Guidelines for Encoding Critical Editions for the Library of Digital Latin Texts

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Acknowledgments

The following guidelines are the product of a collaboration between Samuel J. Huskey (University of Oklahoma) and Hugh Cayless (Duke Collaboratory for Classical Computing), but many others deserve acknowledgment for their contributions.

Cynthia Damon (University of Pennsylvania) and Robert Kaster (Princeton University) read and commented on the guidelines from their perspectives as editors of critical texts. Their insights into the methods and practices of textual criticism, particularly with regard to terminology, have been invaluable. They also contributed pilot projects for use in evaluating and refining the encoding guidelines. In addition, Robert Kaster devoted considerable time to developing the typology of variant readings in the section "Tagging Readings for Analysis." Since that typology is the basis for a significant feature of the *Library of Digital Latin Texts*, his efforts deserve special recognition here.

Tom Elliott (Institute for the Study of the Ancient World, New York University) contributed valuable insights and suggestions throughout, but particularly with regard to the sections "People" and "Places."

Jeffrey C. Witt (Loyola University, Maryland) also contributed to the development of these guidelines by sharing the encoding guidelines for his own project, Lombard Press (http://lombardpress.org/).

Jim Ginther (St. Michael's College, University of Toronto), Patrick Cuba (St. Louis University), Joshua D. Sosin (Duke University), and Jeffrey C. Witt (Loyola University, Maryland) participated in technical meetings to discuss various aspects of this project.

Chris Weaver (University of Oklahoma) and June Abbas (University of Oklahoma), both co-PI's with Huskey on the Digital Latin Library project, provided important comments and insights from their perspectives in the fields of computer science and library and information studies, respectively.

Virginia K. Felkner (University of Oklahoma) helped to refine the guidelines in many places through her work in designing scripts for automating some of the encoding tasks described here.

The Andrew W. Mellon Foundation provided funding for the development of these guidelines.

Donald Mastronarde (University of California, Berkeley, and Richard Tarrant (Harvard) collaborated to review an earlier version (72479d0) of these guidelines. Their review was published on December 4, 2017 on the Society for Classical Studies' blog as "Review: Guidelines for Encoding Critical Editions for the Library of Digital Latin Texts." The current version of these guidelines owes much to their constructive criticism.

Finally, the many contributors to the standard established and maintained by TEI deserve the gratitude of anyone involved in humanities computing. The LDLT guidelines are a customization of the TEI and the EpiDoc guidelines for XML text markup of ancient documents, to which they also owe much.

Getting Started

This document contains encoding guidelines for The Library of Digital Latin Texts (LDLT), a series to be published by the Digital Latin Library in collaboration with the Society for Classical Studies, the Medieval Academy of America, and the Renaissance Society of America.

The LDLT uses a customization of the standard established by the TEI. 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. `<ptr/>`). You can have only one root element (`<TEI>` in this case). Some special characters (especially `<`) need to be escaped (`<` is how you do a left angle branket). 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.

Definition of an LDLT Edition

The term "scholarly digital edition" can refer to many different kinds of digital objects, from simple text or HTML files to dynamic, multimedia resources. Most scholarly digital editions attempt to combine textual criticism with insights and techniques from a variety of other scholarly fields such as human-computer interaction, information visualization, interface design, and data analytics. In addition to a critical text, these multi-media resources provide a digital environment designed for experiencing textual and other kinds of data (e.g., visual, aural). Often these environments highlight the idiosyncrasies of a specific work or works, and they require a variety of technologies to function as expected.

Although such editions can promote new and original ways of thinking about texts and their contexts, they are liable to loss of functionality over time as technology changes. Moreover, they do not lend themselves to contributing to a larger collection of texts that can be stored, searched, analyzed, visualized, and reused with reliable, reproducible results. The overall goal of the LDLT is to build such a collection, and to make the collection and its individual texts available for use with a variety of platforms and applications.

A tenet of the Digital Latin Library project is that editors of critical editions should not have to become experts in the full stack of technology required for designing, building, and maintaining digital resources. A corollary is that designing, building, and maintaining digital resources can and should be considered scholarly activities, too, especially if they make original contributions to scholarship or enable others to make those contributions. For these reasons, the LDLT separates, as much as possible, textual data from visualization and interaction.

Accordingly, an LDLT edition is a single, version-controlled file encoded in TEI according to the guidelines articulated in this document. The file contains the elements traditionally associated with critical editions: a preface, a critical text, scholarly apparatuses, and ancillary materials. Editors may include critical transcriptions of witnesses, collation tables, notes, images, and other materials in the repository that holds the LDLT edition so that users can have access to that data if they wish to study the text in greater detail. Although LDLT editions themselves are not multimedia resources, editors should take advantage of the opportunity to enhance their editions by incorporating links to digital resources both within the edition (e.g., names of people and/or places) and elsewhere (e.g., digital copies of books and articles, images of manuscripts, maps, etc.). See the section "Linking" for more information.

Because LDLT editions are openly available for reuse as the basis for information visualization, data analysis, or other projects, nothing precludes anyone from creating a multimedia project to highlight aspects of LDLT data. Indeed, the Digital Latin Library itself is developing an application for using information visualization techniques on LDLT data, and it also provides the official LDLT Viewer as a reading environment for LDLT editions. It should be emphasized, however, that the text as presented in the LDLT Viewer is not the same thing as the LDLT edition. Rather, the edition is a specific version of the file that contains the data that the LDLT Viewer visualizes.

The LDLT Viewer

Because LDLT editions are XML files, humans can read them, but not with ease. That is why the Digital Latin Library has developed and maintains the official LDLT Viewer, an application that provides an interactive reading environment.

The LDLT Viewer itself is an example of the reuse of LDLT data for scholarly purposes. Drawing on his experience with and knowledge of human-computer interaction, interface design, and traditional philology, Cayless built the LDLT Viewer to highlight certain aspects of these guidelines. Depending on the choices made by editors when following these guidelines, the following features may be available when an LDLT edition is viewed in the LDLT Viewer:

- Variant readings can be swapped into or out of the text so that they can be evaluated *in situ*.

- Transposed lines can be swapped to show their "original" and altered positions.

- Types of variant readings (e.g., orthographic variations) can be filtered to limit the number of apparatus entries on the screen.

- Notes on the text can be viewed in close proximity to their related subject.

The LDLT Viewer also presents the apparatus criticus in two formats: clickable icons in the margin of the text, and a more traditional critical apparatus format at the end of each section of text. Reading aids are also available through the implementation of Javascript libraries available from Alpheios. Clicking on a word will reveal a window that provides lexical and morphological information.

To provide maximum flexibility in making editorial decisions, these guidelines offer several approaches to encoding certain types of information. As noted in the sections of this document, some approaches may affect the availability of the LDLT Viewer's features.

Since the LDLT Viewer is not the same thing as the LDLT edition, the functionality of the viewer should not be the determining factor in editorial decisions. Rather, editors should opt for the method that most accurately expresses their view of the text.

Language of an LDLT Edition

The front matter (i.e., preface, manuscript descriptions, etc.), commentary, and any appendices of an LDLT edition may be in Latin or English, depending on the editor's preference.

Traditional Latin conventions for the apparatus fontium, apparatus testium, and apparatus criticus should be used for those components of an LDLT edition.

Linking

In a traditional edition in print, citations and references link the edition's content with its own content (e.g., via cross-references) and content in other texts (e.g., parallel texts, quotations, etc.) and resources (e.g., scholarly notes, maps, images, etc.). Over time, scholars have developed standards for referring to texts with abbreviations (e.g., Verg. Ecl.) and citation schemes (e.g. Sent. I, prol., [n. 1]). To be sure, there are competing standards (e.g., Cat. and Catil. are two standard ways of referring to Cicero's *In Catilinam*) and competing citation schemes (e.g., the numbering of chapters in works by Cicero according to the editions of Gruter [1618] or Scot [1588]).Cf. *John Glucker, "Chapter and Verse in Cicero," Grazer Beiträge 11 (1984): 103–112.* As in all other matters in editing, being accurate and consistent with references and citations is paramount.

The same is true with digital editions, but there is an additional consideration. The ability to click on a hyperlink in a text and have immediate, unmediated access to another digital resource is a distinctive characteristic of digital editions, and it is understandable that editors would want to take advantage of that functionality. But linking to specific sites on the internet can also have pitfalls. Link rot, for example, is a concern. Links can change or expire, and entire sites can become defunct. Although many maintainers of online texts take pains to observe best practices with regard to the stability and reliability of their sites, several factors beyond their control can render resources inaccessible on a temporary or permanent basis. Moreover, hypertextuality is still an active area for research, and best practices have yet to be established.

