

# ἔκδοσις

## Typesetting TEI xml Compliant Critical Editions

Robert Alessi

`mailto:alessi@robertalessi.net`

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### Notice to the Gentle Reader

The current state of this documentation covers the basics of ekdosis, namely what should be enough to start a new document and see how it works. v1.0 with a full documentation should be out by the end of July. Until then, there is a web page that can be accessed,<sup>a</sup> with a mailing list that one can subscribe to and a section entitled “Literature” where one will find some slides and a paper submitted to a journal.

<sup>a</sup><http://www.robertalessi.net/ekdosis>

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### Abstract

ekdosis is a Lua<sup>A</sup>T<sub>E</sub>X package designed for multilingual critical editions. It can be used to typeset texts and different layers of critical notes in any direction accepted by Lua<sub>T</sub><sub>E</sub>X. Texts can be arranged in running paragraphs or on facing pages, in any

number of columns which in turn can be synchronized or not. In addition to printed texts, `ekdosis` can convert `.tex` source files so as to produce TEI `xml` compliant critical editions. Database-driven encoding under L<sup>A</sup>T<sub>E</sub>X then allows extraction of texts entered segment by segment according to various criteria: main edited text, variant readings, translations or annotated borrowings between texts. It is published under the terms of the GNU General Public License (GPL) version 3.

## License and Disclaimer

### License Applicable to this Document

fdl1.3 This document is part of the work: The `ekdosis` Package.

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Please send error reports and suggestions for improvements to Robert Alessi:

- email: <mailto:alessi@roberalessi.net>
- website: <http://www.robertalessi.net/ekdosis>
- development: <http://git.robertalessi.net/ekdosis>
- comments, feature requests, bug reports: <https://gitlab.com/ralessi/eksodis/issues>

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This release of `ekdosis` consists of the following source files:

- `ekdosis.ins`
- `ekdosis.dtx`
- `ekdosis.el`
- `Makefile`

## 1 Introduction

The reader will find here, by way of introduction, a summarized version of the first part of an article that the author submitted some weeks ago to the *Journal of Data Mining and*

*Digital Humanities* as a contribution to a Digital Humanities workshop held at Stanford University (April 15, 2019).<sup>1</sup>

The name of this package, *ekdosis*, derives from a Greek action noun—This file is part of *babel*. For further details see: <https://www.ctan.org/pkg/babel> ἐκδοσις—the meaning of which is: “publishing a book”, and also in concrete sense: “a publication, treatise”. For us moderns, this term refers to a long tradition of scholarly work consisting in establishing from manuscript evidence the texts of Greek and Latin classics that were handed down through the Middle Ages to the time of the first printed editions. Of course, this definition is extendible to other languages as well. The basic premise is that critical editions exhibit reconstructed texts from manuscript evidence either under the title of the edited text (direct tradition) or from explicit citations or parallel passages or translations in other languages (indirect tradition).

Whether in print or digital, critical editions come with an apparatus criticus in which is mentioned all the evidence that was used to build the edited text. Arguably, it is precisely on this common point that the two kind of editions part ways for reading a traditional, well written apparatus criticus is only meant for experienced readers. Getting oneself familiarized with its many conventional rules is not unrelated to learning a language, equipped with technical terms, grammar rules and style embellishments, which came into existence out of over three centuries of scholarly attainments. Nevertheless, whereas this language is immediately accessible to human mind’s ability to use language and interpret conventional symbols, it is quite inaccessible to a computer unless every item of information has been encoded in the rather dumb format that is suited to machines.

On the other hand, editions in print have their own limitations. For example, every detail that editors of classical texts decide to discard to save space, regardless to its relevance to the purpose of the edition, is lost permanently as in the case of dialectal coloring of ancient books. Furthermore, passages collected as indirect tradition are only available as references in the *apparatus testium* and cannot be referred to the original text. As a result, the reader is refrained from bestowing attention upon major parallel passages to understand better difficult passages.

To conclude on these issues, print publications and digital editions are often contrasted as they belonged to two different worlds.<sup>2</sup> It is commonly said that the content of editions in print is the result of the binding of the book itself as an object, whereas digital editions, in which format and presentation are by definition separated from content, are free from limitations coming from such bindings. To sum up from the foregoing considerations, this statement is likely to be qualified: as already seen above, the apparatus criticus must be looked at as a brilliant production of mind refined by centuries of scholarly tradition—and surely tradition must go on—arguably not as compact paragraphs that require special and painful training to be ‘decoded’. On the other hand, what editions in print do not provide are what Donald J. Mastronarde and Richard J. Tarrant have called “actionable texts for use in digital research”,<sup>3</sup> namely database-driven texts allowing the reader to select annotations and display or arrange translations, parallel passages or borrowings in a variety of ways.

*ekdosis* can be seen as an attempt at combining the two approaches.

---

<sup>1</sup>Robert Alessi, “*ekdosis*: Using Lua<sup>A</sup>T<sub>E</sub>X for Producing TEI xml Compliant Critical Editions and Highlighting Parallel Writings,” *Journal of Data Mining and Digital Humanities: Collecting, Preserving, and Disseminating Endangered Cultural Heritage for New Understandings through Multilingual Approaches* (2020), hal: hal-02779803 (submitted). 

<sup>2</sup>For a good illustration of this point, see Digital Latin Library, “Textual Criticism,” <https://digitallatin.org/library-digital-latin-texts/textual-criticism>, accessed May 24, 2020, “Content, not Display.”

<sup>3</sup>Donald J. Mastronarde and Richard J. Tarrant, “Review: Guidelines for Encoding Critical Editions for the Library of Digital Latin Texts,” Society for Classical Studies (Dec. 4, 2017), <https://classicalstudies.org/scs-blog/donald-j-mastronarde/review-guidelines-encoding-critical-editions-library-digital-latin>.

## 1.1 Requirements

Please refer to [sect. 6 on page 25](#).

## 1.2 Features

A list of the main features of ekdosis follows:—

- (a) *Multilingual critical editions*: ekdosis can be used to typeset any number of texts in any direction accepted by LuaTeX. Running paragraphs of text can be arranged in any number of columns, either on single or facing pages, which in turn can be synchronized or not. ekdosis is also suitable for complex layouts as in the case of Arabic poetry or images where three-way alignment is required, or diagrams, *etc.*
- (b) *Apparatus criticus*: Edited texts can receive multiple layers of apparatus, e.g. apparatus criticus (to record variant readings), apparatus fontium (to collect references to texts quoted or cited in the edited text), apparatus testium (to collect testimonia or parallel passages), or any kind of short notes to be printed on the same page as the edited text, *etc.*
- (c) TEI xml output: ekdosis can be instructed to output both PDF and TEI xml files at the same time.
- (d) *Database-driven encoding* under L<sup>A</sup>T<sub>E</sub>X of texts entered segment by segment allows for alignment of parallel texts from multilingual corpora.

Before going into detail, the following simple example will give the reader a general idea of the method of encoding with ekdosis authoritative texts composed of lemmata, in a way that is very close to TEI xml encoding:—

Listing 1: The “Peter/John” basic example

```
1 \begin{ekdosis}
2   I
3   \app{
4     \lem{saw}
5     \rdg{met}
6   }
7   my friend \app{\lem{Peter}\rdg{John}} at the station yesterday.
8 \end{ekdosis}
```

PDF output:—

```
1 I saw my friend Peter at the station yesterday.
```

---

1 saw] met Peter] John.

TEI xml output:—

```
<p>I
<app>
  <lem>saw</lem>
  <rdg>met</rdg>
</app>my friend
<app>
  <lem>Peter</lem>
  <rdg>John</rdg>
</app>at the station yesterday.</p>
```

As can be seen from [listing 1 on the preceding page](#), the edition text is inserted in the `ekdosis` environment (l. 1 to 8). Then two `\app{apparatus entry}` commands (ll. 3 and 7) contain the lemma (`\lem{lemma}`), namely the reading that is accepted by the editor, and at least one variant reading (`\rdg{reading}`), ll. 5 and 7). As the listing shows, the editor is free to lay out the code in a legible manner to the eye: the first lemma above spans several lines whereas the second one is written in sequence without spaces.

In the PDF output, the edition text is printed in the upper part of the page, above the line, and naturally shows the accepted readings. The margins are used for numeration. In the apparatus criticus, below the line, reference to the text is made by specifying the number of the line and if several entries refer to the same line, numbers are not repeated. Instead, entries are separated from one another by a broad horizontal space. Finally, a square bracket is used inside entries to distinguish the lemma from the variant readings.

Furthermore, as said above, if a TEI `xml` output be required, `ekdosis` compiles an additional `.xml` file an excerpt of which is provided above.

## 2 The Basics of `ekdosis`

### 2.1 Loading the Package—General Options

`ekdosis` is loaded in the preamble like so:—

```
\usepackage{ekdosis}
```

`ekdosis` may be loaded with four optional ‘named arguments’ either of which is set using the syntax `<key>=<value>`. The description of the optional arguments follows.



