripts in the family known as **V** indicate a change in speaker to Corydon.

## Quotation of Literature

Quotations of literature should be encoded according to the guidelines set forth in the section “0.”

## People

It can be useful to encode names of people mentioned in the text of an edition, whether to facilitate the creation of an index or to support digital search functionality. It is up to the editor to decide which names, if any, should be encoded. If names are to be encoded, the following guidelines should be observed.

- `<listPerson>` (list of persons) contains a list of names of people mentioned in the text. It is placed in the `<back>` section of the edition.
- `<person>` is an item in `<listPerson>` in the `<back>` section of the edition. Each `<person>` contains the nominative form of the name of an individual person (or deity, monster, etc.) mentioned in the text. It must also have `@xml:id` with a machine-readable version of the name to serve as a reference for instances of the name in the text.
- `<persName>` contains the name of each person as it appears in the edition text, regardless of case.
- `<org>` (organization) is an item in `<listPerson>` in `<back>` section of the edition. Each `<org>` contains the nominative form of the name of a group of people such as a tribe, a nation, a company, etc., mentioned in the text. It must also have `@xml:id` with a machine-readable version of the name to serve as a reference for instances of the name in the text.
- `<orgName>` (organization name) contains the name of each group of people as it appears in the edition text, regardless of case. It also has `@ref` and the canonical Uniform Resource Identifier (URI) for the people at [Pleiades](#).
- `<note>` contains further identifying information about the person (e.g., dates, the ID number in a reference work or prosopography), if the name is not enough to make the distinction.

Since inflected forms of names may appear in the text, it is vital to have a reference list of names in the nominative form. While working on a text, editors should establish a working list of names, in a separate XML document, using `<listPerson>`, `<person>` and `<persName>` or `<org>` and `<orgName>`:

```
<listPerson>
  <person xml:id="Absyrtus">
    <persName>Absyrtus</persName>
    <note>Medeae frater</note>
  </person>
  <person xml:id="Accius">
    <persName>Accius</persName>
    <note>Poeta</note>
  </person>
  <person xml:id="Actaeon">
    <persName>Actaeon</persName>
  </person>
  <org xml:id="Aedui">
    <orgName>Aedui</orgName>
  </org>
</listPerson>
```

Where names of people in the reference list appear in the edition text, they should be encoded with `<persName>` or `<orgName>` and `@ref` pointing to the `@xml:id` of the person in the `<listPerson>`.

```
<l n="6">constat ab <persName ref="#Absyrtus">Absyrti</persName> caede fuisse  
loco.</l>
```

It is also possible to encode indirect references to people:

```
<l n="9">conscia percussit meritorum pectora  
<persName ref="#Medea">Colchis</persName>  
</l>
```

If there are variant readings of a name, `<persName>` should enclose the `<app>` with the lemma and variant reading(s):

```
<persName ref="#Faunus">  
  <app>  
    <lem>Fauni</lem>  
    <rdg wit="#P">fanni</rdg>  
  </app>  
</persName>
```

This will cause the lemma and the variant(s) to be identified as names.

But if it is clear that the nature of the variation is such that the lemma is a proper name, but the variant is a common noun (or vice versa), `<persName>` should enclose only the proper noun inside of `<lem>` or `<rdg>`.

```
<app>  
  <lem>  
    <persName ref="#Meliboeus">Meliboeus</persName>  
  </lem>  
  <rdg wit="#χ #φ">  
    <persName ref="#Meliboeus">melibaeus</persName>  
  </rdg>  
  <rdg wit="#μ">me libens</rdg>  
</app>
```

## Places

Names of places can be encoded in LDLT editions to facilitate creation of an index or to assist readers in identifying the places mentioned in the text. If it is desirable to encode this information, the following guidelines should be followed.

- `<listPlace>` (list of places) contains a list of names of places mentioned in the text. It is placed in the `<back>` section of the edition.
- `<place>` is an item in `<listPlace>` in the `<back>` section of the edition. It must `@xml:id` with a machine-readable version of the name to serve as a reference for instances

of the name in the text. It may also have *@corresp* with the canonical Uniform Resource Identifier (URI) for it at [Pleiades](http://pleiades.stoa.org) or some other standard source of URIs for place names.

- `<placeName>` contains the nominative form of the name of a place.

Since inflected forms of place names may appear in the text, it can be helpful to provide a reference list of names in the nominative form. While working on a text, editors should establish a working list of names, in a separate XML document, using `<listPlace>`, `<place>` and `<placeName>`.

```
<listPlace>
  <place corresp="http://pleiades.stoa.org/places/993"
    xml:id="Gallia">
    <placeName>Gallia</placeName>
  </place>
  <place corresp="http://pleiades.stoa.org/places/138369"
    xml:id="Garumna">
    <placeName>Garumna</placeName>
  </place>
  <place corresp="https://pleiades.stoa.org/places/109147"
    xml:id="Matrona">
    <placeName>Matrona</placeName>
  </place>
  <place corresp="https://pleiades.stoa.org/places/109341"
    xml:id="Sequana">
    <placeName>Sequana</placeName>
  </place>
</listPlace>
```

The final list can be incorporated into the `<back>` of the edition at a later stage.

The following example from Caesar's *de bello Gallico* demonstrates how to encode place names when a `<listPlace>` is maintained in the `<back>` of the edition:

```
<p>
  <placeName ref="#Gallia">Gallia</placeName> est omnis divisa in partes tres,
  quarum unam incolunt Belgae, aliam Aquitani, tertiam qui ipsorum lingua Celtae,
  nostra Galli appellantur. Hi omnes lingua, institutis, legibus inter se
  differunt. Gallos ab Aquitanis <placeName ref="#Garumna">Garumna</placeName>
  flumen, a Belgis <placeName ref="#Matrona">Matrona</placeName> et
  <placeName ref="#Sequana">Sequana</placeName> dividit.
</p>
```

It is also possible to forgo `<listPlace>` and just encode place names as they occur. This may be desirable in texts with only a few references to place names. In this case, it is recommended to include *@ref* with each `<placeName>`, with a URI pointing to some reference (e.g., *Pleiades*) for the place name:

```
<p>
  <placeName ref="http://pleiades.stoa.org/places/993">Gallia</placeName> est
  omnis divisa in partes tres, quarum unam incolunt Belgae, aliam Aquitani,
  tertiam qui ipsorum lingua Celtae, nostra Galli appellantur. Hi omnes lingua,
  institutis, legibus inter se differunt. Gallos ab Aquitanis
```

```
<placeName ref="http://pleiades.stoa.org/places/138369">Garumna</placeName>  
flumen, a  
Belgis  
<placeName ref="https://pleiades.stoa.org/places/109147">Matrona</placeName> et  
<placeName ref="https://pleiades.stoa.org/places/109341">Sequana</placeName>  
dividit.  
</p>
```

## Symbols Commonly Used in the Text of a Critical Edition

Over time, certain typographical conventions have become standard for representing emendations, lacunae, omissions, gaps, editorial deletions, and other information in the edition text. The present guidelines observe the standards as described by [18] (80–81), but they call for semantically encoding them instead of simply inserting the various punctuation marks and other symbols that represent complex information. The encoding will produce the standard symbols, and the information they represent will be explicit and in a form readable by humans and machines. That means that it will also be available for processing, querying, and analyzing with digital tools.

Since most of the standard symbols usually have corresponding annotations in the critical apparatus, the encoding guidelines for many of them can be found in subsections of the guidelines for encoding entries in the critical apparatus. The following list identifies the symbols and points to the guidelines for encoding them:

- ( ) = 0.
- ȁȂȃȄ = 0.
- < > = 0.
- \*\*\* = 0
- < \*\*\* > = 0.
- [ ... ] = 0.
- [---] = 0.
- ȅ Ȇ = 0.
- { } = 0.
- † † = 0.

## Expansion of Abbreviation

( ) = An editor expands an abbreviation as an aid to reading or to remove ambiguity. Encoded according to the following guidelines, a digital edition will display the abbreviated forms by default, but a user will be able to toggle between the abbreviated and expanded forms.

The preface should indicate whether or not abbreviations are expanded.

- <expan> (expansion) contains the full expansion of an abbreviation.
- <abbr> (abbreviation) contains the abbreviated part, i.e. the letters actually on the page.

- **<ex>** (editorial expansion) contains a sequence of letters added by an editor or transcriber when expanding an abbreviation.

Example: M(arcus) Cicero S(alutem) D(ixit) L(ucio) Luceio Q(uinti) F(ilio)

```
<p>
  <expan>
    <abbr>M</abbr>
    <ex>arcus</ex>
  </expan> Cicero
  <expan>
    <abbr>S</abbr>
    <ex>alutem</ex>
    <abbr>D</abbr>
    <ex>ixit</ex>
  </expan>
  <expan>
    <abbr>L</abbr>
    <ex>ucio</ex>
  </expan> Luceio
  <expan>
    <abbr>Q</abbr>
    <ex>uinti</ex>
  </expan>
  <expan>
    <abbr>F</abbr>
    <ex>ilio</ex>
  </expan>
</p>
```

Multiple **<abbr>** elements within a single **<expan>** compose a single abbreviation between them. For example, "e.g." is one abbreviation for the phrase "exempli gratia."

```
<expan>
  <abbr>e</abbr>
  <ex>xempli</ex>
  <abbr>g</abbr>
  <ex>ratia</ex>
</expan>
```

## Uncertainly Restored Characters

When an edition is based on a limited number of witnesses, it may be necessary to indicate that characters are difficult to read. The accepted way to do this is with dots underneath the uncertainly restored characters.

**<unclear>** contains characters, words, or phrases that cannot be transcribed with certainty.

For example, the entry for *Mensae* in Lindsay's edition of Festus (157M) has the following uncertainly deciphered text:

ame ... a tenebat aram .....

In an LDLT edition, that should be encoded as follows:

```
<unclear>ame</unclear>
<gap quantity="3" reason="lost"
  unit="characters"/>
<unclear>a tenebat aram</unclear>
<gap quantity="10" reason="lost"
  unit="characters"/>
```

## Lacunae

\*\*\* = An unknown amount of text has been lost from the entire textual tradition, whether because of physical loss or human error (e.g., *saut du même au même*).

- <gap> signifies that text is missing.
- @reason with value "lost" indicates that the text has been lost from the entire tradition, not just one witness or family of witnesses.

For example, an undetermined amount of text is missing from all witnesses at the end of 3.8.4 of Julius Caesar's de Bello Civili. [3] edition has the following in the main text: Custodiisque diligentius dispositis ipse grauissima hieme in nauibus excubans neque ullum laborem aut munus despiciens neque subsidium expectans si in Caesaris complexum uenire posset \*\*\*.

<gap> with @reason="lacuna" is inserted into the main text to indicate the lacuna:

```
<p>Custodiisque diligentius dispositis ipse grauissima hieme in nauibus
excubans neque ullum laborem aut munus despiciens neque subsidium expectans
si in Caesaris complexum uenire posset <gap reason="lost"/>
</p>
```

If it is desirable to insert a comment on the lacuna in the apparatus criticus, <note> should be used as explained in the section 0.

These guidelines also have provisions for cases where an editor suspects a lacuna in the text, but lacks physical evidence of damage to support the claim. See the section "0" for more information.

If a single witness or family of witnesses has a gap in coverage of the text, but the rest of the tradition preserves the text, the symbol for a lacuna should not be used, but the gap in the witness(es) should be noted in the apparatus criticus. See the section "0" for encoding instructions.