For these reasons, the implementation of hyperlinks is an important consideration for an editor of a digital edition. To preserve a high degree of confidence in an edition's scholarship, these guidelines recommend a conservative approach. That is not to say that hyperlinks should never be used. Rather, editors should select the method that makes the best use of resources available. Above all, they should bear in mind that their first concern in linking, whatever the method, is to be accurate and consistent.

The following sections describe different ways of linking to resources.

Linking Texts

At a minimum, editors should use the citation schemes familiar from printed editions. This establishes a "link" to other texts that does not depend on any other technology to be meaningful. Moreover, it facilitates the automatic production of an index of passages cited or other similar resources.

Such references should consist of standard conventions for identifying a text. The basic elements for this kind of reference are:

- `<bibl>` (bibliographic citation) encloses bibliographic information about a cited text.

- `<author>` encloses the full or abbreviated name of the cited text's author.

- `<title>` encloses the full or abbreviated name of the cited text.

- `<citedRance>` encloses the units of text (paragraphs, pages, sections, etc.) cited.

The following is a minimal example of "linking" in this way:

```
<p>This is a reference to <bibl>
  <author>Vergil</author>,
  <title>Eclogues</title>
  <citedRange>1.5</citedRange></bibl></p>
```

Standard abbreviations can be used in place of the full name of the author and the full title of the work:

```
<p>This is a reference to <bibl>
  <author>Verg.</author>, <title>Ecl.</title>
  <citedRange>1.5</citedRange></bibl></p>
```

It may be useful to include in the edition's front matter a list of abbreviations for frequently cited works. In that case, abbreviations can be referenced using *@corresp*:

```
<!-- In the front matter --><table xml:id="citation-author-works">
 <head>Citation of Authors and Works</head>
 <row>
  <cell>Citation Format</cell>
  <cell>Author and Work</cell>
  <cell>Edition</cell>
 </row>
 <row xml:id="vergEcl">
  <cell>Verg. Ecl.</cell>
  <cell>Vergil, Eclogues</cell>
  <cell>Mynors, 1969</cell>
 </row>
</table>
<!-- In the edition proper. -->
<p>This is a reference to <bibl corresp="#vergEcl">
  <author>Verg.</author>,
  <title>Ecl.</title>
  <citedRange>1.5</citedRange></bibl></p>
```

Hyperlinking to Texts

If editors wish to establish hyperlinks to other texts, the best way of mitigating the risk of link rot is to refer not to specific resources, but to a Universal Resource Name (URN). Canonical Text Services (CTS) is a scheme for providing URNs for texts that can be used on any sites that are configured to resolve them. For example, the CTS URN for Vergil's *Eclogues* is urn:cts:latinLit:phi0690.phi001. A link to line 1.5 of that poem could be implemented using *@target* on `<citedRange>` as follows:

```
<p>This is a reference to <bibl corresp="#vergEcl">
  <author>Verg.</author>,
  <title>Ecl.</title>
  <citedRange target="urn:cts:latinLit:phi0690.phi001:1.5">1.5</citedRange></bibl></p>
```

In this case, the editor must add a `<refsDecl>` to the edition's TEI header to explain how the URN should be resolved to point to a particular resource for displaying the text (e.g, the Scaife Viewer).

CTS URNs exist for all of Classical Latin and much of Medieval Latin; coverage of Neo-Latin texts, however, is spotty, but progress is being made to improve it, and the Digital Latin Library is contributing to that effort. For example, texts added to the LDLT will be citable with CTS URNs. However, since the adoption of CTS URNs varies from one scholarly community to another, what may be second nature to one group may be foreign to another, so these guidelines suggest an alternative approach for inserting hyperlinks to texts and other resources.

A mission of the DLL is to build and maintain a Linked Open Data architecture for referring to information related to works in Latin. This Linked Open Data architecture includes author pages and works pages that feature a range of identifiers, including not only CTS URNs (where they exist), but also identifiers from the Virtual International Authority File, the Library of Congress, and individual collections such as the Packard Humanities Institute's Latin Texts, among others.

Looking up DLL pages for all of the citations in a critical edition would take a great deal of time, once search times and page-load times are factored into the equation. Therefore, to simplify the process, and to make it possible to automate it, the DLL has made the addresses for these pages easy to generate by following a pattern based on the work's ID number in the DLL's catalog. Those ID numbers are available online or as a downloadable CSV file for quick reference.

Generating the address for a work is a matter of following the pattern https://catalog.digitallatin.org/dll-work/[ID]. For example, the DLL ID for Vergil's *Eclogues* is W3894, so its address is https://catalog.digitallatin.org/dll-work/W3894. The information at that address includes the authorized form of the author's name, standard and alternative forms of the title of the work, known identifiers for the work, and links to versions of the text known to the DLL catalog.

In an LDLT edition, an editor referring to line 1.5 of Vergil's *Eclogues* could link to the DLL's work page as follows:

```
<p>This is a reference to Vergil's <title ref="dll:W3894">Eclogues</title>..</p>
```

In this shorthand version, the prefix "dll" in *@ref* can be expanded automatically to the string "https://catalog.digitallatin.org/dll-work/", and the ID or alias after the colon can be appended to it to create the link to the DLL page for that work. Although this means that access to the resource will be mediated (i.e., users will be sent to the DLL's site first, where they will find a link to the resource), that mediation provides some protection against link rot. That means that this method does not allow editors to link to a specific line number, but the resulting page may give readers access to a variety of options for viewing the text. If any necessary information is not yet in the DLL's catalog, editors should alert DLL staff so that it can be given the highest priority in the queue for adding entries to the catalog.

Simple Hyperlinks

- `<ptr>` (pointer) is a "self-closing" or milestone tag that contains the address for a resource in *@target*.

- `<ref>` (reference) contains text to be hyperlinked to the resource identified in *@target*.

The following example uses `<ptr>` to produce a hyperlink reading "http://www.someurl.org/resource/":

```
<ptr target="http://www.someurl.org/resource/"/>
```

In the next example, the words "Some linked text" would become a hyperlink to the resource at http://www.someurl.org/resource/:

```
<ref target="http://www.someurl.org/resource">Some linked text</ref>
```

Either one of these methods is acceptable for producing a hyperlink. It is up to the editor to decide which one is most appropriate in each instance. It is also up to the editor to determine the reliability of a digital resource and to use good scholarly judgment about linking to it. The following subsections include guidelines for making those decisions.

Other References

These guidelines recommend encoding an edition's list of manuscripts and its bibliography in the front matter. The following sections describe in detail how to encode the different types of sources:

- Listing Manuscripts

- Editions

- Books

- Articles

- Reviews

- List of Scholars

Those sections also include information about encoding hyperlinks to digital versions of items in lists of manuscripts or the bibliography. Because each item should have a unique identifier (see "Human- and Machine-Readable Sigla, Symbols, and Abbreviations", references to these sources can be made anywhere in the text using `<ref>` with *@target* as follows:

```
 This is a reference to <ref target="#Weherlein1922">Wehrlein's 1922 edition</ref>.
```

That encoding will render "Wehrlein's 1922 edition" as a hyperlink to the full item in the edition's bibliography.

If it is desireable to refer to a particular source on the internet without citing it in the bibliography, `<ptr>` or `<ref>` with *@target* may be used as described in the section "Linking".

For example, at Calp. 1.73 Giarratano refers once to a made by Müller in his review of Schenkl: *asseret* L. Mueller (Berl. phil. Woch. V. p. 1071). Since the fifth volume of *Berliner philologische Wochenschrift* is openly available, the editor of an LDLT edition could include a link to it with `<ref>`:

```
<note>L. Mueller (<ref target="https://hdl.handle.net/2027/uiug.30112023962282?urlappend=%3Bseq=6
phil. Woch. V. p. 1071</ref>)</note>
```

That link will point the reader to the PDF of that page (column, to be exact) as stored at the HathiTrust's digital library.

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 to 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 "Bibliography" below. -->
    </div>
  </front>
  <body>
    <div type="edition" xml:id="edition-text"
     xml:space="preserve">
                                        <div type="textpart" n="1" xml:id="part1">
                                            <head>Title of First Part</head>

<!--Text goes here, according to the conventions laid out elsewhere in these
guidelines.
Note that ever section of the text (e.g., book, chapter, poem) should be contained
in a <div> with an xml:id. -->
                                        </div>
                                        <div type="textpart" n="2" xml:id="part2">
                                            <head>Title of Second Part</head>

<!--Each new major section (e.g., book, volume) has a new <div>.-->
                                        </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 the argument for the current edition, a survey of the witnesses and sources, the bibliography, and other information that may be of interest. The front matter may be organized into sections and subsections (using `<div>`, each with a unique *@xml:id*). See the section "Structure of an LDLT Edition" for an example.

The front matter may be in Latin or English, depending on the editor's preference.