The reader is invited to refer to the relevant sections of this documentation for more information on how to use them.

layout

`layout=float|footins`

Default: float

By default, layers of critical notes are inserted as a floating environment to be printed at the bottom of pages. `layout=footins` can be set to insert critical notes in the default footnote block which can be considered to be a special kind of float that is printed at the bottom of pages. In this case, the apparatus criticus will be inserted between regular numbered footnotes, but will carry no footnote mark of its own.

divs

`divs=ekdosis|latex`

Default: `ekdosis`

In many occasions,  $\text{\LaTeX}$  standard textual divisions do not meet the specific requirements of classical and literary texts, the divisions of which may depend on many different received traditions. `ekdosis` provides a flexible mechanism in which format and presentation have been carefully separated from content. It is designed to build un-numbered TEI divisions allowed to nest recursively. However, if `divs` be set to `latex`,  $\text{\LaTeX}$  standard textual divisions can be used and will be translated into TEI numbered `<div>` elements.



It must be noted that the two styles are mutually exclusive.

parnotes

`parnotes=true|false|roman`

Default: not set

This named argument does not need a value as it defaults to `true` if it is used. Apparatus criticus typeset by `ekdosis` may contain notes and footnotes. The latter can be laid out as paragraphed notes below the block of critical notes by means of the `parnotes` package. Additionally, `parnotes=roman` prints these footnotes numbered with Roman numerals.

teiexport

`teiexport=true|false|tidy`

Default: not set

This named argument does not need a value as it defaults to `true` if it is used. If `teiexport` be set to `true`, `ekdosis` is instructed to output both PDF and TEI `xml` files at the same time.

By default, the TEI file will receive the same basename as the `.tex` source file, suffixed with `-tei.xml`. The raw `.xml` file that is produced by `ekdosis` can be further processed by the `tidy` console application.<sup>4</sup> To make this happen, `tidy` must be installed and the `.tex` source file must be compiled with the `--shell-escape` facility so that spawning programs from L<sup>A</sup>T<sub>E</sub>X can be allowed.<sup>5</sup>

As an example, the following line loads `ekdosis` and instructs it to output a TEI `xml` file (in addition to the PDF one) and to use `parnotes` to format with Roman numerals the footnotes that are inserted in the apparatus criticus:—

```
\usepackage[telexport, parnotes=roman]{ekdosis}
```

## 2.2 Witnesses, Hands, Shorthands & Scholars

Any reference that is to be used in the apparatus criticus must be “declared” in the preamble beforehand, namely: manuscript sigla (either for single manuscripts or manuscript families, primary or later hands, &c.) or abbreviated last names of scholars. To that effect, `ekdosis` provides the following preamble-only commands:—

`\DeclareWitness` **Witnesses** `\DeclareWitness{<unique id>}{<rendition>}{<description>}[<options>]`

This command requires three mandatory arguments enclosed between curly braces used to specify consecutively:

- (a) The unique identifier of the witness to be used both in the `.tex` source file and as `xml:id` in the TEI `xml` output if any.
- (b) The rendition to be used in the printed apparatus criticus, which also will be found within the `<sourceDesc>` element of the TEI header where the description of the witness occurs, within a `<abbr type="siglum">` element.
- (c) A basic description of the manuscript to be found in a typical printed *Conspectus Siglorum*, namely: the name of the manuscript followed by its call number.

Finally, the optional argument of `\DeclareWitness` accepts a comma-separated list of the following “name=value” arguments that are used to collect items of information to be found within the `<msIdentifier>` element in the TEI header:—<sup>6</sup>

<code>settlement</code>	<code>settlement=&lt;name&gt;</code> : The name of a city or administrative unit.
<code>institution</code>	<code>institution=&lt;name&gt;</code> : The name of an institution such as a university or library.
<code>repository</code>	<code>repository=&lt;name&gt;</code> : The name of the repository within which the witness is stored.
<code>collection</code>	<code>collection=&lt;name&gt;</code> : The name of a collection of manuscripts.
<code>idno</code>	<code>idno=&lt;call #&gt;</code> : Any form of call number.
<code>msName</code>	<code>msName=&lt;name&gt;</code> : The name commonly used for the witness.
<code>origDate</code>	<code>origDate=&lt;date&gt;</code> : Any form of date used to identify the date of origin for the witness.

To take here one example, a witness such as the *Marcianus Graecus 269*, referred to as manuscript ‘M’ in the editions, which contains sixty treatises from Hippocrates, could be declared as follows:—

```
\DeclareWitness{M}{M}{\emph{Marcianus Gr.} 269}[
  settlement=Venice,
  institution=Marciana Library,
  msName=\emph{Marcianus Gr.},
```

<sup>4</sup>See <http://www.html-tidy.org>.

<sup>5</sup>See <https://texfaq.org/FAQ-spawnprog> for more information on how to do this.

<sup>6</sup>See <https://tei-c.org/release/doc/tei-p5-doc/en/html/MS.html#msid> for detailed information on these elements.

```
idno=269,  
origDate=s. X]
```

`\DeclareHand` **Hands** `\DeclareHand{<unique id>}{<base ms.>}{<rendition>}[<note>]`

This command requires three mandatory arguments enclosed between curly braces and one optional argument between square brackets used to specify consecutively:—

- (a) The unique identifier of the hand to be used both in the `.tex` source file and as an `xml:id` in the TEI `xml` output if any.
- (b) The unique identifier of the witness the hand is related to. Of course, this witness must have been declared beforehand.
- (c) The rendition to be used in the printed apparatus criticus, which also will be found within the `<handNote>` element of the TEI header where the description of the hand occurs, within a `<abbr type="siglum">` element.
- (d) Some further information about the hand.

To continue the preceding example, here is how additions and corrections found in the *Marcianus Gr.* 269 could be declared after this witness has been declared itself:—

```
\DeclareHand{M1}{M}{M\textsuperscript{1}}[Emendatio scribae ipsius]  
\DeclareHand{M2}{M}{M\textsuperscript{2}}[Manus posterior]
```

As can be seen, values such as M, M1 and M2 in the `.tex` source file will be printed as M, M<sup>1</sup> and M<sup>2</sup> respectively. Not only the code gains legibility, but also flexibility for simply changing any declared rendition will update corresponding sigla throughout the entire edition.

As a final example, here is how ekdosis would encode information as declared above for the *Marcianus Gr.* 269 should a TEI output be required:—

```
<sourceDesc>  
  <listWit>  
    <witness xml:id="M">  
      <abbr type="siglum">M</abbr>  
      <emph>Marcianus Gr.</emph>269  
    <msDesc>  
      <msIdentifier>  
        <settlement>Venice</settlement>  
        <institution>Marciana Library</institution>  
        <idno>269</idno>  
        <msName>  
          <emph>Marcianus Gr.</emph>  
        </msName>  
      </msIdentifier>  
      <physDesc>  
        <handDesc hands="2">  
          <handNote xml:id="M1">  
            <abbr type="siglum">M  
              <hi rend="sup">1</hi></abbr>  
            <p>Emendatio scribae ipsius</p>  
          </handNote>  
          <handNote xml:id="M2">  
            <abbr type="siglum">M  
              <hi rend="sup">2</hi></abbr>  
            <p>Manus posterior</p>  
          </handNote>  
        </handDesc>  
      </physDesc>  
    </listWit>  
  </sourceDesc>
```

```

        </handNote>
    </handDesc>
</physDesc>
<history>
    <origin>
        <origDate>s. X</origDate>
    </origin>
</history>
</msDesc></witness>
</listWit>
</sourceDesc>

```

`\DeclareShorthand` **Shorthands** `\DeclareShorthand{<unique id>}{<rendition>}{<csv list of witnesses>}`  
 This command provides a convenient way to declare *families* of witnesses. It takes three mandatory arguments used to specify consecutively:—

- (a) The unique identifier of the family to be used in the `.tex` source file.
- (b) The rendition to be used in the printed apparatus criticus.
- (c) A comma-separated list of previously declared witnesses.

As an example, the manuscripts of Caesar’s *Gallie War* are divided into two families:  $\alpha$ , which includes mss. A, M, B, R, S, L and N, and  $\beta$ , which includes mss. T, f, U and l. Therefore, provided that all these witnesses have been already declared, here is how the two families  $\alpha$  and  $\beta$  could be declared:—<sup>7</sup>

```

\DeclareShorthand{a}{\alpha}{A,M,B,R,S,L,N}
\DeclareShorthand{b}{\beta}{T,f,U,l}

```

Then, symbols a and b can be used in the `.tex` source file in place of manuscripts that belong to either family.

`\DeclareScholar` **Scholars** `\DeclareScholar{<unique label>}{<rendition>}`  
 The *Conspectus Siglorum* that is placed ahead of the edition text is traditionally divided into two parts: a) *Codices*, which provides the list of sigla used in the apparatus, b) *Editiones uel Studia*, which provides references to scholars whose published or unpublished works contain conjectures used in the apparatus criticus. `\DeclareScholar` takes two mandatory arguments used to specify consecutively:—

- (a) A unique label used in the `.tex` source file to refer to the work where the conjecture is found.
- (b) The rendition to be used in the printed apparatus criticus.

As ekdosis can include and use TEI xml compliant lists of references, it is advisable to use Bib(LA)T<sub>E</sub>X labels in the first argument of `\DeclareScholar`. Likewise, shorthands fields from the bibliographical database can be recalled from within the second argument of `\DeclareScholar`:—

```

\DeclareScholar{Wil}{Wilamowitz}
% or for example:
\DeclareScholar{Wil}{\citename{Wil}{shorteditor}}

```

<sup>7</sup>These witnesses are used in the example provided below in [listing 4 on page 14](#).