## Apparatus Fontium

An apparatus fontium collects references to texts quoted or cited by the author(s) in the text of the edition. This section demonstrates how to encode such references so that they will be



displayed appropriately in the text and so that bibliographical information about them will appear in the edition.

- `<cit>` (cited quotation) contains a quotation (in `<quote>`) from another source or a reference (in `<ref>`) to another source, together with bibliographical information about the source (in `<bibl>`).
- `<quote>` (quotation) contains a phrase or passage attributable to some agency external to the text.
- `<ref>` (reference) contains a reference to a phrase or passage attributable to some agency external to the text.
- `<bibl>` (bibliographic citation) contains the information required to retrieve the source of the quotation or reference. If a digital copy of the source is available, a link can be provided with `<ptr>`.

Any text in `<quote>` will be displayed or printed in quotation marks on the same line as the rest of the text. Any text in `<quote>` with `@rend="blockquote"` will be displayed or printed on a new line and indented. In the latter case, prose and verse text within `<quote>` should be encoded according to the guidelines in the sections "0" and "0."

Macrobius' Saturnalia 3.16.1–5 has examples of block quotations of prose and verse texts, and an inline quotation of a prose text. Note that it is also an example of 0, since the entire passage is spoken by a character (Rufius):

```
<said who="#Rufius">
  <p>Nec acipenser, quem maria prodigis nutriunt, illius saeculi delicias evasit; et
    ut liqueat secundo Punico bello celebre nomen huius piscis fuisse, accipite ut
    meminerit eius Plautus in fabula quae inscribitur Baccaria ex persona
    parasiti<cit>
      <quote rend="blockquote">
<!-- Verse quotation to be displayed/printed on new line and indented -->
        <l>quis est mortalis tanta fortuna adfectus umquam</l>
        <l>qua ego nunc sum, cuius haec ventri portatur pompa?</l>
        <l>vel nunc, qui mihi in mari acipenser latuit antehac,</l>
        <l>cuius ego latus in latebras reddam meis dentibus et manibus.</l>
      </quote>
      <bibl>
        <author>Plautus</author>
        <title>Baccar.</title> 16–20</bibl>
      </cit>.</p>
  <p>et ne vilior sit testis poeta, accipite assertore Cicerone in quo honore fuerit
    hic piscis apud P. Scipionem Africanum illum et Numantinum, haec sunt in
    dialogo de fato verba Ciceronis<cit>
      <quote rend="blockquote">
<!-- Prose quotation to be displayed/printed on new line and indented -->
        <p>nam cum esset apud se ad Lavernium Scipio unaque Pontius adlatus est
          forte Scipioni acipenser, qui admodum raro capitur, sed est piscis, ut
          ferunt, in primis nobilis. cum autem Scipio unum et alterum ex his qui
          eum salutatum venerant invitavisset pluresque etiam invitaturus
          videretur, in aurem Pontius, <said who="#Pontius">Scipio,</said>
          inquit, <said who="#Pontius">vide quid agas, acipenser iste paucorum
            hominum est.</said>
        </p>
      </quote>
    </p>
```

```

    </quote>
    <bibl>
      <author>Cicero</author>
      <title>De Fato</title> fr. 4</bibl>
    </cit>
  </p>
  <p>nec infitias eo temporibus Traiani hunc piscem in magno pretio non fuisse,
    teste Plinio Secundo, qui in Naturali historia cum de hoc pisce loqueretur sic
    ait: <cit>
  <!-- Prose quotation to be displayed/printed in line -->
    <quote>nullo nunc in honore est, quod equidem miror, cum sit rarus
      inventu.</quote>
    <bibl>
      <author>Plin.</author>
      <title>HN</title> 9.60</bibl>.</cit>
  </p>
</said>

```

In the following example, Duns Scotus has referred to a work by Boethius, but he has not quoted it:

```

<p>Probatio minoris per <cit>
  <ref>Boethium De
    Trinitate</ref>
  <bibl>
    <author>Boethius</author>
    <title>De Trin.</title> c. 4 (ed. R. Peiper 159; PL 64, 1353C)</bibl>
  </cit>:
  dicit quod septem praedicamenta non dicunt absolutas res, sed tantum
  respectus.</p>

```

In the edition text, the text would be displayed or printed without interruption (i.e., *Probatio minoris per Boethium De Trinitate: dicit quod septem praedicamenta non dicunt absolutas res, sed tantum respectus*). The apparatus fontium would include the following entry: “Boethius *De Trin.* c. 4 (ed. R. Peiper 159; PL 64, 1353C).

If it is desirable to provide the text of the reference in the apparatus fontium, it may be inserted in <quote> after <bibl>:

```

<p>Probatio minoris per <cit>
  <ref>Boethium De
    Trinitate</ref>
  <bibl>
    <author>Boethius</author>
    <title>De Trin.</title> c. 4 (ed. R. Peiper 159; PL 64, 1353C)</bibl>:
  <quote>Iamne patet quae sit differentia praedicationum? Quod aliae quidem
    quasi rem monstrant, aliae vero quasi circumstantias rei; quodque illa quae
    ita praedicantur, ut esse aliquid rem ostendant, illa vero ut non esse, sed
    potius extrinsecus aliquid quodam modo adfigant?</quote>
  </cit>: dicit quod
  septem praedicamenta non dicunt absolutas res, sed tantum respectus.</p>

```

The text of the quotation will be displayed in the apparatus fontium.

## Parallel Passages

A register of parallel passages differs from an 0 in that it reflects the editor's judgment about passages that might be of interest to readers, whereas an apparatus fontium provides information on passages quoted or cited by the author(s). For this reason, entries in the apparatus fontium are encoded within the edition text, but parallel passages are encoded as notes, similar to the way that an editor's textual notes are handled (see the section "0").

- `<note>` contains a list of parallel passages related to the text. Each `<note>` must have an `@xml:id` and `@target` pointing to the `@xml:id` related to the section of text referred to by the `<note>`. Each `<note>` must also have `@type="parallel"` to distinguish it from other uses of `<note>`.
- `<listBibl>` (citation list) contains references to parallel passages.
- `<bibl>` (bibliographic citation) contains the following bibliographic information pertaining to an individual parallel passage.
  - `<author>` contains the name of the author (or a standard abbreviation) of a parallel passage.
  - `<title>` contains the title of the work (or a standard abbreviation) in which the parallel passage occurs.
  - `<biblScope>` (scope of bibliographic reference) contains the specific unit where the parallel passage may be found (e.g., book number, section number, paragraph number, line number, etc.).
- `<quote>` contains the quoted text of the passage, if desirable.

For example, Gelsomino includes an extensive list of parallel passages to individual entries in his [4]. If that edition were encoded according to these guidelines, each paragraph in the edition text would have an `@xml:id` and `@corresp` pointing to the `@xml:id` of the note with the parallel passages:

```
<p corresp="p-f1-achelous" n="1"
  xml:id="f1-achelous">Achelous, Aetoliae, primus
  erupisse terram dicitur.</p>
<note target="#f1-achelous" type="parallel"
  xml:id="p-f1-achelous">
  <listBibl>
    <bibl>
      <author>Verg.</author>
      <title>G</title>
      <biblScope>1.9</biblScope>
    </bibl>: <quote>poculaque ... Acheloia</quote> (cf.
  <bibl>
    <author>Serv. Auct.</author> ad loc.</bibl>);
  <bibl>
    <author>Macr.</author>
    <title>Satur.</title>
    <biblScope>5.18.1-2</biblScope> praesertim 9</bibl>
  </listBibl>
</note>
<p n="2" xml:id="f2-arar">Arar, <app>
```

```

<lem>Germaniae</lem>
<rdg wit="#Tschu. #Siml.">Galliae</rdg>
</app>, e <app>
<lem>Vogeso</lem>
<rdg source="#Rie." wit="#Sal.">Vosego</rdg>
</app> monte. miscetur Rhodano. ita lene decurrit, ut vix intellegi possit
decursus eius.</p>
<note target="#f2-arar" type="parallel"
xml:id="p-f2-arar">
<listBibl>
<bibl>
<author>Verg.</author>
<title>E</title>
<biblScope>1.62</biblScope>
</bibl>: <quote>aut Ararim Parthus bibet aut
Germania Tigrim</quote>; (cf. <bibl>
<author>Serv.</author>
</bibl>:
<quote>Ararim Germaniae flumen ... Arar fluvijs Galliae fluens in
Rhodanum</quote>
<bibl>
<title>Schol. Bern.</title>
</bibl>: <quote>Arar flumen Germaniae, tamen
alii dicunt Galliae, in Rhodanum iens</quote>
<bibl>
<author>Phil.</author>
<biblScope>II</biblScope>
</bibl>: <quote>fluvijs Germaniae vel
Galliae</quote>
<bibl>
<author>Ansil.</author>
<title>AR</title>
<biblScope>35, 35, 36</biblScope>
</bibl>: <quote>Fluvijs Germaniae</quote>;
cf. <bibl>
<author>Caes.</author>
<title>BG</title>
<biblScope>1.12</biblScope>
</bibl>
</listBibl>
</note>

```

## Apparatus Criticus

This section provides models for handling the different kinds of entries that occur in an apparatus criticus. It uses the terminology, elements, and attributes of the TEI's module [12 Critical Apparatus](#), but it also defines terms and encoding methods specific to LDLT editions. This section is not an instructional manual for composing an apparatus criticus. Rather, it presents a model for semantically encoding the information to be included in the apparatus criticus of an LDLT edition.

In a digital context, critical editions encoded according to these guidelines will have certain interactive features:

- Readings from manuscripts and other sources can be filtered in or out of the text.
- Certain types of variant readings (e.g., orthographic variants, conjectures, corrections) can be removed from the apparatus criticus to reduce its size.
- A variant reading can be swapped into the text so that it can be viewed *in situ*.
- Line transpositions can be activated and viewed in the text.

In a printed version, critical editions encoded according to these guidelines can be styled to have an apparatus criticus in a format familiar from standard critical editions.

## Concepts and Definitions

The apparatus criticus is where editors assemble the variant readings from witnesses and sources they believe to be important for establishing the text, occasionally adding brief comments, bibliographical citations, and palaeographical details. This section defines the terms used in these guidelines.

It is important to emphasize that a critical apparatus reflects an editor's judgment about what is and is not important for supporting the argument advanced by the edition. Accordingly, the amount of information included in the critical apparatus depends on the method and aims of the editor. Although these guidelines make it possible to include every reading from every possible source, editors should bear in mind that manuscript collations, notes, and other data can be made available to readers as ancillary materials associated with an LDLT edition. Editors should consult with LDLT staff and the editorial board regarding format and storage of ancillary materials.

## Readings

In the context of a critical edition, **reading** is the generic term for any unit of information that has meaning in constituting the text of the edition. A critical edition contains two types of reading: lemma and variant.

A **lemma** (pl. lemmata) is a word or phrase (or the absence thereof) judged by the editor to be authentic, accurate, and/or authoritative. It may be attested by documentary sources (e.g., a manuscript, an early edition) or it may be an emendation made by a scholar independently of a documentary source. Lemmata constitute the text printed in the main portion (i.e., 0) of a critical edition.

A **variant reading** is a word or phrase (or absence thereof) judged by the editor to be unsatisfactory for linguistic and/or stylistic reasons, but of interest for establishing the text. This type of reading is a “variant” insofar as it varies from what the editor has judged to be the lemma. A variant reading may be attested by a manuscript or it may be a conjecture or the result of a correction. By default in LDLT editions, variant readings are displayed or printed in the apparatus criticus. In digital versions, variants can be swapped into the edition text in real time so that readers may judge the merits of variant readings for themselves.