The elements and attributes available to all TEI documents may be used in the edition's front matter. For example, in addition to using `<p>` to divide the preface into paragraphs, 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. Similarly, certain standard elements may be used in the description of manuscripts and other sources. See section 3 of the TEI Guidelines, "Elements Available in All TEI Documents" for a list of the available elements and attributes and more information about using them.

Because the `<front>` also defines the edition's data and data model, it is important to understand how the LDLT's data model handles certain traditional aspects of critical editions. In particular, it is vital to understand what the terms "**witness**" and "**source**" mean in the context of the LDLT, and how to refer to them with sigla and abbreviations that can be understood by humans and processed by machines.

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 readings. The classification of resources as witnesses and sources also affects how they are encoded in the edition's preface and bibliography.

Witness: 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 in glosses, marginalia, corrections, conjectures, etc. 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. For more on editions as witnesses, see "Editions."

Source: 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.

Whether an item is a witness or a source, it **must** have two kinds of identifier that will stand for it wherever it is referenced in the edition: one for human readers, the other for machines. The next section explains the concept of human- and machine-readable sigla, symbols, and abbreviations.

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

Printed editions have long used a system of references for manuscripts and other items. 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 demontrated 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 crticial 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^2 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 XML-ID 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 West (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 suggestions might be useful:

Information	Example Value of *@xml:id*	Example Value of `<abbr>`
A single manuscript	V	V
Manuscript Hands	Vh1, Vh2	V^1, V^2
Multiple manuscripts from one collection	Vms1, Vms2	V_1, V_2
One of many indistinguishable hands	Vrec	V^{rec}
Fragments of ancient copies	Π1, Π2	$Π^1$, $Π^2$
Consensus of manuscripts	ω	ω

One or more late manuscripts	ς[1]	ς
Scholia	Σ	Σ
Scholia in a certain manuscript	Σa, Σb	Σ^a, Σ^b
A Single Edition, Book or Other Source	Mynors	Mynors
Multiple editions	Schenkl1, Schenkl2	$Schenkl^1$, $Schenkl^2$
Multiple books or articles by the same scholar	Burm1731, Burm1759	Burm. 1731, Burm. 1759

In short, **every witness or source in an LDLT edition must have both a machine-readable ID (using *@xml:id*) and a human-readable siglum or abbreviation (using `<abbr>` with *@type*="siglum").** Otherwise, the edition will not be able to make full use of the digital format. Morever, if an entry lacks `<abbr>`, it will not be available for a print version of the edition, should one be required.

Manuscript Description

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. The TEI has a module for manuscript description, but its highly structured nature is intended for use in catalogs and databases of manuscripts. Accordingly, these guidelines describe a method similar to what is found in traditional critical editions: detailed prose descriptions of manuscripts in a preface and/or a list of more concise information in the *conspectus siglorum*. If, however, the edition is a critical transcription of a single manuscript or a limited number of manuscripts, the editor may wish to enrich the edition's metadata by adding a structured description (using `<msDesc>`) in the `<sourceDesc>` portion of the TEI header. The Digital Latin Library is also building a catalog of manuscripts, using the TEI guidelines as a model. Editors of LDLT editions may elect to create records for manuscripts in the catalog and point to those records in their editions.

The following sections describe the components of manuscript description in an LDLT edition.

Listing Manuscripts

This section describes the minimum requirements for manuscript description in an LDLT edition: a concise list (using `<listWit>` and `<witness>`) of manuscripts in which the sigla (both human- and machine-readable) are defined. This is sufficient to give readers basic information about the manuscripts and to establish a data model for the edition. It is also sufficient to enable the functionality of the LDLT viewing application. The lists described here correspond to the *conspectus siglorum* in a traditional printed edition.

The absolute minimum required is `<listWit>`, `<witness>`, `<abbr>`, `<name>`, and `<date>`:

- `<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>` contains 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>` with *@type*="siglum" 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*.

- `<name>` contains the name of the manuscript as it appears in its repository's catalog.

---

[1] The lower-case character "stigma" (ς) is, due to an oversight in the XML Specification, an illegal value for *@xml:id*, so the upper-case character (ς) is used in its place in this example. For more on this issue, see Cayless "TEI Next."

- `<date>` contains a reference to the date when the manuscript was written.

The following example demonstrates the bare minimum for describing manuscripts in an LDLT edition:

```
<listWit>
 <witness xml:id="N">
  <abbr type="siglum">N</abbr>
  <name>Codex Neapolitanus V A 8</name>, <date>saec.
      XV</date></witness>
 <witness xml:id="G">
  <abbr type="siglum">G</abbr>
  <name>Codex Gaddianus pl. 90, 12 inf.</name>, <date>saec.
      XV</date></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 to locate them for private study, which is why an editor may want to include a prose description with more information elsewhere in the front matter.

Note that the language used for listing manuscripts is the editor's choice, but if the manuscript is traditionally referred to by a Latin name, that form should be used.

The next sections demonstrate how to assign sigla to families of manuscripts, archetypes, and hyparchetypes so that they may be referred to in the apparatus criticus or elsewhere.

Manuscript Families

Since a manuscript's family is not itself a physical object, but a concept (i.e., a group of related manuscripts), the family's 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">
<!-- Identifying information for manuscript A -->
 </witness>
 <witness xml:id="B">
<!-- Identifying information manuscript B -->
 </witness>
<!-- Et cetera -->
</listWit>
```

Archetypes and Hyparchetypes

An archetype is the most recent common ancestor of the known manuscripts (cf. West 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, Kaster 2016 assigns the siglum ω 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 α and β. The two families have branches, each with their own hyparchetype (α_1 α_2 β_1 β_2).

Kaster lists the sigla as follows:

- ω archetypus codicum αβ

    - α hyparchetypus codicum α_1 α_2

        * α_1 hyparchetypus codicum MG
            · M Paris. lat. 6115 s. $IX^{1/2}$ (an. c. 820?)
            · G Guelf. 4573 (Gud. lat. 268), s. $XI^{3/4}$
        * 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:

```xml
<listWit>
 <witness xml:id="ω">
  <abbr type="siglum">ω</abbr>
  <name>archetypus codicum αβ</name>
  <listWit>
   <witness xml:id="a">
    <abbr type="siglum">α</abbr>
    <name>hyparchetypus codicum α<hi rend="subscript">1</hi> α<hi rend="subscript">2</hi></name>
    <listWit>
     <witness xml:id="α1">
      <abbr type="siglum">α<hi rend="subscript">1</hi></abbr>
      <name>hyparchetypus codicum MG</name>
      <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>
 </witness>
</listWit>
```

The nesting of witnesses in this way can lead to confusion, so it is a good idea to include code comments to show where information begins and ends:

```xml
<listWit>
 <witness xml:id="ω">
  <abbr type="siglum">ω</abbr> archetypus
     codicum αβ <listWit>
   <witness xml:id="a">
    <abbr type="siglum">α</abbr>
    <name>hyparchetypus codicum α<hi rend="subscript">1</hi> α<hi rend="subscript">2</hi></name>
    <listWit>
     <witness xml:id="α1">
      <abbr type="siglum">α<hi rend="subscript">1</hi></abbr>
      <name>hyparchetypus codicum MG</name>
      <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 -->
<!-- Start a new <witness> for α2 here, with <listWit> for any of its children. -->
    </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. -->
```

Linking to Digital Records of Manuscripts

Linking to digital records (e.g., catalog descriptions, images, etc.) of manuscripts can enhance an LDLT edition. For this reason, editors of LDLT editions are encouraged to request an account for adding records to the Digital Latin Library's catalog of manuscripts. Doing so will allow them to record information about manuscripts in a more detailed, structured format than is practical in a critical edition. If records and/or images are already available, editors may simply point to those instead.

Whether pointing to records in the DLL's catalog or elsewhere, both `<ptr>` and `<ref>` are available for inserting links. The former renders a simple hyperlink:

```
<witness xml:id="ν">
 <abbr type="siglum">ν</abbr> Codex Laurentianus
   pl. 37.14, saec. XV (<ptr target="http://teca.bmlonline.it/ImageViewer/servlet/ImageViewer?idr
accessed on 2017-12-18)</witness>
```

The latter may be used to cause certain words (e.g., the manuscript's name) to be linked to a URL:

```
<witness xml:id="ν">
 <abbr type="siglum">ν</abbr>
 <ref target="http://teca.bmlonline.it/ImageViewer/servlet/ImageViewer?idr=TECA0000622886&keywork
Laurentianus pl. 37.14</ref> (accessed 2017-12-18),
   saec. XV</witness>
```

Whichever method is used, the date when the URL was last verified as accessible must be included.

Prose Descriptions of Manuscripts

Although the information provided in the `<witness>` element described in the previous sections should be sufficient to identify a manuscript, editors may wish to discuss other details, such as whether a given manuscript has been fully collated, and how it was consulted (e.g., *in situ*, on microfilm, or in digital form). This information may be conveyed in a prose description (using `<p>`) in the edition's front matter.