## 2.3 Editing a Single Text With No Translation

`ekdosis` Running paragraphs of one single text to be edited should be inserted in the `ekdosis` environment, like so:<sup>8</sup>

```
\begin{ekdosis}
  Edition text goes here.
\end{ekdosis}
```

`\app` **Apparatus Entries** `\app[type=<type>]{<apparatus entries>}`  
This command takes one mandatory argument and accepts one optional argument. Once references to be used as witnesses in the apparatus criticus have been declared in the preamble as described in [sect. 2.2](#) on pages 6–8, the `\app` command is used for inserting entries in the apparatus criticus, either lemmata, readings or notes, like so:—

```
I saw my friend \app{\lem{Peter}\rdg{John}} yesterday.
or:
I saw my friend
  \app{
    \lem{Peter}
    \rdg{John}
  }
yesterday.
```

`\app` accepts one further optional argument:—

`type` `type=<type>` Default: default  
By default, `ekdosis` sets one layer of notes—the `default` layer—in the apparatus criticus. This layer is fit to receive notes related to variant readings from witnesses and sources used by the editor to establish the edition text. Additional layers can be defined to receive other kinds of notes, such as references to texts quoted or cited in the text of the edition (*apparatus fontium*), references to testimonia, or quotations of the edited text by other authors (*apparatus testium*), explanatory notes, and so forth.<sup>9</sup> Once additional layers have been defined and assigned to new ‘types’, such as ‘testium’ and the like, these types can be used as values appended to the type ‘named option’.

**Base text and variants** As can be seen in the example above, there are two kinds of individual readings: the *lemma*, which contains the base text accepted by the editor, and the *reading*, which contains deviant readings rejected by the editor.

`\lem` **Lemmata** `\lem[options]{<lemma text>}`  
As *<lemma text>* is a word or a phrase judged by the editor to be authentic or authoritative, `\lem` prints it by default both in the edition text and as the first part of a new entry in the apparatus criticus, preceded by the line number where it occurs or a broad space if the entry refers to the same line as the preceding entry. The optional argument of `\lem` accepts the following comma-separated list of “name=value” arguments:—

`wit` `wit=<csv list of witnesses>`  
While a single witness may be recorded as in `wit=A`, comma-separated lists of multiple witnesses must obviously be enclosed in curly braces, like so: `wit={A,B,C}`. It must be noted that witnesses can be grouped by using spaces as separators, like so: `wit={A,B,C,␣D,E,F}`.

`alt` `alt=<alternate lemma>`

<sup>8</sup>See above [listing 1](#) on page 4.

<sup>9</sup>See below, [sect. 4](#) on page 17.

While the mandatory argument of `\lem`, *<lemma text>*, is always used to print the edition text in the upper part of the page, *<alternate lemma>*, if specified, supersedes what is printed in the related entry of the apparatus criticus. This mechanism is useful in more than one respect. For instance, it can be used to insert abbreviated lemmata in the apparatus criticus, or to introduce an alternate way of writing entries with Latin technical terms in the apparatus criticus as will be demonstrated below in the example provided by [listing 2 on the following page](#).

`sep` `sep=<separator>`  
`sep` allows to change the symbol used to separate the lemma text from deviant readings, which is by default the closing square bracket (])

`nosep` `nosep=true|false`  
This named argument does not need a value as it defaults to `true` if it is used. Obviously, `nosep` removes the separator mentioned above.

`nolem` `nolem=true|false`  
This named argument does not need a value as it defaults to `true` if it is used. `nolem` completely removes the lemma text from the related entry in the apparatus criticus.

`type` `type=<value>`  
This named argument has no effect on the apparatus criticus of the edition in print, but it is used in the TEI xml output to classify the variation recorded in the entry according to some convenient typology. Categories such as lexical, morphological, orthographical and the like may apply.

Finally, four named arguments can be used to insert words at the following specific places in the lemma text:

] pre Peter post prewit A postwit] John B

`pre` `pre=<words>`  
`pre` inserts *<words>* before the lemma text.

`post` `post=<words>`  
`post` inserts *<words>* after the lemma text.

`prewit` `prewit=<words>`  
`prewit` inserts *<words>* before the list of witnesses.

`postwit` `postwit=<words>`  
`postwit` inserts *<words>* after the list of witnesses.

`\rdg` **Readings** `\rdg[options]{<variant reading>}`

As *<reading>* is a word or a phrase judged by the editor to be unsatisfactory or corrupted, `\rdg` prints it by default in the last part of the corresponding entry in the apparatus criticus, after the symbol that is used to separate words of the base text (the lemma text) from words rejected by the editor. The optional argument of `\rdg` accepts a comma-separated list of “name=value” arguments that is almost identical to `\app`. Therefore, emphasis will be placed here only on the differences. The reader is invited to refer to the description provided above on pages 9–10 for more detailed information:—

`wit` `wit=<csv list of witnesses>`

`alt` `alt=<alternate reading>`

`nordg` `nordg=true|false`

This named argument does not need a value as it defaults to `true` if it is used. `nordg` completely removes the variant reading from the related entry in the apparatus criticus.

`type` `type=<value>`

`pre` `pre=<words>`

`post` `post=<words>`

`prewit` `prewit=<words>`

postwit postwit=*<words>*

`\note` **Notes** `\note[<options>]{<text>}` or `\note*[<options>]{<text>}`  
`\note*` It may happen that editorial notes be needed to record short comments of general nature *between* lemmata and readings. `\note` inserts inline comments while `\note*` places comments below the entire apparatus block. Furthermore, if `ekdosis` has been loaded with the `parnotes` option as described above on page 5, `\note*` will use the `parnotes` package to lay out the notes as an additional paragraph below the apparatus criticus. The optional argument of `\note/\note*` accepts the following comma-separated list of “name=value” arguments:—

pre `pre=<words>`  
pre inserts *<words>* immediately before the note.

post `post=<words>`  
post inserts *<words>* immediately after the note.

 Under no circumstances is it permitted to insert the command `\note` or `\note*` inside the argument of `\lem` or `\rdg`. `\note/\note*` must go *between* these commands. As a general rule, within `\app{}` elements, notes are inserted immediately *after* the lemma or the variant reading they are related to.

Listing 2 provides an illustration of some of the possibilities afforded by the commands just described:—

Listing 2: The “Peter/John” full example

```
1 \begin{ekdosis}
2   I
3   \app{
4     \lem[wit=A]{saw}
5     \rdg[wit=B]{met}}
6   my friend
7   \app{
8     \lem{Peter}
9     \rdg{John}
10  }
11  at the station yesterday. We were both in a
12  \app{
13    \lem[wit=A]{great}
14    \rdg[wit=B]{good}}
15  mood.
16  \app{
17    \lem[wit=A, alt={How nice... said}]{\enquote{How nice to find
18    you here!} he said.}
19    \note*{There are no quotation marks in the mss.}
20    \rdg[wit=B, alt={\emph{om.}}]{}}
21  I chuckled to myself, recalling the last time we
22  \app{
23    \lem[wit=A,nolem]{met}
24    \rdg[wit=B, alt={\emph{post} met \emph{add.} there}]{met
25    there}
26    \note*{Ms. \getsiglum{B} provides other additions of this kind.}}.
27 \end{ekdosis}
```

1 I saw my friend Peter at the station yesterday. We were both in a great mood. “How  
2 nice to find you here!” he said. I chuckled to myself, recalling the last time we met.

I saw A] met B Peter] John great A] good B 1-2 “How nice... said A]<sup>i</sup> om. B 2 post met add. there B<sup>ii</sup>.

<sup>i</sup> There are no quotation marks in the mss. <sup>ii</sup> Ms. B provides other additions of this kind.

REM. 1 Close examination of lines 17–8 from [listing 2 on the previous page](#) shows how `alt` has been used to insert an abridged lemma text in the apparatus criticus in print while keeping safe what is to be found in the TEI `xml` output.

REM. 2 The same technique has been used at line 24 to insert alternate words, including Latin technical terms, in place of the variant reading. Hence the use of `nolem` at line 23 to remove the lemma text from the apparatus criticus in print.

REM. 3 `\note*` has been used to insert short annotations in two places (ll. 19 and 26).

REM. 4 For an example of the use of `norrdg`, see below [listing 4 on page 14](#), l. 11.

The corresponding TEI `xml` output produced by `ekdosis` from the L<sup>A</sup>T<sub>E</sub>X source file follows:—

Listing 3: The “Peter/John” full example: TEI `xml` output

```
<p>I
<app>
  <lem wit="#A">saw</lem>
  <rdg wit="#B">met</rdg>
</app>my friend
<app>
  <lem>Peter</lem>
  <rdg>John</rdg>
</app>at the station yesterday. We were both in a
<app>
  <lem wit="#A">great</lem>
  <rdg wit="#B">good</rdg>
</app>mood.
<app>
  <lem wit="#A">
  <quote>How nice to find you here!</quote> he said.</lem>
  <note>There are no quotation marks in the mss.</note>
  <rdg wit="#B" />
</app>I chuckled to myself, recalling the last time we
<app>
  <lem wit="#A">met</lem>
  <rdg wit="#B">met there</rdg>
  <note>Ms.
  <ref target="#B">B</ref>provides other additions of
  this kind.</note>
</app>.</p>
```

### 3 Alignment of Parallel Texts

As already said above,<sup>10</sup> `ekdosis` can arrange sundry texts in parallel columns—synchronized or not—either on the same page or on facing pages. Depending on what is needed, any

<sup>10</sup>See point (a) on page 4.

text can be equipped with an apparatus criticus. The most common example is that of an edition of a classical text with an apparatus criticus accompanied by a translation into a modern language on the facing page. One can also imagine an edition of two classical texts or two different recensions of the same text, each of which provides variants recorded in separate apparatus criticus, laid out on the left-hand pages, with one or more translations on the corresponding right-hand pages, and so forth.