An **emendation** is a reading expressly proposed by some person (possibly the editor) and accepted by the editor into the main text of an edition.

A **conjecture** is a reading expressly proposed by some person (possibly the editor) and determined by an editor to be of interest in establishing the text, but not to be printed in the main text of the edition.

This distinction between "emendation" and "conjecture" supports the goal of these guidelines of drawing attention to editions as arguments. The terms are used subjectively, with regard to a particular edition. Readers of an edition may agree or disagree about whether a particular reading emends the text, but the editor's argument is that a reading does emend the text. Therefore, it is called an emendation.

**Correction** describes any attempt by the original copyist or some other hand to alter a witness' reading, regardless of whether the result of the correction matches the lemma of the current edition. It is a matter of perspective whether the result of a correction is "correct." For more information, see the section "0".

Opinions can differ from editor to editor about what the "correct" reading is, which is why having more than one critical edition of a text is not necessarily redundant. Similarly, copyists and other users of manuscripts have their own idea of what the "correct" reading is. The original copyist might notice a slip of the pen in his own work and correct it. A later hand might correct a mistake missed by the copyist. Another reader comparing two manuscripts might "correct" one of them based on the other's reading. In these cases and others, the motivation is to correct what is perceived to be incorrect. For all of these reasons, "correction" is used in these guidelines to refer to an attempt to alter existing text so that it conforms to some perceived standard, whether or not that standard matches the editor's view of what the correct reading is.

The next two sections discuss where readings are found, i.e., in witnesses and sources.

## Witnesses

A **witness** may be a manuscript, the individual hands that wrote in a manuscript, or an early printed edition (*editio princeps*) that may preserve the readings of a single manuscript.

The physical object referred to as a manuscript is not by itself a witness. Rather, it preserves a record of the activities of the copyist(s), rubricator(s), corrector(s), and/or other annotator(s) who wrote on its pages, each of whom might be a witness to a different exemplar. At the very least, they represent different perceptions of the same exemplar. By synecdoche, those people are referred to as "hands." (These hands are not to be confused with the drawings of hands, known as manicules, that sometimes appear in the margins of manuscripts to point out passages of interest.) A manuscript's hands are represented in a critical edition by superscript numerals appended to its siglum. A change in number, however, does not necessarily indicate a change of person. For example, the copyist and corrector might be one and the same person, but it can be important to distinguish them, since they represent different views and experiences of the text.

Confusion can arise from assigning numbers only to hands subsequent to the original copyist. That is, the siglum for the manuscript by itself (i.e., without a superscript numeral) is understood to represent both the physical object and the hand of the original copyist who wrote in it; every subsequent hand, including the original copyist correcting his own mistakes, is numbered in ascending order from “1”. Strictly speaking, the original copyist is “hand zero,” but adding a superscript zero to every siglum would be redundant, since it can be inferred from the absence of a numeral that the original copyist is meant.

In some cases, it is not necessary, possible, or desirable to make such a sharp distinction between hands. It may be sufficient instead to refer to hands other than the original copyist with the general *manus recentior*, or *m.r.* (“a later hand”). However the editor decides to represent the activities of a manuscript’s hands and the relationships between them, an explanation must be provided in the preface.

For more information on representing the hands in manuscripts, see the sections “0” and “0.”

In sum, for the purposes of these guidelines, manuscript hands are witnesses, and the following scheme should be used to indicate them:

- siglum without a superscript number (“hand zero”) = the original copyist.
- siglum with superscript 1 (“hand one”) = the original copyist altering the text he originally wrote.
- siglum with superscript 2 (“hand two”): a hand that wrote at the same time or later than the original copyist.
- siglum with superscript letters “mr” (= *manus recentior*) some hand after the original copyist, if it is not possible and/or useful to identify securely the individual hands.
- etc.

Another acceptable approach is to append abbreviations such as “ac” and “pc” (*ante correctionem* and *post correctionem*) as superscript notations on the manuscript’s siglum. It all depends on what suits the editor’s purposes, provided that the method of distinguishing hands is explained in the description of manuscripts and both human- and machine-readable sigla are assigned to them.

If it is desirable to identify different copyists (e.g., if the manuscript was originally copied by more than one person), subscript notations should be used (e.g. A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub>, etc.). Each copyist’s hand must be described and assigned a human- and machine-readable siglum in the description of the manuscript.

## Sources

A **source** may be any modern critical edition, commentary, article, review, or other item (e.g., personal correspondence) in which an argument about the text has been advanced or discussed.

## Order

As in traditional printed editions, the order in which certain information is presented has meaning in LDLT editions, though the order's meaning is not itself explicitly encoded. Editors should follow the recommendations of West (87–88) on the issue of order. In brief:

- Readings are presented in the following order of precedence: direct manuscript tradition, indirect tradition, conjectures (in descending order of merit, as determined by the editor).
- Manuscripts should be given a regular order for citation, though editors may deviate from this practice for the sake of clarity.

## Encoding Specifications for the Apparatus Criticus

The following attributes and elements are required for putting the concepts discussed above into practice:

- `<app>` (apparatus entry) contains the lemma and readings for a single entry in the apparatus criticus. It is possible to nest one `<app>` and its contents inside of another `<app>`, if necessary.
- `<lem>` (lemma) contains a reading judged by the editor to be authentic, or as close as possible to it. This type of reading constitutes the text of the 0 (i.e., when first opened) of an LDLT edition's text. A lemma may be an absence of text, if the editor has reason to doubt the merit of the extant readings.
- `<rdg>` (reading) contains text (or absence of text) witnessed by a manuscript or found in an early printed edition (where it is not expressly proposed), but judged by the editor to be unsatisfactory or corrupt for linguistic and/or stylistic reasons. This text is initially in the apparatus criticus, but it may be swapped with the lemma in the LDLT viewer.
- `@wit` (witness) contains machine-readable sigla for any manuscript(s) (or manuscript hands) or early printed edition(s) (esp. without an apparatus or commentary, so-called *editiones vetustiores*).
- `@source` (source) contains machine-readable sigla for any printed edition(s) or other scholarly work(s) (e.g., article, textual note, commentary) addressing an aspect of the text.
- `@ana` (analysis) classifies a reading as belonging to one or more categories in the LDLT's taxonomy of readings. More than one value is possible. See the section "0." Use of `@ana` enables the LDLT viewer's filtering functionality.
- `<wit>` contains general information about a reading or a group of witnesses.
- `<witDetail>` (witness detail) contains information about a particular witness (`@wit`) to a lemma (`<lem>`) or reading (`<rdg>`). `<witDetail>` is especially important for reporting 0.
- `<note>` (note) contains editorial comments, bibliographical references, or other information pertaining to the apparatus entry.

In traditional printed editions, the lemma may appear in the apparatus criticus for the purpose of disambiguation (e.g., if there are two instances of the word in the same line or if the degree of variance makes it difficult to infer the lemma), but more often the lemma must be inferred. This



can lead to confusion and frustration, particularly for readers not used to navigating a critical edition. Moreover, variant readings are sequestered from the edition text and displayed at the bottom of the page, an arrangement that can lead to false impressions about the certainty and reliability of the edition text.

In the [TEI's model for the critical apparatus](#), which is the basis for these guidelines, each entry includes the lemma and its variants. How that information is displayed or printed is a separate issue, but at least the relationship between the lemma and the variant readings is explicitly encoded. In digital representations of an edition encoded according to the guidelines presented here, readings may be swapped into or out of the edition text, but the editor's determination about what the lemma is and what the variant readings are remains encoded to preserve the argument the edition makes about the text. In this way, it is possible for readers to experience many versions of a text in addition to the edition's 0 (i.e., its default setting). The variety of readings depends on what the editor decides to encode, and it is expected that those decisions will be explained in the preface.

The patterns displayed below are designed to handle the various kinds of information conveyed in a typical apparatus criticus, including readings *ante correctionem* and *in rasura*, among other paleographical and editorial details.

## Basic Reporting of a Variant Reading

The most basic type of entry in an apparatus criticus reports only a variant reading, without editorial comment or a description of palaeographical details. The pattern is as follows:

```
<p>Edition text, until there is a lemma that requires an entry in the apparatus.  
<app>  
  <lem>  
<!-- text of lemma goes here -->  
  </lem>  
  <rdg>  
<!-- text of variant reading goes here -->  
  </rdg>  
</app> Edition text resumes. </p>
```

In other words, <app> begins the apparatus entry, followed by <lem>, which contains the lemma for the entry. The lemma may be a single word or phrase or the omission of a word or phrase. The variant reading follows, contained in <rdg>. Only the contents of <lem> appear in the initial state of the edition text. The contents of <rdg> appear in the apparatus criticus.

If there is more than one variant reading to be reported, new <rdg> elements should be added for each one.

```
<app>  
  <lem>  
<!-- text of lemma goes here -->  
  </lem>  
  <rdg>  
<!-- text of reading goes here -->
```

```

</rdg>
<rdg>
<!-- text of reading goes here -->
</rdg>
</app>

```

It is up to the editor to decide whether to list the witnesses for the lemma. In many cases, it can be inferred that the lemma is supported by most of the evidence. All readings, however, should include witnesses or sources so that users will be able to track that information.

The attribute *@wit* contains the witness(es) for the lemma and reading(s). A hash or pound sign (#) before the siglum for the witness indicates that the witness has been described elsewhere in the edition, making it possible to retrieve that information.

```

<app>
  <lem wit="#A">
    <!-- text of lemma goes here -->
  </lem>
  <rdg wit="#B">
    <!-- text of variant reading goes here -->
  </rdg>
  <rdg wit="#C">
    <!-- text of variant reading goes here -->
  </rdg>
</app>

```

If there is more than one witness for a reading, the sigla should be values for *@wit* separated by spaces.

```

<app>
  <lem wit="#A #B #C">
    <!-- text of lemma goes here -->
  </lem>
  <rdg wit="#D #E #F">
    <!-- text of reading goes here -->
  </rdg>
  <rdg wit="#G #H #I">
    <!-- text of reading goes here -->
  </rdg>
</app>

```

If it is desirable to indicate that a reading is found in a manuscript and a modern edition or other source, the same pattern applies, with the addition of *@source*.

```

<app>
  <lem source="#Alonso" wit="#A">
    <!-- text of lemma goes here -->
  </lem>
  <rdg source="#Vettel #Grosjean"
    wit="#B #C">
    <!-- text of reading goes here -->
  </rdg>
</app>

```

## Examples of basic apparatus criticus entries

At Calpurnius (Calp.) 1.2 (*quamvis et madidis incumbant* *praela racemis*), the manuscript **P** has *praeda* where the lemma is *praela*. In a traditional apparatus criticus, this would be printed as follows: 2 *praeda* **P**.

The following pattern demonstrates how to encode the entry in according to these guidelines:

```
<l n="2">quamvis et madidis incumbant <app>
  <lem>praela</lem>
  <rdg wit="#P">praeda</rdg>
</app> racemis</l>
```

This encoding can be rendered in the traditional manner, or it can be used in an interactive apparatus to swap the variant with the lemma in the main edition text.

The lemma *quamvis* in the same line demonstrates how to indicate that a variant has more than one witness:

```
<l n="2">
  <app>
    <lem>quamvis</lem>
    <rdg wit="#f #g #r #t">quatinus</rdg>
  </app> et madidis incumbant praela racemis
</l>
```

The witnesses are listed here in chronological order, but an editor may wish to use a different ordering principle. The order should be described and explained in the preface.