All prose descriptions of manuscripts must include a link (using `<ref>` to the manuscript's human- and machine-readable siglum or abbreviation, which are defined elsewhere in `<witness>`:

```
<p>
 <ref target="#ν">Codex Laurentianus pl. 37.14</ref>, known here as
 <hi rend="bold">ν</hi>, may be found in Florence at the
   Biblioteca Laurenziana. Measuring 323 × 195 mm, it contains 224
```

```
    written leaves of parchment, with 35 verses per page. Its contents
    are Silius Italicus <hi rend="italics">Punica</hi>, Calpurnius
<hi rend="italics">Eclogae </hi> XI (ff. 177ᵛ-193ᵛ), Hesiod <hi rend="italics">Opera
et Dies</hi> (in a Latin translation by N.
    Valla), and Claudian <hi rend="italics">De raptu Proserpinae</hi>.
    Two hands (ν<hi rend="super">1</hi> and ν<hi rend="super">2</hi>
    from the fifteenth century are distinct. Digital images of the
    manuscript are available at <ref target="http://teca.bmlonline.it/ImageViewer/servlet/ImageVie
    (accessed on 2017-12-17). </p>
```

Prose descriptions give editors the freedom to determine the amount of detail to give to the discussion of a manuscript or group of manuscripts.

Combining the Two Forms of Manuscript Description

Instead of separating the two forms of manuscript description into sections corresponding to the traditional preface and *conspectus siglorum*, editors may wish to combine them into one section. This might be especially helpful in cases where there are multiple groups of manuscripts.

Combining the two forms is as simple as listing the manuscripts in <listWit>, then following the list with a discussion of the manuscripts in prose:

```
<listWit>
 <head>First Family</head>
 <witness xml:id="A">
  <abbr type="siglum">A</abbr>
<!--Identifying information for A -->
 </witness>
 <witness xml:id="B">
  <abbr type="siglum">B</abbr>
<!-- Identifying information for B -->
 </witness>
 <witness xml:id="C">
  <abbr type="siglum">C</abbr>
<!-- Identifying information for C -->
 </witness>
</listWit>
<p>Manuscripts A, B, and C …

<!-- prose description of A, B, and C. -->
</p>
```

Editions

To make the most of the functionality supported by the LDLT Viewer and to remain true to the LDLT's data model, previous editions should be classified in one of two categories: **witness** and **source**. Editors have considerable leeway for making the distinction. The following paragraphs provide some guidance.

Witness: An edition may be considered a witness if it is an early printed edition that is not clearly based on more than one external source. That is, incunabula, or books printed before 1500, were often reproductions of single manuscripts; they might also reflect some editing by the typesetter, but on nothing like the scale of modern critical editions.

Source: An edition may be considered a source if it is based on a scholarly approach to the text. An edition does not have to be based on a specific approach to textual criticism to be classified as a source. Indeed, tralatitious editions, variorum editions, and early commentaries may be classified as sources if it seems appropriate. In the case of early editions that are important not because of their text, but because of the comments of scholars preserved in their notes, it may be worth recording the edition in the bibliography and listing the names of those scholars separately in a list of scholars.

Classification as "witness" or "source" will have consequences for how editions are handled in the front matter and the apparatus criticus (see the section "Apparatus Criticus"). In the front matter, <listWit>

is used with one `<witness>` each for witnesses; `<listBibl>` is used with one `<bibl>` each for sources. 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 "Terminology: Witness and Source" above.

Editions: Witnesses

Editions classified as witnesses 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 editions classified as witnesses.

- `<witness>` contains 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 CIƆIƆIV). 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, or the URL of the entry for the edition in the DLL's catalog.

```
<listWit xml:id="early-editions">
 <head>Editions: Witnesses</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"/>.</witnes
<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&q&f=false"/>.</wit
</listWit>
```

Editions: Sources

Editions classified as sources follow the same pattern as 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) with *@type*="siglum" 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 CIƆIƆIV). 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/book
 <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.digitale-sammlunge
 <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.digitale-samml
 <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?
 <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?i
 <bibl xml:id="p">
  <abbr type="siglum">p</abbr>
  <editor>Pithoeus, 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=on
```

```xml
<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
<bibl xml:id="Barth1613">
 <abbr type="siglum">Barth 1613</abbr>
 <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/boo
<bibl xml:id="Ulit.">
 <abbr type="siglum">Ulit.</abbr>
 <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=on
<bibl xml:id="h">
 <abbr type="siglum">h</abbr>
 <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/book
<bibl xml:id="Burm1731">
 <abbr type="siglum">Burm. 1731</abbr>
 <editor>Burmannus, Petrus (Pieter Burman)</editor>.
 <title>Poetae Latini Minores, Tom. I</title>.
 <pubPlace>Leidae</pubPlace>: <publisher>apud Conradum
      Wishoff et Danielem Goedval</publisher>, <date>1731</date>.
    URL: <ptr target="https://books.google.com/books?id=uKZAAAAAcAAJ&pg=PP9#v=onepage&q&f=false"
<bibl xml:id="t">
 <abbr type="siglum">t</abbr>
 <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?i
<bibl xml:id="Wernsd.">
 <abbr type="siglum">Wernsd.</abbr>
 <editor>Wernsdorf, Iohannes Christianus.</editor>
 <title>Poetae Latini Minores, Tomus Primus</title>.
 <pubPlace>Altenburgi</pubPlace>: <pubPlace>ex officina
      Richteria</pubPlace>, <date>1780</date>. URL: <ptr target="https://books.google.com/books?
<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=w6QBAAAAYAAJ&pg=PR2#v=on
<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/
<bibl xml:id="Baehr.">
 <abbr type="siglum">Baehr.</abbr>
 <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=CjUOAAAAYAAJ&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=on
  <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=_DMOAAAAYAAJ&pg=RA1-PA194#v=onepage&
 </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/ecloguesofcalp
 <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>
```

More than One Edition of an Edition

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=o
  <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&q&f=fals
 </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&r
  <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&q&f=false"/></bib
  </listBibl>
</listBibl>
```

Bibliography

Bibliographical information for other works cited in the edition should be gathered in a general bibliography (using `<listBibl>`), formatted according to the most recent edition of Chicago, and presented in alphabetical order.

So that the bibliographical information will be available from citations in the edition, each entry should have a human- and machine-readable identifier. See the section "Human- and Machine-Readable Sigla, Symbols, and Abbreviations" for more information.

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) with *@type*="siglum" 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 CIƆIƆIV). 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.

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```
<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&q&f=false"/>.</bibl
```

This will be rendered as follows: **Haupt 1854**. = Haupt, Moriz. *De Carminibus Bucolicis Calpurnii et Nemesiani.* Berolini: Typis Academicis, 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 Chicago. 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>
```

Encoding more details is strongly recommended:

- <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) with *@type*="siglum" 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=g
```

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 klassiche 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=q
```

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 "Human- and Machine-Readable Sigla, Symbols, and Abbreviations."

- `<persName>` (personal name) groups the information about an individuals's name. For identification purposes, it is helpful, but not required, to use *@ref* with the Virtual International Authorify 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 "Human- and Machine-Readable Sigla, Symbols, and Abbreviations."
  - `<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="#Burm1731">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 Burman 1731.

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 LDLT Viewer 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., the contents of the XML file, or what is displayed when the edition is opened for the first time in the LDLT Viewer, 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 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, some of the functionality of the LDLT Viewer cannot be supported for the edition.

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>` must have the *@type* "textpart" with *@subtype* "book", *@n* to indicate the number of the book, and a unique *@xml:id*.

```
<div type="edition">
 <div type="textpart" subtype="book" n="1"
  xml:id="book-1">
<!-- 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 (e.g., using `<ab>`. 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 type="textpart" subtype="book" n="1"
  xml:id="book-1">
  <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

1 [1]Gallia est omnis divisa in partes tres, quarum unam incolunt Belgae, aliam Aquitani, tertiam qui ipsorum lingua Celtae, nostra Galli appellantur. [2]Hi omnes lingua, institutis, legibus inter se differunt. Gallos ab Aquitanis Garumna flumen, a Belgis Matrona et Sequana dividit. [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. [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. [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. [6]Belgae ab extremis Galliae finibus oriuntur, pertinent ad inferiorem partem fluminis Rheni, spectant in septentrionem et orientem solem. [7]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 and a unique *@xml:id*. <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 type="textpart" subtype="book"
  xml:id="book-1">
  <div type="poem" n="1"
   met="First Asclepiadean">
<!-- 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 type="book" n="2" xml:id="book-2">
 <div type="poem" n="1" met="Alcaic Strophe">
  <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 potential 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 Chicago 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 "People."

For example, Julius Caesar's famous words before crossing the Rubicon, as reported by Suetonius, could 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

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

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 `<label>` to indicate a change in speaker. Labels are the simplest way of indicating a change of speakers, since they do not add a new layer of hierachy.