**alignment**    **The alignment Environment**    `\begin{alignment}[\langle options \rangle]...\end{alignment}`  
 This environment can be used as it is provided to typeset a standard critical edition, namely an edition text, equipped with an apparatus criticus and laid out on the left-hand pages, accompanied by a translation into a modern language on the facing pages.

**edition**            Within `alignment`, two environments are available by default: `\begin{edition}`  
**translation**    `...\end{edition}` and `\begin{translation}...\end{translation}`. Obviously, the former is used to typeset the edition text with an apparatus criticus on the left, while the latter is used to typeset the translation on the right, like so:—

```
\begin{alignment}
  \begin{edition}
    First § of the edition text.
  \end{edition}
  \begin{translation}
    First § of the translation.
  \end{translation}
  \begin{edition}
    Second § of the edition text.
  \end{edition}
  \begin{translation}
    Second § of the translation.
  \end{translation}
\end{alignment}
```

**edition\***            Furthermore, so-called “starred” versions of these environments can be used at any  
**translation\***    point to synchronize texts, that is to print them in such a way that the tops of all paragraphs are vertically aligned. To that effect, it must be noted that merely applying this command on a single environment—for instance the leftmost one—will have all other associated paragraphs printed aligned.

 While the whole edition text and the whole translation can be inserted in a single `edition/translation` environment respectively, it is recommended to enter both texts paragraph by paragraph as shown in the example above. Not only this method of encoding allows not to lose sight of paragraphs that are meant to be read together, but it is also the only way to align paragraphs in print, and it is much more suitable to mark up correspondence between spans of texts as will be demonstrated below in [sect. 4 on page 17](#).

As an illustration, a short extract of Caesar’s *Gallic War*, VI, XIII.1 follows.<sup>11</sup> See the list of sigla for manuscripts and manuscript families above on page 8. As this document is not set for duplex printing, both texts have been put together on the same page. However, the reader will find the full `.tex` source file in [sect. 7.1 on page 46](#) and TEI `xml` output in [sect. 7.2 on page 48](#). The corresponding PDF output is available in [a separate file](#):—

<sup>11</sup>Latin text: Caesar, *Gallic War* (*Guerre des Gaules*), ed. L.-A. Constans (Collection des Universités de France; Paris: Les Belles Lettres, 1987) (originally pub. 1926); English translation: Caesar, *Gallic War*, ed. W. A. McDevitte and W. S. Bohn (Harper’s New Classical Library; 1st edn., New York: Harper & Brothers, 1869).

Listing 4: Caesar's *Gallie War*, VI, 13.1

```

1 \begin{alignment}
2   \begin{edition}
3     \ekddiv{head=XIII, depth=2, n=6.13, type=section}
4     In omni Gallia eorum hominum qui \app{
5       \lem[wit=a]{aliquo}
6       \rdg[wit=b, alt=in al-]{in aliquo}}
7     sunt numero atque honore genera sunt duo. Nam plebes paene
8     seruorum habetur loco, quae \app{
9       \lem[wit={A,M}, alt={nihil audet (aut et \getsiglum{A1})
10        per se}]{nihil audet per se}
11       \rdg[wit=A1,nordg]{nihil aut et per se}
12       \rdg[wit={R,S,L,N}]{nihil habet per se}
13       \rdg[wit=b]{per se nihil audet}}, \app{
14         \lem[wit=a]{nullo}
15         \rdg[wit=b]{nulli}} adhibetur \app{
16           \lem{consilio}
17           \rdg[wit={T, U}, alt=conc-]{concilio}}.
18   \end{edition}
19   \begin{translation}
20     \ekddiv{head=XIII, depth=2, n=6.13, type=section}
21     Throughout all Gaul there are two orders of those men who are of
22     any rank and dignity: for the commonality is held almost in the
23     condition of slaves, and dares to undertake nothing of itself,
24     and is admitted to no deliberation.
25   \end{translation}
26 \end{alignment}

```

1 XIII. In omni Gallia eorum hominum qui  
2 aliquo sunt numero atque honore genera sunt  
3 duo. Nam plebes paene seruorum habetur  
4 loco, quae nihil audet per se, nullo adhibetur  
5 consilio.

2 aliquo α] in al- β 4 nihil audet (aut et A<sup>1</sup>) per se AM]  
nihil habet per se RSLN per se nihil audet β nullo α]  
nulli β 5 consilio] conc- T U.

XIII. Throughout all Gaul there are two  
orders of those men who are of any rank and  
dignity: for the commonality is held almost  
in the condition of slaves, and dares to un-  
dertake nothing of itself, and is admitted to  
no deliberation.

REM. 1 As can be seen from the apparatus entry related to l. 4 above, a subvariant has been inserted in the lemma part: “(aut et A<sup>1</sup>)”. This was done by using `alt` in [listing 4](#), ll. 9–10. But as this variant is already recorded—and printed—in the lemma part, it was necessary to remove the entire otherwise redundant variant from the apparatus criticus in print. Hence the use of `nordg` at l. 11.

REM. 2 For examples of abbreviations, see ll. 6 and 17.

REM. 3 Line 17 shows how mss. T and U (which belong to two distinct subfamilies) have been separated from one another: `wit={T,U}`. See above on [page 9](#) for more information on this technique.

Finally, the corresponding TEI `xml` output follows:—

```

<div xml:id="div-edition_1" xml:lang="la">
  <div type="section" n="6.13">
    <head>XIII</head>
    <p>In omni Gallia eorum hominum qui
  <app>
    <lem wit="#A #M #B #R #S #L #N">aliquo</lem>

```

```

    <rdg wit="#T #f #U #l">in aliquo</rdg>
  </app>sunt numero atque honore genera sunt duo. Nam
  plebes paene seruorum habetur loco, quae
  <app>
    <lem wit="#A #M">nihil audet per se</lem>
    <rdg wit="#A1">nihil aut et per se</rdg>
    <rdg wit="#R #S #L #N">nihil habet per se</rdg>
    <rdg wit="#T #f #U #l">per se nihil audet</rdg>
  </app>,
  <app>
    <lem wit="#A #M #B #R #S #L #N">nullo</lem>
    <rdg wit="#T #f #U #l">>nulli</rdg>
  </app>adhibetur
  <app>
    <lem>consilio</lem>
    <rdg wit="#T #U">concilio</rdg>
  </app>.</p>
</div>
</div>
<div xml:id="div-translation_1" xml:lang="en">
  <div type="section" n="6.13">
    <head>XIII</head>
    <p>Throughout all Gaul there are two orders of those men
    who are of any rank and dignity: for the commonality is
    held almost in the condition of slaves, and dares to
    undertake nothing of itself, and is admitted to no
    deliberation.</p>
  </div>
</div>

```

### 3.1 Alignment of Several Texts

As described above on page 13, the `alignment` environment may receive an optional argument in which the following “name=value” arguments are accepted:—

- `tcols` `tcols=<number>`

`tcols` stores the total number of columns of text to be aligned.

Default: 2
- `lcols` `lcols=<number>`

`lcols` stores the number of columns to be printed on the left-hand page, *out of the total number* of columns specified with `tcols`. As can be seen from the preceding two default values, `alignment` initially sets two columns of text on facing pages. Of course, for this setting to work properly, one must ensure that the `alignment` environment is started on a left page.

Default: 1
- `texts` `texts=<semicolon-separated values>`

Depending on the total number of columns that has been specified with `tcols` above, `texts` is then used to define the names of the environments that shall receive edition texts, translations, &c. Some very important points need to be emphasized in this respect:—

Default: edition;translation

- (a) Only unaccented letters of the alphabet (whatever the case) are allowed to compose the names of L<sup>A</sup>T<sub>E</sub>X environments.
- (b) These names must be separated from one another by *semicolons*, as shown in red in the listing below at the end of lines 1 and 2.

 The colon at the end of line 3 closes the whole value of `text` and acts as a higher level separator.

- (c) Each name may be followed by a ‘suboptional’ argument between square brackets which will then be used to insert TEI xml attributes in the corresponding <div> element. For example,

```
1 texts=latin[xml:lang="la"];
2   english[xml:lang="en"];
3   french[xml:lang="fr"],
```

will be converted into TEI xml as follows:—

```
<div xml:id="div-latin_1" xml:lang="la">
...
</div>
<div xml:id="div-english_1" xml:lang="en">
...
</div>
<div xml:id="div-french_1" xml:lang="fr">
...
</div>
```



As can be seen, `ekdosis` takes care of computing and inserting the `xml:id` attributes which are therefore not accepted in the ‘suboptional’ arguments of `texts`.

- (d) The names of the environments must be specified in exactly the same order as they are supposed to appear in the print edition, from left to right.