The following example demonstrates how to encode a reading supported by a witness and a source.

```
<app>
  <lem>sequor</lem>
  <rdg source="#Glaeser" wit="#N">sequar</rdg>
</app>
```

## Apparatus Entries That Cross Structural Boundaries

Most entries in an critical apparatus concern text within the boundaries of a structural unit such as a line of poetry or a section within a paragraph, but sometimes it is necessary for entries to cross those structural boundaries. This presents a problem for the hierarchical nature of XML, since a "child" element cannot overlap its "parent" element. Using *@next* and *@prev* can compensate for that issue.

For example, the witness **V** omits the final word of section 19.3 and all of section 19.4 from the *Bellum Alexandrinum*. In a print edition, it would be possible to write the following: enatauerunt ... 19.4 fuit VI milium *om. V*, but in an LDLT edition, the *<app>* contained by *<seg>* 3 cannot extend into *<seg>* 4. It must be encoded using *@next* and *@prev* as follows:

```

<seg n="3"> ... interuallum ad oppidum
<!-- @next points to the <app> in the next segment -->
<app next="#app-18.4-multi"
  xml:id="app-18.3-enatauerunt">
  <lem>enatauerunt.</lem>
  <rdg ana="#subtractive" wit="#V"/>
</app>
</seg>
<seg n="4">
<!-- @prev points to the <app> in the previous segment -->
<app prev="#app-18.3-enatauerunt"
  xml:id="app-18.4-multi">
  <lem>Multi tamen ex his capti interfectique sunt; sed numerus captiuorum
    omnino fuit VI milium.</lem>
  <rdg ana="#subtractive" wit="#V"/>
</app>
</seg>

```

This particular example could also be handled with `<lacunaStart>` and `<lacunaEnd>`, as described in the section "0."

## Variations on Readings in a Group of Witnesses/Sources

For the sake of keeping the emphasis on the grouping of witnesses or sources, it may be necessary to indicate that variations on a reading appear in the group, instead of reporting which witnesses or sources have the variations. In that case, a combination of `<rdgGrp>` (reading group) and `<note>` can be used.

- `<rdgGrp>` (reading group) contains two or more readings (`<rdg>`) related to each other in some way.
- `<note>` contains language that connects the readings in `<rdgGrp>` (e.g., *an*, *aut*, or *vel*)

```

<app>
  <lem wit="#A">ante A. Gellium</lem>
  <rdgGrp>
    <rdg wit="#B #C #D #E">antea gellium</rdg>
    <note>vel</note>
    <rdg wit="#B #C #D #E">ante agellium</rdg>
  </rdgGrp>
</app>

```

## Use of Catch-all References in the Critical Apparatus

If it is desirable to use a consensus reference (e.g.,  $\omega$ ,  $\varsigma$ ) or a catch-all reference (e.g., codd., mss., cett., edd.) the references must be defined in the bibliography of the edition according to the guidelines in the section "0." This section demonstrates how to insert catch-all references into the apparatus.

If consensus or catch-all references are used without any additional annotation, they may be treated like any other witness or source (i.e., as values of `@wit` or `@source`), provided that they have both machine- and human-readable sigla.

If they are annotated (e.g., edd. ante Glaeser), they must be encoded in <wit> according to the guidelines below.

- <wit> contains a catch-all reference to a group of manuscripts, editions, or other materials.
- <ref> contains machine- and human-readable references to an item in the bibliography.

In the following example, the editor wishes to show that the editions are divided, with one in particular (Glaeser) marking a definitive shift in preference.

```
<app>
  <lem wit="#N #P">vicit</lem>
  <wit>
    <ref target="#Glaeser">Glaeser</ref> sqq.</wit>
  <rdg wit="#G">vīcit</rdg>
  <rdg wit="#d">ludit</rdg>
  <rdg wit="#V">lusit</rdg>
  <wit>edd. ante <ref target="#Glaeser">Glaeser</ref>
</wit>
  <rdg wit="#μ">visit</rdg>
  <rdg wit="#γ"/>
</app>
```

This may be displayed or printed as vicit] N P Glaeser sqq. : vīcit G : ludit d : lusit V edd. ante Glaeser : visit μ : om. γ.

## Omission

Omission is different from a lacuna, which is the absence of an unknown or uncertain quantity of text from the tradition in general. This section explains how to encode omission of known quantities of text from a particular witness or witnesses. Three kinds of omission are discussed here:

- omission of a letter or letters, words, phrases, or lines in a witness or family of witnesses
- omission of a known or estimated quantity of letters
- a substantial gap in a witness or family of witnesses

.

Related sections:

- 0
- 0
- 0

## Omission of a Letter or Letters, Words, Phrases, or Lines

Witnesses and sources sometimes omit items from the text. This section describes how to encode those omissions.

For example, the witness known as **P** omitted the word *pecus* from Calp. 1.38: *seculo custode pecus nocturnaue pastor*. The traditional apparatus criticus indicates the omission as follows: *pecus om.***P**

In these guidelines, omission is represented by a so-called "self-closing" or empty `<rdg>` (i.e., `<rdg />`):

```
<l>seculo custode <app>
  <lem>pecus</lem>
  <rdg wit="#P"/>
</app> nocturnaue pastor</l>
```

The same model applies to the omission of an entire line of verse by a witness or witnesses, but in that case `<app>` has `@type="line-omission"` and `<lem>` contains the entire line, with the omission marked by a self-closing `<rdg>`:

```
<app type="line-omission">
  <lem>
    <l n="3">et spument rauco ferventia musta susurro.</l>
  </lem>
  <rdg wit="#n #h"/>
</app>
```

This will be displayed in the apparatus criticus as '*vers. om. n h*'

## Known Amount Of Characters Lost

[...] = The editor knows from context and/or observation how many characters have been lost. Each dot represents a missing character.

- `<gap>` signifies text is missing.
- `@reason` with value "lost" indicates that the text has been lost.
- `@quantity` indicates the number of characters lost.
- `@unit` with value "characters" indicates the unit measured in `@quantity`.

For example, in the apparatus criticus to Calp. 4.4, [5] has the following with reference to lemma *spiritus amnis*: 'sp̄c N (deinde lac. 6 litt.)'.

In an LDLT edition, that would be encoded as follows:

```
<l n="4">ripa levatque diem vicini <app>
  <lem>spiritus amnis</lem>
  <rdg wit="#N">sp̄c <gap quantity="6" reason="lost"
```

```

    unit="characters"/>
  </rdg>
</app>? </l>

```

That encoding would produce the following entry in the apparatus: 'sp̄c [.....]'. If it is desirable to supplement that with a note, the <rdg> should be given an @xml:id and the note should be inserted in a <witDetail> pointing to it:

```

<l n="4">ripa levatque diem vicini <app>
  <lem>spiritus amnis</lem>
  <rdg wit="#N"
    xml:id="rdg-4.4-spiritus-amnis">sp̄c <gap quantity="6" reason="lost"
      unit="characters"/>
  </rdg>
  <witDetail target="#rdg-4.4-spiritus-amnis"
    wit="#N">lac. 6
    litt.</witDetail>
</app>? </l>

```

## Gaps in Witnesses

If a witness or family of witnesses has a gap in coverage of the text, for whatever reason, the gap may be noted in the apparatus criticus using <lacunaStart> and <lacunaEnd>.

The use of the term "lacuna" here is likely to cause confusion. The TEI Guidelines ([12.1.5 Fragmentary Witnesses](#)) use the term "lacuna" in the elements <lacunaStart> and <lacunaEnd>, which are used here to indicate a gap in a witness or group of witnesses. If the gap occurs in the entire tradition, the section "0" in these guidelines should be followed.

For example, sections 1.1–1.33.3 of Julius Caesar's de Bello Civili are missing from manuscript M. [3] edition has the following in the critical apparatus: 1.1.1–1.33.3 *M deest, vice eius m citatur*.

In an LDLT edition, that should be encoded as follows:

```

<app>
  <lem>Litteris</lem>
  <rdg wit="#M" xml:id="M-lacuna-1.1">
    <lacunaStart/>
  </rdg>
  <witDetail target="#M-lacuna-1.1" wit="#M">1.1.1–1.33.3 M deest, vice eius m
    citatur.</witDetail>
</app>

```

At 1.33.3, Damon's apparatus criticus has: '-duum *hinc adest M*'. In an LDLT edition, that should be encoded as follows:

```

<p>Sic tri<app>
  <lem>duum</lem>
  <rdg wit="#M"
    xml:id="rdg-1.33.3-lacunaEnd">

```

```

    <lacunaEnd/>
  </rdg>
  <witDetail target="#rdg-1.33.3-lacunaEnd"
    wit="#M">hinc adest M</witDetail>
</app> disputationibus ...</p>

```

## Fragmentary Witnesses

The presence of fragmentary witnesses should be noted in the apparatus criticus using <witStart> and <witEnd>.

For example, the fragmentary witnesses known collectively as "Exc. Par." (= Thuanus 7647 and Nostradamensis 17903) in [5] edition of Calpurnius Siculus have 5.12–13. [5] notes this fact in the apparatus criticus as follows: *12 et sq. habent Exc. Par.* In an LDLT edition, this should be noted in an <app> as follows:

```

<l n="12">
  <app>
    <lem>aspicis</lem>
    <rdg wit="#ExcPar">
      <witStart/>
    </rdg>
  </app> ut nobis aetas iam mille querelas
</l>
<l n="13">afferat et baculum premat inclinata <app>
  <lem>senectus</lem>
  <rdg wit="#ExcPar">
    <witEnd/>
  </rdg>
</app>?</l>

```

<rdg> with @wit and the value of the witness' machine-readable siglum (@xml:id) encloses <witStart> or <witEnd> to show where the witness begins and ends. <witDetail> may be used to describe the presence of witnesses.

## Addition of Text in a Witness

This section demonstrates how to indicate that text has been added to a witness. There are two methods for encoding additions: prose description and semantic markup. Both are described in this section. The same information is presented in both cases, but the semantic markup version supports additional functionality such as querying and filtering on readings added in the margin or elsewhere.

For additions made by the editor of the current edition or a previous editor, see the section "0."

### Addition: Prose Description

<witDetail> (witness detail) contains a prose description of the addition.



For example, the copyist of manuscript **G** has the •*certare*, but a later hand has added the variant reading *certate* in the margin.

89 *certare*] *certate* **G**<sup>1</sup>*in mg.*

The prose description method uses <witDetail> to describe the addition:

```
<app>
  <lem>certare</lem>
  <rdg wit="#G1" xml:id="rdg-certate">certate</rdg>
  <witDetail target="#rdg-certate" wit="#G1">(add. in mg.)</witDetail>
</app>
```

### Addition: Semantic Markup

The semantic markup method uses <add> to encode the addition:

- <add> (addition) contains text that has been added.
- @place indicates the placed where the text has been added. Possible values:
  - **above**: above the line (*suprascr.* = *superscriptum/a*)
  - **below**: below the line (*subscr.* = *subscriptum/a*)
  - **bottom**: bottom of the page (*in mg. inf.* = *in margine inferiore*)
  - **inline**: within the body of the original text (*in textu*)
  - **inRas**: in the space where text has been erased. (*in ras.* = *in rasura*)
  - **margin**: right, left, or both (*in mg.* = *in margine*)
  - **top**: at the top of the page (*in mg. sup.* = *in margine superiore*)

```
<app>
  <lem>certare</lem>
  <rdg wit="#G1">
    <add place="margin">certate</add>
  </rdg>
</app>
```

### Deletion in a Witness

The following guidelines demonstrate how to produce a notation about the deletion of text from a witness by a scribe, along with the method of deletion (if known).