```
<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 may be omitted from searches of the text itself. However, since labels sometimes are applied differently in different witnesses or sources, those differences can be encoded in the apparatus criticus like any other variation. If used with *@exclude*, the swapping of variants in the LDLT Viewer can allow readers to see the different ways the labels have been applied.

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

Quotation of Literature

Quotations of literature should be encoded according to the guidelines set forth in the section "Apparatus Fontium."

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 group of 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 be used within <lem> or <rdg> as needed. If the nature of the variation is such that one form is a proper noun, but the other is a common noun, <persName> should enclose only the proper noun inside of <lem> or <rdg>, as the case may be.

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

If there are variant readings of a place name, `<placeName>` should be used within `<lem>` or `<rdg>` as needed. If the nature of the variation is such that one form is a proper noun, but the other is a common noun, `<placeName>` should enclose only the proper noun inside of `<lem>` or `<rdg>`, as the case may be.

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 West (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 LDLT Viewer will display the familiar symbols to human readers, but encoding the data in this way also makes that information available to 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 the section "Apparatus Criticus". The following list identifies the symbols and points to the guidelines for encoding them:

- ( ) = expansion of an abbreviation.

- a̠ḅc̠ḍ = text uncertainly restored.

- < > = text added by conjecture or emendation.

- *** = lacuna in the textual tradition as a whole

- < *** > = conjectured lacuna.

... = known amount of characters lost.

- — = illegible characters, quantity unknown.

- ⟦ ⟧ = deletion by a scribe in a witness.

- { } = editorial deletion.

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

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 might display the abbreviated forms by default, but a user could be given the option 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) Lucceio 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> Lucceio
 <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>
```

Text Uncertainly Restored

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 reason="lost" quantity="3"
 unit="characters"/>
<unclear>a tenebat aram</unclear>
<gap reason="lost" quantity="10"
 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*. Damon 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*="lost" 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 "Editorial Notes."

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 "Conjectured Lacunae" 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 "Gaps in Witnesses" 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 a source external to the text, with accompanying information about that source (in `<bibl>` or `<ref>`).

- `<quote>` (quotation) contains a phrase or passage attributable to some agency external to the text.

- `<bibl>` (bibliographic citation) contains the bibliographical information supplied by the author.

- `<ref>` (reference) with *@target* contains a reference to a bibliographical item defined elsewhere in the edition.

Any text in `<quote>` will be displayed or printed in quotation marks on the same line as the rest of the text, so there is no need to insert quotation marks manually. Any text in `<quote>` with *@rend*="blockquote" will be 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 "Prose" and "Verse."

The choice to use `<bibl>` or `<ref>` to indicate the source in the `<note>` for the apparatus fontium depends on whether the author is referring to a work, in which case `<ref>` should be used, or an editor is citing a source for the reference, in which case `<bibl>` should be used. The following sections illustrate the difference.

Source Identified by the Author

When the author identifies a source in the text, `<ref>` should be used to indicate that the author is referring to a work, not a specific material copy of that work. If it is desirable to cite a specific edition, the editor should use `<bibl>` and its associated elements for that purpose.

In the following example, Duns Scotus has referred to a work by Boethius, but he has not quoted it directly: *Probatio minoris per Boethium De Trinitate: dicit quod septem praedicamenta non dicunt absolutas res, sed tantum respectus.* The editor wishes to cite a specific edition. The entire passage should be encoded as follows:

```
<p>Probatio minoris per <cit>
  <ref>
   <name>Boethium</name>
   <title>De Trinitate</title>
  </ref>
  <bibl>
   <author>Boethius</author>
   <title>De Trin.</title>
   <biblScope unit="part">c. 4</biblScope> (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: 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 variant readings exist for the citation, they will appear in the apparatus criticus.

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

```
<p>Probatio minoris per <cit>
  <ref>
   <name>Boethium</name>
   <title>De Trinitate</title>
  </ref>
  <bibl>
   <author>Boethius</author>
   <title>De Trin.</title>
   <biblScope unit="part">c. 4</biblScope> (ed. R. Peiper 159; PL
       64, 1353C)</bibl>
```

```
  <note>
   <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>
  </note>
 </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 after the bibliographical information.

The following example from Kaster 2011 demonstrates a more complex entry that features other aspects of the quotation of sources, including direct speech, block quotations of prose and verse texts, and an inline quotation of a prose text:

```
<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 <ref>
   <name>Plautus</name>
       in fabula quae inscribitur <title>Baccaria</title></ref> 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 <ref>
   <title>de fato</title> verba
   <name>Ciceronis</name></ref>
  <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>
   <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 <ref>
   <name>Plinio Secundo</name>, qui in
   <title>Naturali historia</title></ref> 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>
```

Source Supplied by Editor

If the author has not identified the source of a direct or indirect quotation, the editor may supply it in the apparatus fontium.

For example, Cicero often mentions the name of the authors he quotes, but editors must supply more detailed citation information, as in this passage from *Orator 157*:

Quid quod sic loqui: nosse, iudicasse vetant, novisse iubent et iudicavisse? Quasi vero nesciamus in hoc genere et plenum verbum recte dici et imminutum usitate. Itaque utrumque Terentius:'eho tu, cognatum tuom non noras?'

post idem: 'Stilponem, inquam, noveras.'

Sient plenum est, sint imminutum; licet utare utroque.

To be sure that the citation information appears in the apparatus fontium, this is how that passage should be encoded:

```
<p>Quid quod sic loqui: nosse, iudicasse vetant, novisse iubent et
   iudicavisse? Quasi vero nesciamus in hoc genere et plenum verbum recte
   dici et imminutum usitate. Itaque utrumque
 <ref>
  <name>Terentius</name>
 </ref>: <cit>
  <quote rend="blockquote">eho
       tu, cognatum tuom non noras?</quote>
  <bibl>
   <author>Ter.</author>
   <title>Ph.</title>
   <biblScope unit="line">384</biblScope>
  </bibl>
 </cit></p>
<p>post idem <cit>
  <quote rend="blockquote">Stilponem, inquam,
       noveras.</quote>
  <bibl>
   <author>Ter.</author>
   <title>Ph.</title>
   <biblScope unit="line">390</biblScope>
  </bibl>
 </cit> Sient plenum
   est, sint imminutum; licet utare utroque.</p>
```

Apparatus Testium

An apparatus testium differs from an apparatus fontium in that it collects testimonia, or quotations of the text by other authors, but the apparatus fontium collects quotations of other authors in the text itself. Since it can happen that a quotation of the text attests to a variant reading, such information can also be included as a reading or annotation in the apparatus criticus. In those cases, the section on the apparatus criticus should be the guide. Sometimes, however, it makes sense to include a separate register of testimonia. In those cases the following guidelines should be observed.

Testimonia are encoded using `<note>` with *@type* "testium" (as in "apparatus testium"):

- `<note>` contains bibiliographical information for one or more quotations of the text. Each `<note>` must have an *@xml:id* and *@target* pointing to the *@xml:id* related to the quotation of the text. Each `<note>` must also have *@type*="testium" to distinguish it from other uses of `<note>`.

- `<bibl>` (bibliographic citation) contains the following bibliographic information pertaining to an individual quotation:

-   - `<author>` contains the name of the author (or a standard abbreviation) who cited or quoted the work.

    - `<title>` contains the title of the work (or a standard abbreviation) in which the quotation occurs.

    - `<biblScope>` (scope of bibliographic reference) contains the specific unit where the quotation may be found (e.g., book number, section number, paragraph number, line number, etc.).

- `<quote>` contains the actual quoted text of the passage, if desirable.

For example, Thomson's edition of Catullus has the following in the apparatus testium for poem 14: "9 Martianus Capella 3.229 15 Macrobius, Saturnalia 2.1.8." In an LDLT edition, the testimonia are encoded in close proximity to their point of reference:

```
<l n="8">quod si, ut suspicor, hoc novum ac repertum</l>
<l n="9" xml:id="C14.9">munus data tibi Sulla litterator,</l>
<note type="testium" target="#C14.9">
 <bibl>
  <author>Martianus Capella</author>
  <biblScope>14.9</biblScope>
 </bibl>
</note>
<l n="10">non est mi male, sed bene ac beate,</l>
<l n="11">quod non dispereunt tui labores.</l>
<l n="12">di magni, horribilem et sacrum libellum!</l>
<l n="13">quem tu scilicet ad tuum Catullum</l>
<l n="14">misti continuo, ut die periret</l>
<l n="15" xml:id="C14.15">Saturnalibus optimo dierum!</l>
<note type="testium" target="#C14.15">
 <bibl>
  <author>Macrobius</author>, <title>Saturnalia</title>
  <biblScope>2.1.8</biblScope>.</bibl>
</note>
```

Parallel Passages

A register of parallel passages differs from an apparatus fontium 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 "Editorial Notes").

It should be noted here that register of parallel passages is optional. It is entirely up to the editor to decide if a listing of parallel passages is necessary and/or useful.

- `<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.

In an extreme example, Gelsomino includes an extensive list of parallel passages to individual entries in his Gelsomino. 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 n="1" xml:id="f1-achelous"
 corresp="p-f1-achelous">Achelous, Aetoliae, primus
   erupisse terram dicitur.</p>
<note type="parallel" target="#f1-achelous"
 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 wit="#Sal." source="#Rie.">Vosego</rdg>
 </app> monte. miscetur Rhodano. ita lene decurrit, ut vix intellegi possit
   decursus eius.</p>
<note type="parallel" target="#f2-arar"
 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 fluvius 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>fluvius Germaniae vel
       Galliae</quote>
   <bibl>
    <author>Ansil.</author>
    <title>AR</title>
    <biblScope>35, 35, 36</biblScope>
   </bibl>: <quote>Fluvius
       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 in the LDLT Viewer:

- 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 of an LDLT edition, critical editions encoded according to these guidelines can be styled to have an apparatus criticus in a format familiar from standard critical ediitons.

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 LDLT staff and the editorial board regarding the format and storage of ancillary materials.

Readings

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. The text printed in the main portion (i.e., edition text) of a critical edition is made up of lemmata.

A **variant** 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 either emends the text, in which case it is an emendation, or does not in which case it is a conjecture.

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 "Corrections".

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, a quotation of the text by another author, 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 "Manuscript Description" and "Human- and Machine-Readable Sigla, Symbols, and Abbreviations."

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.

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, although 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 initial state (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 "Tagging Readings for Analysis." Use of *@ana* enables the LDLT viewer's filtering functionality.

- `<wit>` contains general information about a reading or a group of witnesses. It may also be used to report testimonia (see "Testimonia" in the section on the apparatus criticus).

- `<witDetail>` (witness detail) contains information about a particular witness (*@wit*) to a lemma (`<lem>`) or reading (`<rdg>`). `<witDetail>` is especially important for reporting corrections.

- `<note>` (note) contains editorial comments, bibliographical references, or other information pertaining to the apparatus entry.

In traditional printed editions, a lemma might 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 initial state (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 variant 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 variant 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 wit="#A" source="#Alonso">
<!-- text of lemma goes here -->
  </lem>
  <rdg wit="#B #C"
   source="#Vettel #Verstappen">
<!-- 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 wit="#N" source="#Glaeser">sequar</rdg>
</app>
```

Testimonia

Testimonia are quotations of the text by other ancient sources. As such, they may be considered witnesses to the text. In some editions, testimonia are recorded in an apparatus testium; in others, they are incorporated into the apparatus criticus. Guidelines for encoding an apparatus testium may be found in the section "Testimonia". This section explains how to encode testimonia in the apparatus criticus.

Reporting Testimonia with `<note>`

`<note>` (note) contains the relevant testimonium and a citation of its source if the testimonium is to be considered as supporting evidence for a reading.

Martianus Capella quotes Catullus 14.9 section 3.299 of his *De nuptiis Philologiae et Mercurii*: "hoc etiam Catullus quidam, non insuavis poeta, commemorat dicens 'munus dat tibi Sylla litterator.'" Thomson identifies the citation in his apparatus testium as follows: "9 Martianus Capella 3.229." In the apparatus criticus, he writes: "9 sulla δ (Sylla Martianus Capella): si illa V."

The parentheses suggest that Thomson considers "Sylla" to be not a unique reading, but an orthographical variant of δ's "sulla". In an LDLT edition, this presentation of the information, including the separate apparatus testium would be encoded as follows:

```
<l n="9">munus dat tibi <app>
  <lem wit="#δ" xml:id="lem-14.9-sulla">Sulla</lem>
  <note target="#lem-14.9-sulla">Sylla <hi rend="italics">Martianus
```

```
Capella</hi></note>
  <rdg wit="#V">si illa</rdg>
 </app> litterator</l>
<note type="testium">9 <hi rend="italics">Martianus Capella
      3.229</hi></note>
```

Note that Thomson records the citation in the apparatus testium, not in the apparatus criticus. One could eliminate the apparatus testium and include the citation in the apparatus criticus:

```
<l n="9">munus dat tibi <app>
  <lem wit="#δ" xml:id="lem-14.9-sulla">Sulla</lem>
  <note target="#lem-14.9-sulla">Sylla <hi rend="italics">Martianus Capella</hi>
3.229</note>
  <rdg wit="#V">si illa</rdg>
 </app> litterator</l>
```

Reporting Testimonia with `<lem>` or `<rdg>`

- `<lem>` (lemma) or `<rdg>` (reading) contains the relevant text of the testimonium.

- `<wit>` (witness) contains the citation of the testimonium

If a testimonium is to be considered a witness to a lemma or a variant reading, the relevant text must be encoded with `<lem>` or `<rdg>`, and `<wit>` should be used to encode the citation.

For example, Thomson cites Pliny the Younger as a witness to several readings in Catullus 16. In the apparatus testium, Thomson prints "5–8 Plinius, Epistulae 4.14.5". Leaving aside the more complex entry for *tum*, which involves a correction (a subject dealt with at length in the section "Corrections"), the relevant entries in the apparatus are: "7 ac V: et Plinius 8 sunt Plinius: sint V ac V: et Plinius."

Fully accounting for Thomson's use of an apparatus testium, this information would be encoded in an LDLT edition as follows:

```
<note type="testium" target="#C16.5-8">5-8 <hi rend="italics">Plinius,
      Epistulae</hi> 4.14.5</note>
<!-- note that line 5 would have xml:id="C16.5-8" -->
<l n="7">qui tum denique habent salem <app>
  <lem wit="#V">ac</lem>
  <rdg>et</rdg>
  <wit>Plinius</wit>
 </app> leporem,</l>
<l n="8">si <app>
  <lem>sunt</lem>
  <wit>Plinius</wit>
  <rdg wit="#V">sint</rdg>
 </app> molliculi <app>
  <lem wit="#V">ac</lem>
  <rdg>et</rdg>
  <wit>Plinius</wit>
 </app> parum
   pudici,</l>
```

In other words, `<note>` defines a witness for a specific number of lines, then `<wit>` is used to record Pliny as a witness.

If there had been only one reading to report, the citation could have been included in `<wit>`:

```
<l n="7">qui tum denique habent salem <app>
   <lem wit="#V">ac</lem>
   <rdg>et</rdg>
   <wit>Plinius <hi>Epistulae</hi>
        4.14.5</wit>
  </app> leporem,</l>
```

Alternatively, a `<witness>` could be defined for this passage in the edition's front matter (i.e., in a `<listWit>` containing testimonia). In that case, Pliny would be recorded in *@wit* using his machine-readable siglum (e.g., "Plinius4.14":

```
<l n="7">qui tum denique habent salem <app>
   <lem wit="#V">ac</lem>
   <rdg wit="#Plinius4.14">et</rdg>
  </app> leporem,</l>
```

All of these methods accomplish the objective of identifying a testimonium and referring to it in the apparatus criticus. The needs of individual editors and their texts will determine which method is most appropriate.

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 18.3 and all of section 18.4 from the *Bellum Alexandrinum*. In a print edition, it would be possible to write the following: enatauerunt … 18.4 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 <app xml:id="app-18.3-enatauerunt"
   next="#app-18.4-multi">
<!-- @next points to the <app> in the next segment -->
   <lem>enatauerunt.</lem>
   <rdg wit="#V" ana="#subtractive"/>
  </app></seg>
<seg n="4">
 <app xml:id="app-18.4-multi"
   prev="#app-18.3-enatauerunt">
<!-- @prev points to the <app> in the previous segment -->
   <lem>Multi tamen ex his capti interfectique sunt; sed numerus
        captiuorum omnino fuit VI milium.</lem>
   <rdg wit="#V" ana="#subtractive"/>
  </app>
</seg>
```

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

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, `<note>` can be used with contents *an*, *aut*, or *vel*.

- `<note>` contains language that connects the readings (e.g., *an*, *aut*, or *vel*)

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

Use of Catch-all References in the Critical Apparatus

If it is desirable to use a consensus reference (e.g., ω, ϛ) or a catch-all reference (e.g., codd. for *codices*, mss. for "manuscripts", cett. for *ceteri codices*, edd. for *editores*) the references must be defined in the bibliography of the edition according to the guidelines in the section "Catch-all References." This section demonstrates how to insert consensus and 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 human- and machine-readable sigla.

If they are annotated (e.g., *edd. ante Glaeser*), they must be encoded in `<note>` according to the guidelines below. Alternatively, if an annotated form is frequently used, an editor could consider adding that form to the list of references in the bibliography.

- `<note>` with *@ref* pointing to the *@xml:id* of the `<lem>` or `<rdg>` 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 editors of previous editions are divided, with one in particular (Glaeser) marking a definitive shift in preference.