<code>apparatus</code>	<code>apparatus=&lt;u&gt;semicolon-separated values&lt;/u&gt;</code>	<code>Default: edition</code>
	Then, the <code>apparatus</code> option, just as <code>texts</code> , takes a <u>semicolon-separated</u> list of previously defined environments that shall receive at least one layer of apparatus criticus.	
<code>paired</code>	<code>paired=true false</code>	<code>Default: true (initially not set)</code>
	This named argument does not need a value as it defaults to <code>true</code> if it is used. By default, <code>ekdosis</code> follows the L <sup>A</sup> T <sub>E</sub> X page numbering scheme when multiple texts are arranged on facing pages. The <code>paired</code> option leaves every right-hand page number unchanged, so that both facing pages hold the same page number.	
<code>lineation</code>	<code>lineation=page document</code>	<code>Default: document</code>
	This option applies to edition texts initially set to receive an apparatus criticus. By default, lines are continuously numbered throughout the document. <code>lineation=page</code> sets the numbering to start afresh at the top of each page.	
<code>flush</code>	<code>flush=true false</code>	<code>Default: false</code>
	This named argument does not need a value as it defaults to <code>true</code> if it is used. This option applies on rare occasions only, when two or more distinct <code>alignment</code> environments are started on the same page. Should this happen, any subsequent <code>alignment</code> environment must be set with the <code>flush</code> option so that every one of them carry its own apparatus criticus.	

As an example, the alignment of the Latin edition text of Caesar’s *Gallic War*, printed on left-hand pages, along with two translations into English and French, printed on right-hand pages, can be set as follows:—

```
\begin{alignment}[tcols=3,
                 lcols=1,
                 texts=latin[xml:lang="la"];
                   english[xml:lang="en"];
                   french[xml:lang="fr"],
                 apparatus=latin,
```

```

lineation=page]
\begin{latin}
  Gallia est omnis divisa in partes tres quarum unam incolunt
  Belgae, [...]
\end{latin}
\begin{english}
  All Gaul is divided into three parts, one of which the Belgae
  inhabit, [...]
\end{english}
\begin{french}
  L'ensemble de la Gaule est divisé en trois parties: l'une est
  habitée par les Belges, [...]
\end{french}
\end{alignment}

```

`\SetEkdosisAlignment`      `\SetEkdosisAlignment{alignment settings}`  
 If the same alignment settings are to be shared by several `alignment` environments, common settings can be collected in the argument of `\SetEkdosisEnvironment`, like so:—

```

\SetEkdosisAlignment{
  tcols=3,
  lcols=1,
  texts=latin[xml:lang="la"];
  english[xml:lang="en"];
  french[xml:lang="fr"],
  apparatus=latin,
  lineation=page
}
\begin{alignment}
  ...
\end{alignment}

```

`\SetEkdosisAlignment` can be used either in the preamble or at any point of the document to set or to modify alignment settings.

## 4 To Be Continued...

v1.0 of `ekdosis`, which should be available by the end of July 2020, will include a full documentation. At the time of writing, the author is working on this part of the package.

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## 6 Implementation

ekdosis relies on Lua functions and tables. Read the .lua files that accompany ekdosis for more information.

```
1 \RequirePackage{iftex}
```

Of course, ekdosis requires Lua<sup>A</sup>T<sub>E</sub>X. Issue an error if the document is processed with another engine.

```
2 \RequireLuaTeX
```

Set global options:—

```
3 \RequirePackage{expkv-opt}
4 \RequirePackage{expkv-def}
5 \newif\if@pkg@float
6 \newif\if@pkg@footins
7 \newif\if@pkg@ekddivs
8 \newif\if@parnotesroman
9 \newif\if@pkg@parnotes
```

```

10 \newif\iftexi@export
11 \ekvdefinekeys{ekdosiss}{
12   choice layout = {float = {\@pkg@floattrue},
13     footins = {\@pkg@footintrue}},
14   initial layout = float,
15   unknown-choice layout = \PackageError{ekdosiss}{unknown
16     layout=#1}{`layout' must be either `float' or `footins'.},
17   choice divs = {ekdosiss = {\@pkg@ekddivstrue},
18     latex = {\@pkg@ekddivfalse
19       \AtBeginDocument{\luadirect{ekdosiss.setekddivfalse()}}}},
20   initial divs = ekdosiss,
21   unknown-choice divs = \PackageError{ekdosiss}{unknown divs=#1}{`divs'
22     must be either `ekdosiss' or `latex'.},
23   choice parnotes = {false = {},
24     true = {\@pkg@parnotesttrue},
25     roman = {\@pkg@parnotesttrue\@parnotesromantrue}},
26   default parnotes = true,
27   unknown-choice parnotes = \PackageError{ekdosiss}{unknown
28     parnotes=#1}{`parnotes' must be either `true', or `false' or
29     `roman'.},
30   choice teiexport = {false = {},
31     true = {\teii@exporttrue
32       \AtBeginDocument{\luadirect{ekdosiss.openteistream()}}%
33       \AtEndDocument{\luadirect{ekdosiss.closeteistream()}}},
34     tidy = {\teii@exporttrue
35       \AtBeginDocument{\luadirect{ekdosiss.openteistream()}}%
36       \AtEndDocument{\luadirect{ekdosiss.closeteistream("tidy")}}}},
37   default teiexport = true,
38   unknown-choice teiexport = \PackageError{ekdosiss}{unknown
39     teiexport=#1}{`teiexport' must be either `true', `false' or
40     `tidy'.}
41 }
42 \ekvoProcessLocalOptions{ekdosiss}

```

**Required Packages** In addition to iftex, expkv-opt and expkv-def, a list of the packages that are required by ekdosiss follows:—

```

43 % \RequirePackage{iftex} % already loaded above
44 % \RequirePackage{expkv-opt} % already loaded above
45 % \RequirePackage{expkv-def} % already loaded above
46 \RequirePackage{luacode}
47 \RequirePackage{paracol}
48 \RequirePackage{xparse}
49 \RequirePackage{etoolbox}
50 \RequirePackage{lineno}
51 \RequirePackage{keyfloat}
52 \RequirePackage{refcount}
53 \RequirePackage[user,abspage]{zref}
54 \RequirePackage{ltxcmds}
55 \if@pkg@parnotes
56   \RequirePackage{parnotes}
57 \fi

```

**Lua** Here begins the real work: load ekdosiss.lua:—

```

58 \luadirect{dofile(kpse.find_file("ekdosiss.lua"))}

```

```

59 \AtEndDocument{
60   \luadirect{ekdosis.closestream()}
61 }

```

Use `\normalfont` for line numbers:—

```

62 \renewcommand\linenumberfont{\normalfont\footnotesize}

```

`\SetEkdosishooks` `\SetEkdosishooks` is used to set hooks meant to be shared by all declared apparatuses, such as the font size, the format of numerals, &c. This command can be used in the preamble or at any point of the document.

```

63 \ekvdefinekeys{ekd@hooks}{
64   store appfontsize = \ekd@appfontsize,
65   store refnumstyle = \ekd@refnumstyle,
66   store postrefnum = \ekd@postrefnum,
67   initial appfontsize = \footnotesize,
68   initial refnumstyle = \bfseries,
69   initial postrefnum = ~
70 }
71 \NewDocumentCommand{\SetEkdosishooks}{m}{\ekvset{ekd@hooks}{#1}}

```

Build and process the list of witnesses and hands:—

```

72 \ekvdefinekeys{ekd@witness}{
73   store settlement = \settlement@value,
74   store institution = \institution@value,
75   store repository = \repository@value,
76   store collection = \collection@value,
77   store idno = \idno@value,
78   store msName = \msName@value,
79   store origDate = \origDate@value
80 }

```

`\DeclareWitness` `\DeclareWitness` is a preamble-only command. It takes three mandatory arguments and one optional argument. It is meant to collect data related to witnesses to be used in the edition text. Data are stored in Lua tables and are used to encode the `<listWit>` part of the TEI header as well as the *Conspectus Siglorum* in the edition in print.

```

81 \NewDocumentCommand{\DeclareWitness}{m m m O{}}{%
82   \bgroup
83   \ekvset{ekd@witness}{#4}
84   \luadirect{ekdosis.newwitness(
85     \luastringN{#1},
86     \luastringN{#2},
87     \luastringN{#3},
88     \luastringO{\settlement@value},
89     \luastringO{\institution@value},
90     \luastringO{\repository@value},
91     \luastringO{\collection@value},
92     \luastringO{\idno@value},
93     \luastringO{\msName@value},
94     \luastringO{\origDate@value})}
95   \egroup
96 }
97 \@onlypreamble\DeclareWitness

```

`\DeclareHand` As `\DeclareWitness`, `\DeclareHand` is a preamble-only command meant to collect data and store them in Lua tables. It takes three mandatory arguments and one optional

argument. The second argument is used to connect the hand to a declared witness it is related to. Then the table in which this witness is recorded can be fed with new data.

```

98 \NewDocumentCommand{\DeclareHand}{m m m +0}{
99   \luadirect{ekdosis.newhand(\luastringN{#1},
100     \luastringN{#2},
101     \luastringN{#3},
102     \luastringN{#4})}
103 }
104 \@onlypreamble\DeclareHand

```

`\DeclareScholar` There is also a table in which are collected data related to scholars' names to be used in the apparatus criticus. `\DeclareScholar` is a preamble-only command and takes two mandatory arguments: a unique id and a shorthand to be used in the apparatus criticus which can be extracted from a bibliographic database.

```

105 \NewDocumentCommand{\DeclareScholar}{m m}{
106   \luadirect{ekdosis.newscholar(\luastringN{#1},
107     \luastringN{#2})}
108 }
109 \@onlypreamble\DeclareScholar

```

`\DeclareShorthand` `\DeclareShorthand` is a preamble-only command that can be used to record manuscript families or any kind of shorthand to be used to refer to previously declared ids, for example the shorthand `codd` can be used to point to all declared witnesses. This command takes three mandatory arguments: a unique id, its rendition in print and a csv-list of previously declared ids.

```

110 \NewDocumentCommand{\DeclareShorthand}{m m m}{
111   \luadirect{ekdosis.newshorthand(\luastringN{#1},
112     \luastringN{#2},
113     \luastringN{#3})}
114 }
115 \@onlypreamble\DeclareShorthand

116 \NewDocumentCommand{\getsiglum}{m}{%
117   \luadirect{tex.sprint(ekdosis.getsiglum(\luastringN{#1}))}%
118 }
119 \NewDocumentCommand{\SigLine}{m}{%
120   \luadirect{tex.sprint(ekdosis.basic_cs(\luastringN{#1}))}
121 }

```

**TEX to TEI xml** The following three commands can be used to instruct ekdosis how to convert unknown or unusual  $\LaTeX$  commands into TEI xml equivalents.