For deletions made by the editor of the current edition or a previous editor, see the section "0."

Deletion almost always occurs as part of a correction. In that case, this section should be used in combination with the guidelines in the section "0." The examples in this section represent deletion as part of a correction.

There are two methods for encoding deletions: prose description and semantic markup. Both are described in the following subsections. The same information is presented in both cases, but

the semantic markup version will support additional functionality such as querying and filtering on deleted readings and the method of deletion.

## Deletion: Prose Description

<witDetail> (witness detail) contains a prose description of the deletion.

The prose description method uses <witDetail> to describe the deletion:

```
<app>
  <lem>amotae</lem>
  <rdg wit="#G" xml:id="rdg-adamote">adamote</rdg>
  <witDetail target="#rdg-adamote"
    type="correction-original" wit="#G"/>
  <rdg wit="#G1" xml:id="rdg-amote">amote</rdg>
  <witDetail target="#rdg-amote"
    type="correction-altered" wit="#G1">ad <hi rend="italic">exp.</hi>
  </witDetail>
</app>
```

The output of this encoding would be amotae] adamote **G** (a.c.), amote **G<sup>1</sup>** (ad exp.)

## Deletion: Semantic Markup

The semantic markup method uses <del> to encode the deletion. Deletions encoded according to these guidelines will be displayed or printed enclosed in double brackets: ⌈ ⌋.

- <del> (deletion) contains text that has been deleted.
- @rend (rendition) indicates the method of deletion. Use of @rend is optional. Without it, the generic notation *del.* for *delevit* or *delevi* will be inserted. Otherwise, @rend with one of the following values will generate a more specific notation:
  - **erasure**: text has been erased or scraped off of the page, but it is possible to detect what was deleted (*ante ras.*).
  - **expunction**: dots have been written under a word to indicate that it should be deleted (*exp.*).

```
<app>
  <lem>amotae</lem>
  <rdg wit="#G" xml:id="rdg-adamote">adamote</rdg>
  <witDetail target="#rdg-adamote"
    type="correction-original" wit="#G"/>
  <rdg wit="#G1" xml:id="rdg-amote">
    <del rend="expunction">ad</del>amote</rdg>
  <witDetail target="#rdg-amote"
    type="correction-altered" wit="#G1">ad <hi rend="italic">exp.</hi>
  </witDetail>
</app>
```

The output of this encoding would be amotae] adamote **G** (a.c.), ⌈ad⌋ amote **G<sup>1</sup>** (p.c., ad exp.)

## Illegible Characters, Quantity Unknown

It is occasionally necessary to indicate the presence of illegible characters in a witness' text.

For example, at Calp. 6.4, the lemma is *dedit*, but the witness known as **N** has *deo* and some illegible characters after it. [5] has indicated the presence of illegible characters with an asterisk: *deo* \*. These guidelines use dashes to indicate illegible characters, but the attributes *@reason*, *@extent*, and *@unit* provide more information.

```
<app>
  <lem>dedit</lem>
  <rdg wit="#N">
    <gap extent="unknown" reason="illegible"
      unit="character"/>
  </rdg>
</app>
```

## Transpositions

Transpositions may be handled in two ways: prose description or semantic markup. Prose description produces a note in the apparatus criticus. Semantic encoding produces a note in the apparatus criticus, but it will also enable readers to swap the transpositions in and out of the text in a digital version.

The sections below demonstrate the prose description and semantic markup methods for the following examples:

**Example 1:** In the Teubner edition of Ovid's *Tristia*, [6] follows the recommendation of Wilamowitz and transposes lines 41–42 of poem 3.12 so that they follow line 36. In the apparatus criticus, Hall writes '**41–42** *post 36 transposuit Wilamowitz.*'

**Example 2:** In [10] of Ovid's *Metamorphoses*, the text of 1.304–305 is as follows:

nat lupus inter oues, fuluos uehit unda leones,  
unda uehit tigres; nec uires fulminis apro

In the apparatus criticus, Tarrant notes the following: 304–5 fuluos ... tigres *om HM<sup>ac</sup>(N<sup>ac</sup>); habet Bern, sed ordine turbato* (nat ... oues nec uires f. apro | unda u. tigres, fuluos ... leones)

### ***Transposition: Prose Description***

To describe this transposition in the apparatus criticus, <app> encloses the affected passage, and <witDetail> or <note> contains the description.

**Example 1** (Ov. Tr. 3.12.36ff.)

```
<l n="35">ille quidem mirum ni de regione propinqua</l>
<l n="36">non nisi uicinas tutus ararit aquas.</l>
<app>
```

```

<lem xml:id="lem-3.12.41-42">
  <l n="41">fas quoque ab ore freti longaeque Propontidos undis</l>
  <l n="42">huc aliquem certo uela dedisse Noto.</l>
</lem>
<note target="#lem-3.12.41-42">41-42 post 36 transposuit
<ref target="#Wilamowitz">Wilamowitz</ref>.</note>
</app>
<l n="37">rarus ab Italia tantum mare nauita transit,</l>
<l n="38">litora rarus in haec portubus orba uenit.</l>

```

**Example 2** (Ov. Met., 1.304–305):

```

<app>
  <lem xml:id="lem-1.304-305">
    <l n="304">nat lupus inter oues, fuluos uehit unda leones,</l>
    <l n="305">unda uehit tigres; nec uires fulminis apro</l>
  </lem>
  <note target="#lem-1.304-305"> fuluos ... tigres <hi rend="italic">om</hi>.</note>
  <ref target="#H">H</ref>
  <ref target="#Mac">M<hi rend="superscript">ac</hi>
  </ref>(<ref target="#Nac">N<hi rend="superscript">ac</hi>
  </ref>)</note>
  <note target="#lem-1.304-305">304-5 <hi rend="italic">habet
  <ref target="#Bern">Bern</ref>, sed ordine turbato</hi> (nat ... oues
  nec uires f. apro | unda u. tigres, fuluos ... leones)</note>
</app>

```

Neither one of these examples would support the functionality of swapping the transpositions in and out of the main text of the edition. Instead, readers would just see a note in the apparatus criticus describing the transposition.

### ***Transposition: Semantic Encoding***

In some cases, a transposition may be semantically encoded using the basic pattern for an apparatus entry. In example 1 (Ov. Tr. 3.12.36ff., 0), there are basically two forms of the text: with and without the transposition. Since the editor (Hall) has accepted Wilamowitz' proposed transposition, the transposed version is contained in <lem> and the original is contained in <rdg>:

```

<l n="35">ille quidem mirum ni de regione propinqua</l>
<l n="36">non nisi uicinas tutus ararit aquas.</l>
<app>
  <lem exclude="#rdg-3.12.41-42"
    type="emendation" xml:id="lem-3.12.41-42">
    <l n="41">fas quoque ab ore freti longaeque Propontidos undis</l>
    <l n="42">huc aliquem certo uela dedisse Noto.</l>
  </lem>
  <note target="#lem-3.12.41-42">41-42 post 36 transposuit
  <ref target="#Wilamowitz">Wilamowitz</ref>.</note>
</app>
<l n="37">rarus ab Italia tantum mare nauita transit,</l>
<l n="38">litora rarus in haec portubus orba uenit.</l>
<l n="39">siue tamen Graia scierit siue ille Latina</l>

```

```

<l n="40">uoce loqui-certe gratior huius erit</l>
<app>
  <rdg exclude="#lem-3.12.41-42"
    xml:id="rdg-3.12.41-42">
    <l n="41">fas quoque ab ore freti longaeque Propontidos undis</l>
    <l n="42">huc aliquem certo uela dedisse Noto.</l>
  </rdg>
</app>

```

This will allow users to toggle between the original and emended versions of the text. Using *@exclude* ensures that lines 41–42 will never be displayed in two places at once. When the lemma (i.e., Wilamowitz’ emendation) is displayed in the edition text, lines 41–42 will follow line 36. When the reading that has lines 41–42 following line 40 is selected for display, Wilamowitz’ emendation will be excluded from the display.

More complicated transpositions, like the one in the second example below, operate in the same way: using *@exclude* and *@require* ensures that mutually exclusive readings are never displayed together.

Keeping track of the mutually exclusive readings can be a challenge, as the example below demonstrates. When encoding complex transpositions, it can be helpful to make a table or to use some other method of keeping track of the mutually exclusive readings.

Example 2 (Ov. Met., 1.304–305, 0). In this example, the witness known as Bern transposes portions of two lines. Witnesses H Mac (and Nac) conflate the lines, which is another kind of transposition (or omission). That is, it can be assumed that they did not write the first half of the line at 304 and the second half of the line at 305, but rather wrote the two halves together on the same line (i.e., *nat lupus inter oues, nec uires fulminis apro*).

```

<app>
<!-- <app> enclosing the entire passage in question. -->
  <lem>
<!-- <lem> enclosing full text of lines 304 and 305. -->
    <l n="304">
      <app>
<!-- First nested <app>, marking one of the conflated half-lines. -->
        <lem xml:id="lem-304-nat">nat lupus inter oues,</lem>
      </app>
      <app>
<!-- Second nested <app>, handling the variant that transposes half-lines. -->
        <lem require="#lem-305-unda"
          xml:id="lem-304-fuluos">fuluos
            uehit unda leones,</lem>
        <rdg copy0f="#lem-305-nec"
          require="#rdg-305-Bern" wit="#Bern" xml:id="rdg-304-Bern"/>
        </app>
      </l>
    <l n="305">unda uehit tigres; <app>
<!-- Third nested <app>, marking the other conflated or transposed half-line. -->
      <lem require="#lem-304-nat"
        xml:id="lem-305-nec">nec uires
        fulminis apro</lem>
    </l>
  </lem>
</app>

```

```

    <rdg copyOf="#lem-304-fuluos"
      require="#rdg-304-Bern" wit="#Bern" xml:id="rdg-305-Bern"/>
  </app>
</l>
</lem>
<!-- <rdg> enclosing the conflated lines in H and M -->
<rdg wit="#H #M" xml:id="rdg-305-HM">
  <l n="304/5">
    <join target="#lem-304-nat #lem-305-nec"/>
  </l>
</rdg>
<witDetail target="#rdg-305-HM"
  type="correction-original" wit="#M">
  <hi rend="superscript">ac</hi>(N<hi rend="superscript">ac</hi>
</witDetail>
</app>

```

The extensive markup in this example calls for explication. The desired outcomes are:

- two lines printed in the edition text.
- a variant reading showing two lines with half-lines transposed.
- a variant reading that conflates the two lines.

These outcomes require nested <app> elements:

- The first <app> encloses the entire passage. Its <lem> encloses the text of lines 304 and 305 as the editor wishes them to be printed in the edition text.
- The first nested <app> encloses one of the conflated half-lines with <lem> and gives it an @xml:id so that its value can be copied elsewhere using @copyOf. There is no <rdg> here because none of the variations differs in content or position.
- The second nested <app> encloses the second half of line 304 in <lem> so that Bern's transposition, enclosed in <rdg>, can be swapped into its place.
- The third nested <app> encloses the second of the conflated half-lines in <lem> and gives it an @xml:id so that its value can be copied elsewhere using @copyOf. Its <rdg> also allows for Bern's transposition to be completed.

Instead of entering the text of the transposed lines more than once, @copyOf causes the text to be inserted automatically. This not only reduces the potential for errors in transcription, but also acknowledges that the text is otherwise identical.

The use of @require ensures that Bern's transposed lines will be displayed or printed together. That is, the reader will not see one correctly transposed half-line and one without transposition, since that would be a false representation of Bern's text.