```
<app>
 <lem wit="#N #P" xml:id="lem-vicit">vicit</lem>
 <note target="#lem-vicit">
  <ref target="#Glaeser">Glaeser</ref>
     sqq.</note>
 <rdg wit="#G">vīcit</rdg>
 <rdg wit="#d">ludit</rdg>
 <rdg wit="#V" xml:id="lem-lusit">lusit</rdg>
 <note target="#lem-lusit">edd. ante <ref target="#Glaeser">Glaeser</ref></note>
 <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 or conjectural 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. Two kinds of omission are discussed here:

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

- Known Amount Of Characters Lost

.

Related sections:

- [Lacunae](#)

- [Conjectured Lacunae](#)

- [Gaps in Witnesses](#)

- [Deletion in a Witness](#)

- Text found in a witness but not otherwise in the paradosis.

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: *securo custode pecus nocturnaque pastor.* A traditional apparatus criticus might indicate 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>securo custode <app>
  <lem>pecus</lem>
  <rdg wit="#P"/>
 </app> nocturnaque 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 of an LDLT edition 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, Giarratano has the following with reference to lemma *spiritus amnis*: 'sp̄c̄ 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">spc̄ <gap reason="lost" quantity="6"
    unit="characters"/></rdg>
 </app>? </l>
```

That encoding would produce the following entry in the apparatus: 'spc̄ [......]'. 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">spc̄
   <gap reason="lost" quantity="6"
    unit="characters"/></rdg>
  <witDetail wit="#N"
   target="#rdg-4.4-spiritus-amnis">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>.

- <lacunaStart> is a milestone or self-closing tag that marks the beginning of a gap in a witness.

- <lacunaEnd> is a milestone or self-closing tag that marks the end of a gap in a witness.

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 "Lacunae" 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**. Damon 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 wit="#M" target="#M-lacuna-1.1">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 wit="#M"
   target="#rdg-1.33.3-lacunaEnd">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>`.

- `<witStart>` (fragmented witness start) is a milestone or self-closing tag that marks the beginning or resumption of a fragmentary witness.

- `<witEnd>` (fragmented witness end) is a milestone or self-closing tag that marks the end or suspension of a fragmentary witness.

For example, the fragmentary witnesses known collectively as "Exc. Par." (= Thuaneus 7647 and Nostradamensis 17903) in Giarratano edition of Calpurnius Siculus have 5.12–13. Giarratano 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 "Editorial Addition and Deletion."

For additional text in a witness or witnesses that does not correspond to anything in the edition's text, see the section

Addition: Prose Description

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

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

89 certare] certate $\mathbf{G}^1$ *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 wit="#G1" target="#rdg-certate">(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 "Editorial Addition and Deletion."

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

The output of this encoding would be amotae] adamote **G** (a.c.), amote **G**^{1} (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 wit="#G" target="#rdg-adamote"
  type="correction-original"/>
 <rdg wit="#G1" xml:id="rdg-amote">
  <del rend="expunction">ad</del>amote</rdg>
 <witDetail wit="#G1" target="#rdg-amote"
  type="correction-altered">ad <hi rend="italic">exp.</hi></witDetail>
</app>
```

The output of this encoding would be amotae] adamote **G** (*a.c.*), ⟦ad⟧amote **G**^{1} (*p.c.*, ad *exp.*)

Illegible Characters, Quantity Unknown

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

- <gap> is a milestone or self-closing tag that marks the space occupied by illegible characters.

- *@reason* with value "illegible" indicates the reason for the gap.

- *@extent* with value "unknown" marks the extent of the gap.

- *@unit* with the value "character" indicates the scale of the gap.

For example, at Calp. 6.4, the lemma is *dedit*, but the witness known as **N** has *deo* and some illegible characters after it. Giarratano 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 reason="illegible" extent="unknown"
   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*, Hall 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 Tarrant 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. $HM^{ac}(N^{ac})$*; *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</r
</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>.
<ref target="#H">H</ref>
  <ref target="#Mac">M<hi rend="superscript">ac</hi></ref>(<ref target="#Nac">N<hi rend="superscr
 <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.), 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 xml:id="lem-3.12.41-42"
  exclude="#rdg-3.12.41-42" type="emendation">
  <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</r
</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 xml:id="rdg-3.12.41-42"
  exclude="#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>
 </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). In this example, the witness known as Bern transposes portions of two lines. Witnesses H M[ac] (and N[ac]) 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 xml:id="lem-304-fuluos"
      require="#lem-305-unda">fuluos uehit unda leones,</lem>
     <rdg wit="#Bern" xml:id="rdg-304-Bern"
      require="#rdg-305-Bern" copyOf="#lem-305-nec"/>
    </app>
   </l>
   <l n="305">unda uehit tigres; <app>
<!-- Third nested <app>, marking the other conflated or transposed half-line. -->
     <lem xml:id="lem-305-nec"
      require="#lem-304-nat">nec
           uires fulminis apro</lem>
     <rdg wit="#Bern" xml:id="rdg-305-Bern"
      require="#rdg-304-Bern" copyOf="#lem-304-fuluos"/>
    </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 wit="#M" target="#rdg-305-HM"
  type="correction-original">
  <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 the lemma *exesa* is displayed, the lemma *concha* must also be displayed, and whenever one of Heinsius' conjectures is displayed, the other one must accompany it. In other words, *exesa* should not be displayed with *conchae* and *exesae* should never be displayed with *concha*

As with transpositions, *@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 xml:id="lem-6.68-exesa"
   exclude="#rdg-6.68-conchae" require="#lem-6.68-concha">exesa</lem>
  <rdg source="#Heinsius"
   xml:id="rdg-6.68-exesae" exclude="#lem-6.68-concha"
   require="#rdg-6.68-conchae">exesae</rdg>
 </app> veluti testudine <app>
  <lem xml:id="lem-6.68-concha"
   exclude="#rdg-6.68-exesae" require="#lem-6.68-exesa">concha</lem>
  <rdg xml:id="rdg-6.68-conchae"
   exclude="#lem-6.68-exesa" require="#rdg-6.68-exesae">conchae</rdg>
 </app></l>
```

Corrections

Correction has been discussed in the section "Concepts and Definitions." 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 decision.

Before reading the encoding guidelines for corrections, it is recommended to read the section "Correction as Metadata" 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., B[ac], B[pc]). 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., referṭ[r]e). Some rely on superscript notation for all of these details (e.g., P[csl] = 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 four 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.).

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 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^{ac} and V^{pc} for readings of manuscript V before and after correction, if it makes sense to do so. In that case, original and corrected readings will be encoded in the same way as any other readings, with `<lem>` or `<rdg>` inside of `<app>`.

Where there are multiple hands or other factors to consider, relying on sigla to indicate the state of correction may restrict options for representing the manuscript's data. The following subsections offer guidance for encoding those instances.

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. However, if the decision has been made to use sigla to indicate uncorrected or corrected readings (see the section "Correction as Metadata"), `<witDetail>` is not necessary.

- `<witDetail>` (witness detail) must be a self-closing element.

- *@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.). The LDLT reader will insert "(a.c.)" after the siglum for the witness designated in *@wit*.

    - correction-altered: the altered reading, i.e., after correction (*post correctionem* or p.c.). The LDLT reader will insert "(p.c.)" after the witness designated in *@wit*.

    - *@place* (place) indicates where a correction has been made (using values listed in "Addition: Semantic Markup"

- `<note>` (note) contains a description or discussion of the correction, beyond "(a.c.)" or "(p.c.)".

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 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.

If the sigla are being used to convey information about correction, the following encoding will be sufficient:

```
<app>
 <lem xml:id="lem-protegit">protegit</lem>
 <rdg wit="#Gac" xml:id="rdg-protegis">protegis</rdg>
</app>
```

In this example, the machine-readable siglum "Gac" indicates that the reading *protegis* was present prior to correction. And since the human-readable siglum for "Gac" can be set to "G a.c.", the entry in the apparatus can be displayed as "protegit] protegis **G** a.c."

The same passage could also be encoded with `<witDetail>`, if the editor prefers to keep correction state separate from the siglum for the manuscript:

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

The lemma is *insidias*. Manuscript **N** has *insidia*; N^2 has added the letter "s." A traditional apparatus criticus might report this as follows: insidias] insidia **N** (corr. N^2).

As in the first example, the encoding for the method that represents correction with sigla is straightforward:

```
<app>
 <lem xml:id="lem-insidias">insidias</lem>
 <rdg wit="#Nac">insidia</rdg>
 <rdg wit="#Npc" copyOf="#lem-insidias"
  xml:id="rdg-insidias"/>
 <witDetail wit="#Npc"
  target="#rdg-insidias">N<hi rend="superscript">2</hi> corr.</witDetail>
</app>
```

The siglum **Nac** indicates the reading before correction. The siglum **Npc** indicates the reading after correction, and the usage of *@copyOf* shows that the corrected form matches the lemma. Using `<witDetail>` allows the editor to indicate which hand made the correction.

The following example shows how the same passage could be encoded with more metadata:

```
<app>
 <lem xml:id="lem-insidias">insidias</lem>
 <rdg wit="#N" xml:id="rdg-insidia">insidia</rdg>
 <witDetail wit="#N" target="#rdg-insidia"
  type="correction-original"/>
 <rdg wit="#N2" xml:id="rdg-insidias"
  copyOf="#lem-insidias"/>
 <witDetail wit="#N2"
  target="#rdg-insidias" type="correction-altered"/>
</app>
```

This encoding will produce the following entry in the apparatus criticus: insidias] insidia **N**(a.c.) insidias $\mathbf{N}^2$(p.c.).

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 $\mathbf{N}^2$ 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 $\mathbf{N}^2$ (*p.c.*, rt *add. in ras.*) **PV** : co⟦..⟧ice **N** (a.c.) : codice **G A**.

Using sigla to indicate both manuscripts and their state of correction, that passage should be encoded as follows:

```
<app>
 <lem wit="#Npc #P #V" xml:id="lem-cortice">cortice</lem>
 <witDetail wit="#Npc"
  target="#lem-cortice">rt <hi rend="italic">add. in ras.</hi> N<hi rend="superscript">2</hi></wi
 <rdg wit="#Nac" xml:id="rdg-coice">co□..□ice</rdg>
 <rdg wit="#G #A">codice</rdg>
</app>
```

This encoding will produce the following entry in the apparatus criticus: cortice $\mathbf{N}^{pc}$ (rt *add. in ras.* $\mathbf{N}^2$) **PV** : co⟦..⟧ice $\mathbf{N}^{ac}$: codice **G A**.

More metadata, however, could be encoded using the following method:

```
<app>
 <lem wit="#P #V" xml:id="lem-cortice">cortice</lem>
 <rdg wit="#N2" xml:id="rdg-cortice">co<add place="inRas">rt</add>ice</rdg>
 <witDetail wit="#N2" target="#rdg-cortice"
  type="correction-altered"/>
 <rdg wit="#N" xml:id="rdg-coice">co□..□ice</rdg>
 <witDetail wit="#N" target="#rdg-coice"
  type="correction-original"/>
 <rdg wit="#G #A">codice</rdg>
</app>
```

This encoding will produce the following entry in the apparatus criticus: cortice **PV** : co«rt»ice $\mathbf{N}^2$ (p.c.) : co⟦..⟧ice **N** (a.c.) : codice **G A**.

Example 4   This example includes multiple corrections.

The lemma is *descripta*. Manuscript **N** originally had *dipicta*, but $\mathbf{N}^1$ corrected it to *depicta*. Another hand ($\mathbf{N}^2$ has *descripta* in the margin. Other manuscripts support these and other readings.

A traditional apparatus criticus might report this as follows: descripta **P V N²** (in mg.) : depicta **G N¹** (p.c.) : dipicta **N** (a.c.).

Using sigla to indicate both manuscripts and their state of correction, that passage should be encoded as follows:

```
<app>
 <lem wit="#N2 #P #V"
  xml:id="lem-descripta">descripta</lem>
 <witDetail wit="#N2"
  target="#lem-descripta">in
     mg.</witDetail>
 <rdg wit="#G #N1pc" xml:id="rdg-depicta">depicta</rdg>
 <rdg wit="#Nac" xml:id="rdg-dipicta">dipicta</rdg>
</app>
```

This encoding will produce the following entry in the apparatus criticus: descripta **N²** (in mg.) **PV** : depicta **G N¹** (p.c.) : dipicta **N** (a.c.).

The following method accomplishes the same thing, but with richer metadata:

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

Conjecture and Emendation

As explained in the section "Concepts and Definitions", 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 criticial 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 *coniecit*, *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 taret="#Keene">Keene</ref>
     et <ref target="#Schenkl">Schenkl</ref></note>
 <rdg wit="#ω" source="#edd.">primumque</rdg>
 <rdg source="#Baehr." type="conjecture">rivumque</rdg>
 <rdg source="#CSchenkl" 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* Schenkl) : primumque **ω** *edd.* : rivumque *ci.* Baehr. : pronumque *ci.* C. Schenkl.

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

```
<app>
 <lem>pallenti</lem>
 <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>
</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 xml:id="note-1.24.3-a"
  next="#note-1.24.3-b">an</note>
 <rdg source="#Damon" type="conjecture"
  cert="low">
  <surplus>relicto praetore</surplus>
 </rdg>
 <note xml:id="note-1.24.3-b"
  prev="note-1.24.3-a">?</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>. It must include *@reason*="lost".

For example, Cynthia Damon prints the following in her Damon: *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="#Liue">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 West argues (p. 80), this is apt to cause confusion, since square brackets have a different meaning for papyrologists and epigraphists (see "Known Amount Of Characters Lost" 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, Kaster **2016** 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 xml:id="lem-29-se" source="#Graev.">
   <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 xml:id="#lem-29-est" source="#Bent.">
   <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 (when displayed in the LDLT Viewer). 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 "Lacunae." 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*, Damon 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, Verdière 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 reason="lost" quantity="9"
    unit="lines"/>
  </supplied>
 </lem>
 <note target="#lem-1.1-9">u. 1-9 librarii incuria cecidisse putavit
     Verdière</note>
</app>
```

In the LDLT Viewer, 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'.

Reporting Extraneous Text in a Witness

Text found in a witness that does not correspond to anything in the edition's text, but that is nevertheless worth reporting, is commonly represented in printed editions by referring to a word or words that serve as an anchor for the additional text.

For example, the text of Andrew Dunning's edition of the *Miracula sancte Frideswide* includes the word *archiepiscopus*, and the critical apparatus has "*cantuariensis* add. L," indicating that the manuscript known as L has a word that Dunning considered extraneous, but worth reporting.

This phenomenon *could* be encoded using the method described in the section "Addition of Text in a Witness" in these guidelines:

```
<app>
 <lem>archiepiscopus</lem>
```

```
  <rdg>archiepiscopus <add place="inline">cantuariensis</add></rdg>
</app>
```

That, however, does not accurately describe the situation, which is that the witness did not *add* the text; rather, the text exists in the witness, but the editor chooses not to include it in the edition's text. Since there is not, strictly speaking, a lemma for this additional text, an "empty" lemma must be used:

```
<p>archiepiscopus <app>
  <lem n="archiepiscopus"/>
  <rdg wit="#L">cantuariensis</rdg>
 </app></p>
```

Although it is possible to avoid using *@n* in this way by leveraging computational methods to look up the preceding word or words, these guidelines opt for simplicity. The empty <lem> signifies that the edition's text does not have anything where a witness has something, but *@n* provides context and an anchor for the witness' text. For the sake of accuracy, the edition's text should be copied and pasted as the value of *@n*.

Crux

† † = Text deemed by the editor to be readable but not understandable, with no satisfactory alternative or convincing emendation.

- <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*, Kaster 2011 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, ἄλλαγμα moecharum."'

In the apparatus criticus for the first crux, Kaster has the following: 'meculle *Nβ*(melcule *DP²G, n.l. P¹*): 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 in the LDLT Viewer. 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 wit="#G" ana="#morphological">vīcit</rdg>
 <rdg wit="#d" ana="#lexical">ludit</rdg>
 <rdg wit="#V" ana="#lexical">lusit</rdg>
 <rdg wit="#μ" ana="#lexical">visit</rdg>
 <rdg wit="#γ" ana="#subtractive"/>
</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, Giarratano 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 -->
  <gap reason="lost" quantity="5"
   unit="lines"/>
 </lem>
 <note target="#lem-4.96-gap">quinque vv. deesse puto. <anchor xml:id="gap-4.96"
   corresp="#comm-4.96"/></note>
</app>
<l n="97">Aspicis, ut virides audito Caesare silvae</l>
<!-- Edition continues until end. -->
<div type="commentary">
 <note type="commentary"
  target="#lem-4.96-gap" 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 lacunameque 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 lacunem post III constituere et
      XI transponere ante VIII.</p>
 </note>
</div>
```

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

- a notation indicating the conjectured five unnumbered lines

- 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.**Editions**

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Other References

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