`\TeXtoTEI` `\TeXtoTEI{<csname>}{<TEI element>}[<TEI attribute(s)>]` takes two mandatory arguments and one optional argument, namely: the control sequence name to be converted, the TEI element it is to be converted into and any additional xml attributes to be appended to the opening TEI element:—

```

122 \NewDocumentCommand{\TeXtoTEI}{m m O{} }{%
123   \luadirect{ekdosis.newcmdtotag(\luastringN{#1},
124     \luastringN{#2},
125     \luastringN{#3})}
126 }

```

`\EnvtoTEI` `\EnvtoTEI(*){<env name>}{<TEI element>}[<TEI attribute(s)>]` instructs how to convert  $\LaTeX$  environments into TEI xml equivalents. It takes two mandatory arguments and one

optional argument, namely the name of the L<sup>A</sup>T<sub>E</sub>X environment to be converted, the TEI element it is to be converted into and any additional attributes to be appended to the TEI opening element. `\EnvtoTEI*` is restricted to TEI elements that must never appear within `<p>` elements, such as `<div>`, `<lg>` and the like.

```

127 \NewDocumentCommand{\EnvtoTEI}{s m m O{}}{%
128   \IfBooleanTF{#1}{%
129     \luadirect{ekdosis.newenvtotag(\luastringN{#2},
130       \luastringN{#3},
131       \luastringN{#4},
132       "yes")}
133   }{%
134     \luadirect{ekdosis.newenvtotag(\luastringN{#2},
135       \luastringN{#3},
136       \luastringN{#4})}
137   }
138 }

```

`\TeXtoTEIPatt` Finally, the more flexible—and more delicate to handle—`\TeXtoTEIPatt{<TEX pattern>}{<TEI pattern>}` uses pattern matching to instruct ekdosis how to convert (L<sup>A</sup>T<sub>E</sub>X commands into TEI equivalents.

```

139 \NewDocumentCommand{\TeXtoTEIPatt}{m m}{%
140   \luadirect{ekdosis.newpatttotag(\luastringN{#1}, \luastringN{#2})}
141 }

```

`\SetTEIFilename` `\SetTEIFilename{<basename>}` is a preamble-only command. It is used to set the base name of the TEI `xml` output file, to which the suffix `.xml` is appended. By default, the base name is `\jobname-tei`:—

```

142 \NewDocumentCommand{\SetTEIFileName}{m}{
143   \luadirect{ekdosis.setteifilename(\luastringN{#1})}
144 }
145 \@onlypreamble\SetTEIFileName

```

`\SetxmlBibResource` This is a preamble-only command. If a base name for a TEI `xml` compliant bibliographical database file is provided with `\SetxmlBibResource{<basename>}`, ekdosis will use insert formatted data in the back matter section of its own TEI `xml` output file, as `<biblStruct>` elements within a `<listBibl>` section.

```

146 \NewDocumentCommand{\SetxmlBibResource}{m}{
147   \luadirect{ekdosis.setxmlbibresource(\luastringN{#1})}
148 }
149 \@onlypreamble\SetxmlBibResource

```

**Multi-layer apparatuses** ekdosis must know is an entry is to be processed in a single- or multiple-layer context:—

```

150 \newif\ifekd@mapps

```

Now the key-value options can be defined:—

```

151 \ekvdefinekeys{ekd@newapp}{
152   choice direction = {LR = \def\direction@val{LR},
153                       RL = \def\direction@val{RL}},
154   unknown-choice direction = \PackageError{ekdosis}{unknown
155     direction=#1}{`direction' must be either `LR' or `RL'.},
156   store rule = \rule@val,
157   store delim = \delim@val,
158   store sep = \sep@val,

```

```

159 store bhook = \bhook@val,
160 store ehook = \ehook@val,
161 initial direction = LR,
162 initial ehook = {\csname ekd@end@apparatus\endcsname}
163 }

```

`\DeclareApparatus` `\DeclareApparatus{<apparatus name>}[<options>]` is a preamble-only command. As a mandatory argument, it takes the name of the new layer of notes to be inserted in the apparatus block. Then, the following six key-value options can be used to lay out the layer: `direction=LR|RL`, `rule`, `delim` (the delimiter between entries), `sep` (the separator between lemma part and readings or notes), `bhook` (L<sup>A</sup>T<sub>E</sub>X code inserted as the layer begins), `ehook` (L<sup>A</sup>T<sub>E</sub>X code inserted as the layer ends):—

```

164 \NewDocumentCommand{\DeclareApparatus}{m O{} }{
165   \newbool{subsq@unit@#1}
166   \booltrue{subsq@unit@#1}
167   \unless\ifekd@mapps\global\ekd@mappstrue\fi
168   \bgroup
169   \ekvset{ekd@newapp}{#2}
170   \luadirect{ekdosis.newapparatus(
171     \luastringN{#1},
172     \luastring{\direction@val},
173     \luastring0{\rule@val},
174     \luastring0{\delim@val},
175     \luastring0{\sep@val},
176     \luastring0{\bhook@val},
177     \luastring0{\ehook@val}
178   )}
179   \egroup
180 }
181 \@onlypreamble\DeclareApparatus

```

Apparatus-related settings and functions. Some booleans to check if an apparatus should be inserted and what is the current environment.

```

182 \newbool{do@app}
183 \newif\ifekd@state
184 \newif\ifekd@isinapp
185 \newif\ifekd@isinlem

```

The next boolean is shared with `arabluatex`. `\LRnum` is used internally to ensure that numerals referring to line spans are displayed in the right order.

```

186 \providebool{al@rlmode}
187 \@ifpackageloaded{arabluatex}{ }{ }
188 \def\setRL{\booltrue{al@rlmode}\pardir TRT\textdir TRT}
189 \def\setLR{\boolfalse{al@rlmode}\pardir TLT\textdir TLT}
190 }
191 \protected\def\LRnum#1{\bgroup\textdir TLT#1\egroup}

```

Set counter referring to line numbers and make it global.

```

192 \newcounter{ekd@lab}
193 \globalcounter{ekd@lab}

```

This command inserts words in the apparatus criticus without checking if both `ekd@isinapp` and `ekd@state` are set to true.

```

194 \NewDocumentCommand{\unconditional@appin}{o m}{ }
195   \IfNoValueTF{#1}
196   {\luadirect{ekdosis.appin(\luastring0{#2})}}

```

```

197 {\luairect{ekdosis.appin(\luastring0{#2}, \luastring0{#1})}}%
198 }

```

`\blfootnote` `\blfootnote{⟨footnote⟩}` is used internally to insert the apparatus in the footnote block should the global optional argument layout be set to footins. Therefore, it is not documented.

```

199 % \def\blfootnote{\gdef\@thefnmark{\relax}\@footnotetext}
200 \def\blfootnote{\gdef\@thefnmark{}}\@blfootnotetext}
201 \long\def\@blfootnotetext#1{\insert\footins{%
202   \reset@font\footnotesize
203   \interlinepenalty\interfootnotelinepenalty
204   \splittopskip\footnotesep
205   \splitmaxdepth \dp\strutbox \floatingpenalty \@MM
206   \hsize\columnwidth \@parboxrestore
207   \protected@edef\@currentlabel{%
208     \csname p@footnote\endcsname\@thefnmark
209   }%
210   \color@begingroup
211     \makeblfntext{%
212       \rule\z@\footnotesep\ignorespaces#1\@finalstrut\strutbox}%
213   \color@endgroup}}%
214 \newcommand\@makeblfntext[1]{%
215   \parindent 1em%
216   \noindent
217   \hb@xt@0em{\hss\@makefnmark}#1}

```

**Single-layer apparatus** The following commands are for general settings. All of them can be used in the preamble or at any point of the document:—

`\SetLTRapp` `\SetLTRapp` and `\SetRTLapp` are two argument-less commands to set the direction of single-layer apparatus criticus, either LTR or RTL:—

```

218 \newif\ifrtl@app
219 \NewDocumentCommand{\SetRTLapp}{}{\rtl@appptrue}
220 \NewDocumentCommand{\SetLTRapp}{}{\rtl@appfalse}