The use of <join> to represent the conflated lines in H and M allows the text of the two lemmata in question to be copied and displayed or printed together.

The effort required to keep track of the mutually exclusive readings pays off in the ability to swap the conflated and transposed readings in and out of the edition text in the digital version.

## Connected Readings

In some cases, it may be necessary to show that a witness or a source has variants in separate places that are related to each other. For example, the text of Calp. 6.68 is as follows: *'imminet exesa veluti testudine concha'*. Heinsius proposes *exesae - conchae*. That means that whenever *exesa* is displayed, *concha* must also be displayed, and whenever one of Heinsius' conjectures is displayed, the other one must accompany it.

As with 0, *@exclude* and *@require* are used to prevent mutually exclusive readings from being displayed together. Calp. 6.68 should be encoded as follows:

```
<l>imminet <app>
  <lem exclude="#rdg-6.68-conchae"
    require="#lem-6.68-concha" xml:id="lem-6.68-exesa">exesa</lem>
  <rdg exclude="#lem-6.68-concha"
    require="#rdg-6.68-conchae" source="#Heinsius"
    xml:id="rdg-6.68-exesae">exesae</rdg>
</app> veluti testudine <app>
  <lem exclude="#rdg-6.68-exesae"
    require="#lem-6.68-exesa" xml:id="lem-6.68-concha">concha</lem>
  <rdg exclude="#lem-6.68-exesa"
    require="#rdg-6.68-exesae" xml:id="rdg-6.68-conchae">conchae</rdg>
</app>
</l>
```

## Corrections

Correction has been discussed in the section "0." In short, for the purposes of these guidelines, "correction" describes any attempt by the original copyist or some other hand to alter a witness' reading, whether or not the result matches what is in the main edition text.

The amount of detail to report about corrections is a matter for editors to decide; these guidelines accommodate a range of approaches. When determining the method to use, editors should bear in mind not only the amount of detail necessary to communicate the nature of a correction, but also the functionality they want their edition to support. The subsections below include discussions intended to help editors make those determinations.

Before reading the encoding guidelines for corrections, it is recommended to read the section "0" to understand the concepts behind the guidelines.

### ***Correction as Metadata***

Over time, editors have devised creative ways of reporting corrections. The simplest method is to report readings and annotate them with *ante correctionem*, *post correctionem*, or something similar. Another method is to add abbreviations for those phrases as superscript notations on manuscript sigla (e.g., Bac, B<sup>pc</sup>). Sometimes it is necessary to provide more detail about the method of correction, in which cases editors will either describe the correction (e.g., *t exp.*, *r add. s.l.*) or they will try to represent it typographically (e.g., *refer<sup>re</sup>*). Some rely on superscript notation for all of these details (e.g., P<sup>cs1</sup> = *P correctio supra lineam*).

The different methods have advantages and disadvantages, but each one effectively demonstrates that correction is a complex subject. Even the word “correction” is problematic, since it can refer to the result of a process or the process itself. Therefore, representing correction faithfully in a digital critical edition depends on careful analysis of the information that comprises a correction.

Aside from judgments about correctness, “correction” may involve at least five kinds of information:

- a reading.
- the state of the reading: original or altered.
- an agent or agents (i.e., the correcting hand or hands).
- a method or methods of correction (i.e., deletion, addition above the line, etc.).
- the relationship between the original reading and the altered reading.

In the context of a digital edition, it is useful to think of readings as the data, and the information about state, agency, method, and relationship as metadata, or data about the data.

Not all of these metadata items will be reported in every instance. The original reading, for example, obviously does not have an agent (beyond the witness to the reading) or a method of correction, but it will have a state (original). The original reading might have a correspondence to show that it is related to its altered form, if one is provided, but it is not always necessary to report the altered form. For example, if the altered form matches the lemma in the main text of the edition, it may be sufficient to report the original form with a note that it was corrected (the inference being that it was corrected to the lemma printed in the edition, if no other form is reported). Similarly, it may not be necessary to report the method of correction.

It is possible to use techniques described elsewhere in these guidelines to encode the details of corrections (e.g., deletion and/or addition of characters), but it is also possible to describe those details in prose. The examples below demonstrate both options.

The simplest way of encoding descriptions is to define sigla in the <handNote> section of a manuscript description. For example, an editor might define V<sup>ac</sup> and V<sup>pc</sup> for readings of manuscript V before and after correction, if it makes sense to do so. However, in cases where there are multiple hands or other factors to consider, hard coding the state of correction may restrict options for representing the manuscript's data.

### ***Correction: Specifications***

Readings before and after correction are encoded as any other readings, i.e., with <rdg> inside of <app>. The details of the correction are contained in <witDetail>, with the use of several attributes to determine how the information is processed.

<witDetail> (witness detail) may be empty (i.e., self-closing) or it may contain a prose description. If empty, the values of the attributes (described below) will provide the essential information.



@*wit* (witness) has as its value the machine-readable siglum of the witness that has the original or the altered reading.

@*target* has as its value the @*xml:id* of the reading in question.

@*type* has one of the following values to classify the correction. Possible values:

- correction-original: the original reading, i.e., before correction (*ante correctionem* or a.c.). If <witDetail> with this type is self-closing, the LDLT reader will insert "(a.c.)" after the siglum for the witness designated in @*wit*. Otherwise, the value of <witDetail> will be inserted in parentheses after the siglum for the witness designated in @*wit*.
- correction-altered: the altered reading, i.e., after correction (*post correctionem* or p.c.). If <witDetail> with this type is self-closing, the LDLT reader will insert "(p.c.)" after the witness designated in @*wit*. Otherwise, the value of <witDetail> will be inserted in parentheses after the siglum for the witness designated in @*wit*.

It is impossible to describe all of the possible scenarios for correction, but the examples in the following sections should provide a basis for determining how to encode the most common instances.

## Correction: Examples

### Example 1

The first example is simple correction of a variant reading to the lemma: *protegit*] *protegis* **G** (a.c.).

It is clear in this instance what the reading after correction is, so there is no need to report it. There is also no need to list all of the other witnesses to the lemma, since it is clear that the uncorrected form is a unique reading. Also, the editor has decided that it is not useful to indicate which hand made the correction. In this example, manuscript **G** simply has the variant reading *protegis* for the lemma *protegit*, to which the variant reading in **G** has been corrected in some way.

The encoding for the prose method and the semantic markup method are identical for such a straightforward correction:

```
<app>
  <lem xml:id="lem-protegit">protegit</lem>
  <rdg wit="#G" xml:id="rdg-protegis">protegis</rdg>
  <witDetail target="#rdg-protegis"
    type="correction-original" wit="#G"/>
</app>
```

That is, <witDetail> uses @*target* to point to the variant reading, and @*type* shows that *protegis* is the original, uncorrected form.

## Example 2

This example is similar to the first one, but it is necessary to indicate the hand that made the correction.

The lemma is *insidias*. Manuscript **N** has *insidia*; **N**<sup>2</sup> has added the letter “s.” A traditional apparatus criticus might report this as follows: *insidias*] *insidia* **N** (corr. **N**<sup>2</sup>).

As in the first example, the encoding for the prose method and the semantic markup method are identical:

```
<app>
  <lem xml:id="lem-insidias">insidias</lem>
  <rdg wit="#N" xml:id="rdg-insidia">insidia</rdg>
  <witDetail target="#rdg-insidia"
    type="correction-original" wit="#N">corr.
  <hi rend="bold">N<hi rend="superscript">2</hi>
  </hi>
  </witDetail>
</app>
```

This encoding will produce the following entry in the apparatus criticus: *insidias*] *insidia* **N** (corr. **N**<sup>2</sup>

## Example 3

In this example, a variant reading is corrected to the lemma, but for a number of reasons it is important to indicate the reading before and after correction.

The witness **N** originally had *co* and *ice* with an erasure of two characters between them. The correcting hand **N**<sup>2</sup> has inserted the letters “r” and “t” in the erasure. The corrected form (*cortice*) matches the reading in witnesses **P** and **V**. Another reading is present in witnesses **G** and **A**.

A traditional apparatus criticus might report this as follows: *cortice* **N**<sup>2</sup> (*p.c., rt add. in ras.*) **PV** : *co*␣..␣*ice* **N** (a.c.) : codice **G A**.

In the prose method, the details are described in <witDetail>:

```
<app>
  <lem wit="#N2 #P #V" xml:id="lem-cortice">cortice</lem>
  <witDetail target="#lem-cortice"
    type="correction-altered" wit="#N2">rt <hi rend="italic">add. in ras.</hi>
  </witDetail>
  <rdg wit="#N" xml:id="rdg-coice">co␣..␣ice</rdg>
  <witDetail target="#rdg-coice"
    type="correction-original" wit="#N"/>
  <rdg wit="#G #A">codice</rdg>
</app>
```

This encoding will produce the following entry in the apparatus criticus: cortice **N**<sup>2</sup> (*p.c.*, *rt add. in ras.*) **PV** : co~~o~~ice **N** (a.c.) : codice **G A**.

The semantic markup method uses techniques described elsewhere in these guidelines to make the details readable by humans and machines:

```
<app>
  <lem wit="#N2 #P #V" xml:id="lem-cortice">cortice</lem>
  <witDetail target="#lem-cortice"
    type="correction-altered" wit="#N2">
    <add place="inRas">rt</add>
  </witDetail>
  <rdg wit="#N" xml:id="rdg-coice">co<del rend="erasure">
    <gap quantity="2" reason="lost"
      unit="character"/>
    </del>ice</rdg>
  <witDetail target="#rdg-coice"
    type="correction-original" wit="#N"/>
  <rdg wit="#G #A">codice</rdg>
</app>
```

That encoding would produce the following entry: cortice **N**<sup>2</sup> (*p.c.*, *rt add. in ras.*) **PV** : co~~o~~ice **N** (a.c.) : codice **G A**.

#### Example 4

This example includes multiple corrections.

The lemma is *descripta*. Manuscript **N** originally had *dipicta*, but **N**<sup>1</sup> corrected it to *depicta*. Another hand (**N**<sup>2</sup> has *descripta* in the margin. Other manuscripts support these and other readings.

A traditional apparatus criticus might report this as follows: *descripta* **P V N**<sup>2</sup> (*in mg.*) : *depicta* **G N**<sup>1</sup> (*p.c.*) : *dipicta* **N** (a.c.).

```
<app>
  <lem wit="#N2 #P #V"
    xml:id="lem-descripta">descripta</lem>
  <witDetail target="#lem-descripta"
    wit="#N2">in mg.</witDetail>
  <rdg wit="#G #N1" xml:id="rdg-depicta">depicta</rdg>
  <witDetail target="#rdg-depicta"
    type="correction-altered" wit="#N1"/>
  <rdg wit="#N" xml:id="rdg-dipicta">dipicta</rdg>
  <witDetail target="#rdg-dipicta"
    type="correction-original" wit="#N"/>
</app>
```

This encoding will produce the following entry in the apparatus criticus: *descripta* **N**<sup>2</sup> (*in mg.* **PV** : *depicta* **G N**<sup>1</sup> (*p.c.*) : *dipicta* **N** (a.c.).

Note that it is not possible to use the semantic markup method (i.e., <add> with @place="margin") for the marginal reading of N<sup>2</sup>, since the same reading appears in other witnesses in the text itself. Instead, the notation “in mg.” is inserted using <witDetail>.

## Conjecture and Emendation

As explained in the section 0, conjectures are readings that are not supported by documentary evidence, but are instead proposed by someone and considered by the editor to be worthy of inclusion in a critical edition. A conjecture is called an emendation if it is adopted as the official reading of a particular critical edition’s main text. In other words, for the purposes of these guidelines, an emendation is a “successful conjecture.” But above all, conjectures and emendations are readings (<lem> or <rdg>), and they are encoded as such in LDLT editions.

Traditionally, conjectures and emendations have been annotated in various ways in critical editions (e.g., *ci.* or *conj.* for *coniect*, *em.* or *emend.* for *emendavit*, among others). They should be annotated in digital editions, too, both to facilitate their identification and to enable features such as filtering and searching for them. The annotation is accomplished with @type.

Since an emendation is a conjecture that has been adopted for the main text of the edition, only <lem> may have @type with the value “emendation.” It could be inferred that a lemma with @source only is an emendation, but in the interest of being explicit, an emendation should be annotated accordingly. Using @type with the value of “emendation” will also facilitate searching and filtering for emendations.

Conversely, only <rdg> may have @type with the value “conjecture.” It could be inferred that a reading with @source only is a conjecture, but it is best to be explicit in the identification, if for no other reason than ensuring that “conjecture” is available as a criterion for searching and filtering.

The following example demonstrates how to encode both an emendation and a conjecture.

```
<app>
  <lem source="#Haupt1854" type="emendation"
    xml:id="lem-plenumque">plenumque</lem>
  <note target="#lem-plenumque">prob. <ref target="#Keene">Keene</ref> et
<ref target="#Schenk1">Schenk1</ref>
  </note>
  <rdg source="#edd." wit="#w">primumque</rdg>
  <rdg source="#Baehr." type="conjecture">rivumque</rdg>
  <rdg source="#CSchenk1" type="conjecture">pronumque</rdg>
</app>
```

This encoding will produce *plenumque* in the main text of the edition and the following in the apparatus criticus: *plenumque*] *em.* Haupt (*prob.* Keene *et* Schenk1), *primumque* *ωedd.*, *rivumque* *ci.* Baehr., *pronumque* *ci.* C. Schenk1.

Multiple conjectures proposed by a single person should be contained in <rdgGrp> and separated by <note> with value *vel* (or something similar).

```

<app>
  <lem>pallenti</lem>
  <rdgGrp>
    <rdg source="#Heins." type="conjecture">ridenti</rdg>
    <note>vel</note>
    <rdg source="#Heins." type="conjecture">varianti</rdg>
    <note>vel</note>
    <rdg source="#Heins." type="conjecture">vernanti</rdg>
    <note>vel</note>
    <rdg source="#Heins." type="conjecture">roranti</rdg>
  </rdgGrp>
</app>

```

This would be displayed in the apparatus criticus as pallenti] ridenti *vel* varianti *vel* vernanti *vel* roranti *ci.* Heins.

### ***Tentative Conjectures***

Occasionally, editors propose conjectures at the end of an entry in the critical apparatus but express uncertainty or doubt about the viability of the proposal.

- <note> before the <rdg> contains the interrogative *an* or a similar remark to introduce a tentative conjecture. Another <note> after the <rdg> contains a question mark to end the entry. The second <note> may also contain other text (e.g., a parenthetical reference to a passage that supports the conjecture). Each <note> must have an @xml:id. The attributes @next and @prev must be used to connect the two notes.
- <rdg> with @type="conjecture" and @cert="low" indicates that the reading is a tentative conjecture.

For example, Cynthia Damon prints the following in her OCT edition of Caesar's De Bello Civili at 1.24.3: relicto praetore] -tis -oribus *Basiner coll. Cic. Att. 9.6.1 : an* [r- p-]?

At the end of that entry, Damon has suggested the deletion of *relicto praetore*, but it is only a suggestion for others to consider. In an LDLT edition, that would be encoded as follows:

```

<app>
  <lem>relicto praetore</lem>
  <rdg source="#Basiner" type="conjecture"
    xml:id="rdg-1.24.3-relictis-praetoribus">relictis praetoribus</rdg>
  <note target="#rdg-1.24.3-relictis-praetoribus">coll.
  <bibl>
    <author>Cic.</author>
    <title>Att.</title> 9.6.1</bibl>
  </note>
  <note next="#note-1.24.3-b"
    xml:id="note-1.24.3-a">an</note>
  <rdg cert="low" source="#Damon"
    type="conjecture">
    <surplus>relicto praetore</surplus>
  </rdg>
  <note prev="note-1.24.3-a"

```

```
xml:id="note-1.24.3-b">?</note>
</app>
```

## Editorial Addition and Deletion

In some cases, an editor may wish to indicate that text has been supplied or removed by conjecture. The following subsections describe the methods for encoding editorial additions and deletions.

### Editorial Addition

< > = Text added or supplied by conjecture where text does not exist in the documentary evidence.

- <supplied> encloses text supplied by someone in the absence of text in the documentary evidence. It may be used in <lem> or <rdg>.

For example, Cynthia Damon prints the following in her [3]: *Ipsi Massilienses et celeritate nauium et scientia gubernatorum confisi nostros eludebant impetusque eorum excipiebant* <cedendo>.

Her apparatus criticus has the following:

excipiebant <cedendo> scripsi ex Luc. 3.55 (cf. Liu. 29.34.13) : <non> exc- Kramer : dec-Nipperdey (cf. Stat. Theb. 2.304) : effugiebant Terpstra coll. 2.41.6 : nisi mauis e.g. <laxata classe> exc- ex Luc. 3.548 (cf. BG 2.25.2).

Every instance of text enclosed in < > indicates that text has been added where text does not exist in the documentary evidence.

In an LDLT edition, that would be encoded as follows:

```
<p>Ipsi Massilienses et celeritate nauium et scientia gubernatorum
confisi nostros eludebant impetusque eorum <app>
  <lem source="#Damon" type="emendation"
    xml:id="lem-1.58.1-excipiebant-cedendo">excipiebant
  <supplied>cedendo</supplied>
</lem>
<note target="#lem-1.58.1-excipiebant-cedendo">scripsi ex
<bibl>
  <author>Luc.</author> 3.55</bibl> (cf. <ref target="#Liu">Liu</ref>.
29.34.13)</note>
<rdg source="#Kramer" type="conjecture">
  <supplied>non</supplied>
  excipiebant</rdg>
<rdg source="#Nipperdey"
  type="conjecture" xml:id="rdg-1.58.1-decipiebant">decipiebant</rdg>
<note target="#rdg-1.58.1-decipiebant">(cf.
<bibl>
  <author>Stat.</author>
```

```

<title>Theb.</title> 2.304</bibl>)</note>
<rdg source="#Terpstra" type="conjecture"
  xml:id="rdg-1.58.1-effugiebant">effugiebant</rdg>
<note target="#rdg-1.58.1-effugiebant">coll. 2.41.6</note>
<note>nisi mauis e.g. <laxata classe> exc- ex
<bibl>
  <author>Luc.</author> 3.548</bibl> (cf.
<bibl>
  <title>BG</title> 2.25.2</bibl>)</note>
</app>.</p>

```

The use of <supplied> will cause < and > to be inserted on either side of the text added by conjecture. The rest of the information is handled as a normal entry in the apparatus criticus.

If it is desirable to indicate in the apparatus criticus that a previous editor has proposed adding some text, even if the addition has not been adopted for the main text of the edition, <supplied> should be used inside of <rdg>. If the reading is swapped into the main text in the digital version, it will appear inside < and >.

### Editorial Deletion

{ } = Text considered by the editor to be inauthentic, but nevertheless retained between braces in the edition to indicate that it is part of the text's documentary history.

Square brackets have been used to indicate editorial deletions in the past, but, as [18] argues (p. 80), this is apt to cause confusion, since square brackets have a different meaning for papyrologists and epigraphists (see "0" in these guidelines). Accordingly, LDLT editions follow West's suggestion to use braces to indicate editorial deletions.

- <surplus> contains text identified by the editor as added by someone other than the original author (e.g., interpolation).
- <note> contains information about the deletion (e.g., bibliography, comments). This allows editors to make the distinction between the usage of *secl.* and *del.*

For example, at section 29 of Suetonius' life of Claudius, [8] indicates in the text of his OCT edition that he accepts as correct the deletion of two words by previous scholars: 'His, ut dixi, uxoribusque addictus non principem {se} sed ministrum egit, compendio cuiusque horum uel etiam studio aut libidine honores exercitus impunitates supplicia largitus {est} et quidem insciens plerumque et ignarus.'

The entry for the first one in the apparatus criticus has the following: 'se *secl.* Graev. 1697, 411 (Polak 1882, 12)'. The entry for the second one is as follows: 'est *del.* Bent.'

In an LDLT edition, the deletion would be encoded in the text as follows:

```

<p>His, ut dixi, uxoribusque addictus non principem <app>
  <lem source="#Graev." xml:id="lem-29-se">
    <surplus>se</surplus>
  </lem>

```

```

<note target="#lem-29-se">secl. <ref target="#Graev.">Graev. 1697,
    411</ref> (<ref target="#Polak">Polak 1882, 12</ref>)</note>
</app> sed ministrum egit, compendio cuiusque horum uel etiam studio
aut libidine honores exercitus impunitates supplicia largitus <app>
<lem source="#Bent." xml:id="#lem-29-est">
    <surplus>est</surplus>
</lem>
<note target="#lem-29-est">del. <ref target="#Bent.">Bent.</ref>
</note>
</app> et quidem insciens plerumque et
ignarus.</p>

```

The use of <surplus> will cause the braces { } to be inserted on both sides of the word(s) to be deleted. The rest of the information is handled as a normal entry in the apparatus criticus.

If it is desirable to indicate in the apparatus criticus that a previous editor has proposed deleting some text, even if the deletion has not been adopted for the main text of the edition, <surplus> should be used inside of <rdg>. If the reading is swapped into the main text in the digital version, the braces { } will be displayed around the reading.

## Conjectured Lacunae

<\*\*\*> = A lacuna has been conjectured on the grounds of style, context, or carelessness of a copyist (e.g., *saut du même au même*). No text has been supplied in its place.

The conjectured lacuna itself should be encoded with <gap> with @reason="lost" as indicated in the section "0." To indicate that it has been added by conjecture, <gap> should be enclosed by <supplied>. Further, if it has been accepted by the editor of the edition, it should be contained by <lem> with @type="emendation". If the conjectured lacuna is only noted in the apparatus criticus, then it should be contained by <rdg> with @type="conjecture".

For example, at the conclusion of section 3.8.4 of Julius Caesar's *de Bello Civili*, [3] edition has the following in the main text: *si in Caesaris complexum uenire posset* \*\*\*. The apparatus criticus has the following annotation: *lacunam statuit Vascosanus*.

In an LDLT edition, that should be encoded as follows:

```

<p>si in Caesaris complexum uenire posset <app>
  <lem source="#Vascosanus"
    type="emendation">
    <supplied>
      <gap reason="lost"/>
    </supplied>
  </lem>
</app>
</p>

```

The same encoding should be used to indicate the conjectured lacuna of a number of lines of verse. For example, [11] argues that nine verses have been omitted by the copyist of the archetype of all manuscripts of Calpurnius Siculus' eclogues. He prints nine lines of equally



spaced dots in the text, and he writes in the apparatus criticus, ‘u. 1–9 *librarii incuria cecidisse puto.*’

If the editor of an LDLT edition of Calpurnius accepts this argument, Verdière's conjecture would be encoded as follows:

```
<app type="line-omission">
  <lem source="#Verdière" xml:id="lem-1.1-9">
    <supplied>
      <gap quantity="9" reason="lost"
        unit="lines"/>
    </supplied>
  </lem>
  <note target="#lem-1.1-9">u. 1–9 librarii incuria cecidisse putavit
    Verdière</note>
</app>
```

In the digital or print version, nine lines of < \*\*\* > would be printed at the beginning of the text, and the numbering of the lines that follow would begin with 10. The apparatus criticus would have the entry ‘u. 1–9 librarii incuria cecidisse putavit Verdière’.