```

`\SetSeparator` `\SetSeparator{⟨separator⟩}` allows to change the separator between lemma texts and variant readings, which is by default a closing square bracket followed by a space (`]␣`):—

```

221 \edef\ekdsep{ ]␣ }
222 \NewDocumentCommand{\SetSeparator}{m}{\edef\ekdsep{#1}}

```

`\SetEndApparatus` `\SetEndApparatus{⟨characters⟩}` can be used to append characters at the end of the apparatus block—such as a full stop, as it is customary in some editions. By default, nothing is appended:—

```

223 \edef\ekd@end@apparatus{}
224 \NewDocumentCommand{\SetEndApparatus}{m}{\edef\ekd@end@apparatus{#1}}

```

`\SetUnitDelimiter` `\SetUnitDelimiter{⟨delimiter⟩}` can be used to set the delimiter between entries in the apparatus criticus. By default, there is no delimiter except a simple space. `\SetUnitDelimiter` can be used to insert a broad space (with `\hskip` for instance, as in the OCT series) or the divider-sign (`||`, as in the Budé series):—

```

225 \def\ekd@unit@delim{}
226 \NewDocumentCommand{\SetUnitDelimiter}{m}{\def\ekd@unit@delim{#1}}

```

`\footnoteruletrue` As ekdosis takes care of drawing a rule separating the main text from the apparatus block as well as layers of notes from each other inside this block, it may not be desirable to have the standard L<sup>A</sup>T<sub>E</sub>X “footnoterule” printed on every page of the edition text. `\footnoterulefalse` removes it while `\footnoteruletrue` leaves it untouched. The latter is set by default.

```

227 \def\ekd@default@rule{\rule{2truein}{0.5pt}}
228 \newif\iffootnoterule
229 \footnoteruletrue
230 \let\dflt@footnoterule\footnoterule
231 \let\dflt@pcol@footnoterule\pcol@footnoterule
232 \renewcommand\footnoterule{%
233   \iffootnoterule
234   \dflt@footnoterule%
235   \fi
236 }
237 \renewcommand\pcol@footnoterule{%
238   \iffootnoterule
239   \dflt@pcol@footnoterule%
240   \fi
241 }

```

`\SetDefaultRule` By default, ekdosis draws separating rules the definition of which is `\rule{2truein}{0.5pt}`. This can be changed in the preamble or at any point of the document with `\SetDefaultRule{<rule definition>}`. Leaving this argument empty as in `\SetDefaultRule{}` removes the rule.

```

242 \NewDocumentCommand{\SetDefaultRule}{m}{%
243   \def\@tempa{#1}
244   \ifx\@tempa\empty\def\ekd@default@rule{\mbox{}}}%
245   \else%
246   \def\ekd@default@rule{#1}%
247   \fi}

```

`\NLS` `\NLS` is adapted from a snippet written by Heiko Oberdiek. It is used by ekdosis internally to prevent page breaks between separating rules and subsequent notes. Therefore, it is not documented.

```

248 \newcommand*{\NLS}{%
249   \par%
250   \nobreak%
251   \vspace{-\parskip}%
252   \noindent%
253   \ignorespaces}

```

This boolean is used to test if a given entry is to be preceded by a numeral referring to the line of the edition text.

```

254 \newif\ifsubsq@unit
255 \subsq@unittrue

```

`\add@@apparatus` inserts the apparatus block on a given page either in the footnote floating block or in a float of its own, depending on the value set in the `layout` global option.

```

256 \def\add@@apparatus{%
257   \if@pkg@parnotes\parnotes\else\fi%
258   \if@pkg@footins%
259   \bgroup%
260   \ifrtl@app\setRL\else\setLR\fi%

```

```

261 \blfootnote{%
262   \if@pkg@parnotes%
263   \if@parnotesroman%
264   \renewcommand*{\theparnotemark}{\roman{parnotemark}}\else\fi%
265   \parnoteclear\else\fi%
266   \footnotesize\apparatus\unless\ifekd@mapps\ekd@end@apparatus\fi%
267   \if@pkg@parnotes\parnotes\parnotereset\else\fi%
268 }%
269 \egroup%
270 \fi%
271 \if@pkg@float%
272 \keyparbox[!b]{\ifrtl@app\setRL\else\setLR\fi%
273   \if@pkg@parnotes%
274   \if@parnotesroman%
275   \renewcommand*{\theparnotemark}{\roman{parnotemark}}\else\fi%
276   \parnoteclear\else\fi%
277   \ekd@appfontsize\apparatus\unless\ifekd@mapps\ekd@end@apparatus\fi%
278   \if@pkg@parnotes\parnotes\parnotereset\else\fi%
279 }%
280 \fi%
281 }

```

Before inserting any new entry, `\add@apparatus` is called `\test@apparatus` to decide whether a new apparatus block must be created on a given page.

```

282 \def\add@apparatus{%
283   \test@apparatus%
284   \ifbool{do@app}{\subsq@unitfalse\add@@apparatus}{}%
285 }

```

`\append@app` inserts a bare (sub)entry in the apparatus...

```

286 \NewDocumentCommand{\append@app}{o +m}{%
287   \ifekd@isinapp%
288   \ifekd@state%
289   \IfNoValueTF{#1}{%
290     {\luadirect{ekdosis.appin(\luastring0{#2})}}%
291     {\luadirect{ekdosis.appin(\luastring0{#2}, \luastring0{#1})}}%
292   \fi%
293 \fi}

```

while `\append@ln@app` inserts a (sub)entry possibly preceded by a line number.

```

294 \NewDocumentCommand{\append@ln@app}{o +m}{%
295   \IfNoValueTF{#1}{%
296     {\luadirect{tex.sprint(ekdosis.mdvappend(\luastring0{#2})}}%
297     {\luadirect{tex.sprint(ekdosis.mdvappend(\luastring0{#2},
298       \luastring0{#1})}}}}

```

`\EkdosisDefaultApparatus`

By default, `ekdosis` defines one layer of critical notes which is called `default`. This name can be changed at any point of the document with `\EkdosisDefaultApparatus{<name>}`.

```

299 \ekvdefinekeys{appnote}{
300   store type = \ekdan@type,
301   initial type = default
302 }
303 \NewDocumentCommand{\EkdosisDefaultApparatus}{m}{%
304   \ekvset{appnote}{type=#1}

```

`\app` `\app[type=<type>]{<apparatus entries>}` takes one mandatory argument and accepts one optional argument. `type=` refers to the layer the note must go into and `<apparatus entries>` contains command used to insert the entries, either `\lem`, `\rdg` or `\note<*>`:—

```

305 \NewDocumentCommand{\app}{0{} > { \TrimSpaces } +m}{%
306   \begingroup
307   \ekvset{appnote}{#1}%
308   \ekd@isinapptrue%
309   \stepcounter{ekd@lab}%
310   \zlabel{ekd:\theekd@lab}%
311   \luadirect{ekdosיס.storeabspg(
312     \luastring{\zref@extract{ekd:\theekd@lab}{abspage}})}%
313   \ifekd@state\add@apparatus\fi%
314   \luadirect{tex.sprint(ekdosיס.removeesp(\luastringN{#2}))}%
315   \ekd@isinappfalse%
316   \endgroup}

```

`\current@ref@arg` is used outside `\app` by `\note`. It takes two mandatory arguments: the beginning line label and the ending line label—which are manually inserted—and returns the formatted reference to be inserted in the apparatus criticus.

```

317 \def\current@ref@arg#1#2{%\textdir TLT%
318   \unexpanded\expandafter{\ekd@refnumstyle}%
319   \ifnum%
320     \getpagerefnumber{#1}
321     =
322     \getpagerefnumber{#2}
323     \ifnum%
324       \getrefnumber{#1}
325       =
326       \getrefnumber{#2}
327       %
328       \ifekd@mapps%
329       \ifbool{subsq@unit@\ekdan@type}{%
330         \ifnum%
331           \getrefnumber{#1}
332           =
333           \getrefnumber{\luadirect{tex.sprint(ekdosיס.getprevnotelab())}}
334         \else
335           \LRnum{\getrefnumber{#1}}% issue the no
336         \fi%
337       }%
338       {\LRnum{\getrefnumber{#1}}}% issue the no
339     \else
340     \ifsubsq@unit%
341     %
342     \ifnum%
343       \getrefnumber{#1}
344       =
345       \getrefnumber{\luadirect{tex.sprint(ekdosיס.getprevnotelab())}}
346     \else
347       \LRnum{\getrefnumber{#1}}% issue the no
348     \fi
349     %
350     \else
351       \LRnum{\getrefnumber{#1}}% issue the no
352     \fi

```

```

353 \fi
354 %
355 \else
356 \LRnum{\getrefnumber{#1}}--%
357 \LRnum{\getrefnumber{#2}}% issue the nos
358 \fi%
359 \else
360 \LRnum{\getrefnumber{#1}}--%
361 \LRnum{\getpagerefnnumber{#2}}.%
362 \LRnum{\getrefnumber{#2}}% issue pg and ln nos
363 \fi%
364 }\unexpanded\expandafter{\ekd@postrefnum}%
365 }