## Crux

† † = Text deemed by the editor to be readable but not understandable, with no satisfactory alternatives.

< sic > indicates that the text is readable but not understandable. In this usage it is not paired with < corr >, its customary partner in the TEI guidelines, because the nature of a crux is that it cannot be corrected.

For example, at section 2.4.12 of Macrobius’ Saturnalia, [7] marks two words in the text of his OCT edition with *cruces*: ‘... “vale mel gentium †meculle†, ebur ex Etruria, lasar Arretinum, adamas Supernas, Tiberinum margaritum, Cilniorum smargde, iaspi figulorum, berulle Porsenae, carbunculum †habeas†, ἵνα συντέμω πάντα, ἀλλαγμὰ moecharum.”’

In the apparatus criticus for the first crux, Kaster has the following: ‘meculle *Nβ*(melcule *DP<sup>2</sup>G*, *n.l. P<sup>1</sup>*): Medulliae Turnebus 1604, 584.’ The second one is simpler: ‘habeas] Hadriae *Jahn*’.

The following example demonstrates how these *cruces* would be encoded in an LDLT edition:

```
<p>
  <quote>vale mel gentium <app>
    <lem wit="#N #β" xml:id="lem-meculle">
      < sic >meculle</ sic >
    </lem>
    <note target="#lem-meculle">melcule <ref target="#D">D</ref>
      <ref target="#P2">P< hi rend="superscript">2</ hi >
      </ref>
      <ref target="#G">G</ref>, n.l.
    <ref target="#P1">P< hi rend="superscript">1</ hi >
```

```

    </ref>
  </note>
  <rdg source="#Turnebus"
    xml:id="rdg-Medulliae">Medulliae</rdg>
  <note target="#rdg-Medulliae">584</note>
</app>, ebur ex Etruria, lasar Arretinum, adamas Supernas, Tiberinum
margaritum, Cilniorum smaragde, iaspi figulorum, berulle Porsenae,
carbunculum <app>
  <lem>
    <sic>habeas</sic>
  </lem>
  <rdg source="#Jahn">Hadriae</rdg>
</app>, <foreign xml:lang="grc">ἵνα συντέμω πάντα, ἄλλαγμα</foreign>
moecharum.</quote>
</p>

```

The use of <sic> would cause the symbol † to be placed on both ends of each crux. The rest of the information would be handled in the normal manner for readings in the apparatus criticus.

## Tagging Readings for Analysis

An editor may enhance an edition's functionality by adding one or more of the analytical "tags" listed below. Use of these tags will enable additional filtering and querying functionality, such as filtering out purely orthographical variants or focusing on variants that affect the syntax of the text.

It is up to the editor to decide how extensively to apply these analytical tags, if at all. If analytical tags are used, the preface should make clear which ones are used and why they are used. For example, an editor may wish only to tag orthographical variants so that users can filter them in or out of the text as they please.

@ana (analysis) on <rdg> applies one or more of the following values to a reading:

- lexical: the reading differs from the lemma by offering an entirely different lexeme.
- morphological: the reading differs from the lemma in its grammatical form.
- ordinal: the reading changes the order in which units (letters, words, phrases, sentences, lines) occur in the lemma.
- orthographical: the reading differs from the lemma only in spelling (i.e., not in any grammatically significant way).
- syntactic: the reading differs from the lemma in its grammatical construction or arrangement.
- subtractive: omission of some unit of text through oversight, erasure, or some other cause.
- additive: an interpolation, i.e., some text judged by the editor to have entered the tradition through the mistaken or deliberate copying of auxiliary material (e.g., glosses, marginalia, etc.).

```

<app>
  <lem wit="#N #P #GlaeserSqq">vicit</lem>

```

```
<rdg ana="#morphological" wit="#G">vicit</rdg>
<rdg ana="#lexical" wit="#d">ludit</rdg>
<rdg ana="#lexical" wit="#V">lusit</rdg>
<rdg ana="#lexical" wit="#μ">visit</rdg>
<rdg ana="#subtractive" wit="#γ"/>
</app>
```

## Editorial Notes

These guidelines cover most of the types of information commonly found in a critical apparatus, but not all of them, since it would be impossible to anticipate everything any editor of a text would ever need to encode.

If a certain kind of annotation or comment is needed, but a method for encoding it is not described in these guidelines, <witDetail> or <note> may be used *ad hoc*, depending on whether the subject is a single witness (<witDetail>) or something of a more general nature (<note>).

These guidelines may also be extended as the community of users discovers and proposes additional encoding patterns to the staff of the LDLT.

## Commentary

Traditionally, extended commentary on textual matters has been published apart from the critical edition (e.g., as a monograph or in textual notes published in periodicals). Editors of LDLT editions are encouraged to include longer notes on textual matters in a section enclosed in <div> with @xml:id="textual-commentary".

This section demonstrates how to encode longer notes.

<anchor> is an empty element placed at a point in the main text that is the subject of an extended note. It must have @xml:id so that the note can point to it. It must also have @corresp pointing to the @xml:id of the note in the commentary so that a link can be inserted directly to the note.

<note> with @type="commentary" and @target pointing to the @xml:id of the <anchor> contains the text of the note, which is written in prose using <p>.

For example, after Calp. 4.96, [5] prints five unnumbered lines of dots to indicate that he believes a stanza is missing. At 4.97, he includes in his apparatus criticus an extended discussion about his rearrangement of several sets of lines. In an LDLT edition, it is preferable to put that sort of discussion in the textual commentary. The following example demonstrates how it would be encoded in an LDLT edition:

```
<app type="line-omission">
  <lem source="#Giarratano"
    type="emendation" xml:id="lem-4.96-gap">
    <!-- Lines are not numbered so as not to interrupt the traditional numbering -->
```

```

<l>
  <supplied>
    <gap reason="lost"/>
  </supplied>
</l>
<l>
  <supplied>
    <gap reason="lost"/>
  </supplied>
</l>
<l>
  <supplied>
    <gap reason="lost"/>
  </supplied>
</l>
<l>
  <supplied>
    <gap reason="lost"/>
  </supplied>
</l>
<l>
  <supplied>
    <gap reason="lost"/>
  </supplied>
</l>
</lem>
<note target="#lem-4.96-gap">quinque vv. deesse puto. <anchor corresp="#comm-4.96"
  xml:id="gap-4.96"/>
</note>
</app>
<l n="97">Aspicis, ut virides audito Caesare silvae</l>
<!-- Edition continues until end. -->
<div type="commentary">
  <note target="#lem-4.96-gap"
    type="commentary" xml:id="comm-4.96">
    <p>4.96: Carmen amoebaeum, quod vocatur, cum ex impari stropharum numero
      constare nequeat, in hac ecloga integrum non esses <ref target="#Hermann">G.
        Hermann</ref> (ad Bion. et Mosch. p. 46) primus sensit.
    <ref target="#Schenkl">Schenkl</ref> autem censuit deesse stropham quae olim
      opposita fuit strophae VIII itidemque comite carere III, quam ob rem in
      editione priore vir doctissimus III post XI transposuit lacunaeque in
      utraque editione post F. Leo (Zeitsch. f. d. oesterr. Gymn. XXXVI p. 619)
      XIII post III collocavit ut v. 141 carmen amoebaeum concluderetur. Mihi
      quidem, cum strophae I, et II, IV et V, VI et VII, IX et X, XII et XIII
      invicem sibi respondeant, visum est lacunam post III constituere et XI
      transponere ante VIII.</p>
    </note>
  </div>

```

This encoding will produce the following in a digital or print version:

- five unnumbered lines of < \*\*\* >
- The following note in the apparatus criticus: quinque vv. deesse puto.
- The symbol ¶ after the note indicating further discussion is available in the textual commentary.

- A note in the textual commentary.

The digital version will have the additional feature of links from the apparatus to the commentary and from the commentary to the apparatus.

## Works Cited

The following is a list of works cited in these guidelines.

- [1] Editions
- [2] Bazán, C., K. Emery, T. Noone, R. Plevano, A. Traver, eds. *B. Ioannis Duns Scoti Quaestiones Super Secundum et Tertium De Anima.* , B. Ioannis Duns Scoti Opera Philosophica 5. Washington, D.C.: The Catholic University of America Press, 2006.
- [3] Damon, C., ed. *C. Iuli Caesaris Commentariorum Libri III De Bello Civili.* , Oxford Classical Texts. Oxford: Clarendon Press, 2015.
- [4] Gelsomino, Remo, ed. *Vibius Sequester.* , Bibliotheca Scriptorum Graecorum et Romanorum Teubneriana. Leipzig: B. G. Teubner, 1967.
- [5] Giarratano, Caesar, ed. *Calpurnii et Nemesiani Bucolica.* Naples: Detken and Rocholl, 1910.
- [6] Hall, J. B., ed. *Ovidius: Tristia.* , Bibliotheca Scriptorum Graecorum et Romanorum Teubneriana. Stuttgart and Leipzig: B. G. Teubner, 1995.
- [7] Kaster, Robert A., ed. *Macrobiani Ambrosii Theodosii Saturnalia.* , Oxford Classical Texts. Oxford: Clarendon Press, 2011.
- [8] ———, ed. *C. Suetoni Tranquilli De Vita Caesarum Libros VIII et De Grammaticis et Rhetoribus Librum.* , Oxford Classical Texts. Oxford: Clarendon Press, 2016.
- [9] Lindsay, W. M., ed. *Festus: De Verborum Significatu cum Pauli Epitome.* , Bibliotheca Scriptorum Graecorum et Romanorum Teubneriana. Stuttgart and Leipzig: B. G. Teubner, 1913.
- [10] Tarrant, R. J., ed. *P. Ovidi Nasoni Metamorphoses.* , Oxford Classical Texts. Oxford: Clarendon Press, 2004.
- [11] Verdière, Raoul, ed. *T. Calpurnii Siculi De laude Pisonis et Bucolica et M. Annaei Lucani De laude Caesaris Einsidlensia quae dicuntur carmina.* , Collection Latomus 19. Berchem-Bruxelles: Latomus: Revue d'Études Latines, 1954.
- [12] Guidelines
- [13] Elliott, Tom, Gabriel Bodard, Hugh Cayless et al. *EpiDoc: Epigraphic Documents in TEI XML.* Online material, available: <http://epidoc.sf.net> (2016-09-17).
- [14] Marsh, Jonathan Daniel Veillard, Norman Walsh. *xml:id Version 1.0* , W3C Recommendation 9 September 2005 <https://www.w3.org/TR/xml-id/> (2016-09-17)
- [15] TEI Consortium, eds. *TEI P5: Guidelines for Electronic Text Encoding and Interchange.* Version 3.0.0. Last updated on 29th March 2016, revision 89ba24e. TEI Consortium. <http://www.tei-c.org/Guidelines/P5/> (2016-09-17).
- [16] Other Works Cited

- [17] University of Chicago Press Staff. *The Chicago Manual of Style*, 16th ed.  
Chicago: Chicago University Press, 2010
- [18] West, M. L. *Textual Criticism and Editorial Technique Applicable to Greek and Latin Texts*. Stuttgart: B. G. Teubner, 1973.