```

\current@ref is pretty much the same as \current@reg@arg, but takes no argument. It is used by commands such as \lem when references to page and line numbers can be returned by Lua.

```

366 \def\current@ref{%\textdir TLT%
367 \unexpanded\expandafter{\ekd@refnumstyle}%
368 \ifnum%
369 \getpagerefnnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}
370 =
371 \getpagerefnnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-e}
372 \ifnum%
373 \getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}
374 =
375 \getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-e}
376 %
377 \ifekd@mapps%
378 \ifbool{subsqq@unit@\ekdan@type}{%
379 \ifnum%
380 \getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}
381 =
382 \getrefnumber{\luairect{tex.sprint(ekdosiss.getprevlnlab())}-b}
383 \else
384 \LRnum{\getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}}% issue the no
385 \fi%
386 }\LRnum{\getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}}}% issue the no
387 \else
388 \ifsubsqq@unit%
389 %
390 \ifnum%
391 \getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}
392 =
393 \getrefnumber{\luairect{tex.sprint(ekdosiss.getprevlnlab())}-b}
394 \else
395 \LRnum{\getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}}% issue the no
396 \fi
397 %
398 \else
399 \LRnum{\getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}}% issue the no
400 \fi
401 \fi
402 %
403 \else
404 \LRnum{\getrefnumber{\luairect{tex.sprint(ekdosiss.getlnlab())}-b}}--%

```

```

405 \LRnum{\getrefnumber{\luairect{tex.sprint(ekdosis.getlnlab())-e}}}% issue the nos
406 \fi%
407 \else
408 \LRnum{\getrefnumber{\luairect{tex.sprint(ekdosis.getlnlab())-b}}--%
409 \LRnum{\getpagerefnnumber{\luairect{tex.sprint(ekdosis.getlnlab())-e}}}.%
410 \LRnum{\getrefnumber{\luairect{tex.sprint(ekdosis.getlnlab())-e}}}% issue pg and ln nos
411 \fi%
412 }\unexpanded\expandafter{\ekd@postrefnum}%
413 }

```

Define keys to be used by the optional arguments of `\lem` and `\rdg`:—

```

414 \ekvdefinekeys{lem}{
415   code wit = \def\ekdlr@wit{#1},
416   code alt  = \def\ekdlr@alt{#1},
417   code pre  = \def\ekdlr@pre{#1},
418   code post = \def\ekdlr@post{#1},
419   code prewit = \def\ekdlr@prewit{#1},
420   code postwit = \def\ekdlr@postwit{#1},
421   store type = \ekdlr@type,
422   store sep = \ekdl@sep,
423   bool nolem = \ifekdl@nolem,
424   bool nosep = \ifekdl@nosep,
425   initial sep = \ekdsep
426 }
427 \ekvdefinekeys{rdg}{
428   code wit = \def\ekdlr@wit{#1},
429   code alt  = \def\ekdlr@alt{#1},
430   code pre  = \def\ekdlr@pre{#1},
431   code post = \def\ekdlr@post{#1},
432   code prewit = \def\ekdlr@prewit{#1},
433   code postwit = \def\ekdlr@postwit{#1},
434   store type = \ekdlr@type,
435   bool nordg = \ifekdr@nordg
436 }

```

`\lem` `\lem[⟨options⟩]{⟨lemma text⟩}` inserts `⟨lemma text⟩` both in the edition text and in the apparatus criticus by default, preceded by the reference to the line number or a space if it is the same number as the one of the previous entry. This command accepts the optional key-value arguments just defined above.

```

437 \NewDocumentCommand{\lem}{0{} m}{%
438   \ekd@isinlemtrue%
439   \luairect{ekdosis.dolnlab(\luastringN{#2})}%
440   \bgroup%
441   \ekvset{lem}{#1}%
442   \ifekd@mapps%
443     \ifnum%
444       \luairect{tex.sprint(ekdosis.get_bagunits(\luastring0{\ekdan@type}))}
445       = 1
446       \boolfalse{subsqq@unit@\ekdan@type}%
447       \fi%
448       \luairect{ekdosis.increment_bagunits(\luastring0{\ekdan@type})}%
449       \def\ekd@munit@delim{%
450         \luairect{tex.sprint(ekdosis.getappdelim(\luastring0{\ekdan@type}))}}%
451       \fi%
452       \ifekdl@nolem\edef\lem@app{%
453         % \hskip .75em

```

```

454 \ifekd@mapps
455 \ifbool{subsq@unit@ekdan@type}%
456 {\ekd@munit@delim}{}%
457 \else%
458 \ifsubsq@unit\unexpanded\expandafter{\ekd@unit@delim}\fi%
459 \fi%
460 \current@ref%\hskip .25em}%
461 \else%
462 \ifbool{al@rlmode}{%
463 \edef\lem@app{%
464 % \hskip .75em
465 \ifekd@mapps
466 \ifbool{subsq@unit@ekdan@type}%
467 {\ekd@munit@delim}{}%
468 \else%
469 \ifsubsq@unit\unexpanded\expandafter{\ekd@unit@delim}\fi%
470 \fi%
471 \current@ref%\hskip .25em
472 \ifdefined\ekdlr@alt%
473 \ifdefined\ekdlr@post%
474 \space\unexpanded\expandafter{\ekdlr@post}\space\else\fi
475 {\textdir TRT\unexpanded\expandafter{\ekdlr@alt}}%
476 \ifdefined\ekdlr@pre%
477 \space\unexpanded\expandafter{\ekdlr@pre}\space\else\fi
478 \else
479 \ifdefined\ekdlr@post%
480 \space\unexpanded\expandafter{\ekdlr@post}\space\else\fi
481 {\textdir TRT\unexpanded{#2}}%
482 \ifdefined\ekdlr@pre%
483 \space\unexpanded\expandafter{\ekdlr@pre}\space\else\fi
484 \fi
485 \ifdefined\ekdlr@postwit%
486 \space\unexpanded\expandafter{\ekdlr@postwit}\else\fi
487 \ifdefined\ekdlr@wit\space\getsiglum{\ekdlr@wit}\else\fi
488 \ifdefined\ekdlr@prewit%
489 \space\unexpanded\expandafter{\ekdlr@prewit}\space\else\fi
490 \ifekdl@nosep\else\unexpanded\expandafter{\ekdl@sep}\fi
491 }%
492 }%
493 {%
494 \edef\lem@app{%
495 % \hskip .75em
496 \ifekd@mapps
497 \ifbool{subsq@unit@ekdan@type}%
498 {\ekd@munit@delim}{}%
499 \else%
500 \ifsubsq@unit\unexpanded\expandafter{\ekd@unit@delim}\fi%
501 \fi%
502 \current@ref%\hskip .25em
503 \ifdefined\ekdlr@alt%
504 \ifdefined\ekdlr@pre%
505 \space\unexpanded\expandafter{\ekdlr@pre}\space\else\fi
506 \ltx@ifpackageloaded{babel}%
507 {\noexpand\selectlanguage{\languagename}%
508 \unexpanded\expandafter{\ekdlr@alt}}%

```

```

509     {\unexpanded\expandafter{\ekdlr@alt}}%
510     \ifdefined\ekdlr@post%
511     \space\unexpanded\expandafter{\ekdlr@post}\space\else\fi
512 \else
513     \ifdefined\ekdlr@pre%
514     \space\unexpanded\expandafter{\ekdlr@pre}\space\else\fi
515     \ltx@ifpackageloaded{babel}%
516     {\noexpand\selectlanguage{\languagename}\unexpanded{#2}}-%
517     \unexpanded{#2}}%
518     \ifdefined\ekdlr@post%
519     \space\unexpanded\expandafter{\ekdlr@post}\space\else\fi
520 \fi
521 \ifdefined\ekdlr@prewit%
522 \space\unexpanded\expandafter{\ekdlr@prewit}\space\else\fi
523 \ifdefined\ekdlr@wit\space\getsiglum{\ekdlr@wit}\else\fi
524 \ifdefined\ekdlr@postwit%
525 \space\unexpanded\expandafter{\ekdlr@postwit}\else\fi
526 \ifekdl@nosep\else\unexpanded\expandafter{\ekdl@sep}\fi
527 }%
528 }%
529 \fi%
530 \ifekd@mapps%
531 \append@ln@app[\ekdan@type]{\lem@app}%
532 \else%
533 \append@ln@app{\lem@app}%
534 \fi%
535 \egroup%
536 \ekd@isinlemfalse%
537 \subsqq@unittrue%
538 }

```

`\rdg` `\rdg[<options>]{<variant reading>}` inserts *<variant reading>* in the second part of the entry, after the lemma text and the separator, in the apparatus criticus. This command accepts the optional key-value arguments defined above.

```

539 \NewDocumentCommand{\rdg}{0{} m}{%
540   \bgroup%
541   \ekvset{rdg}{#1}%
542   % \ifekdr@nordg\append@app{} \else% do we need \append@app{} here? If
543   %                                     % so, keep in mind \ifekd@mapps,
544   %                                     like so:
545   \ifekdr@nordg%
546     \ifekd@mapps%
547     \append@app[\ekdan@type]{}%
548     \else%
549     \append@app{}%
550     \fi%
551   \else%
552   \ifbool{al@rlmode}{%
553     \edef\rdg@app{%
554       \ifdefined\ekdlr@alt%
555       \ifdefined\ekdlr@post%
556       \space\unexpanded\expandafter{\ekdlr@post}\space\else\fi
557       {\textdir TRT\unexpanded\expandafter{\ekdlr@alt}}%
558       \ifdefined\ekdlr@pre%
559       \space\unexpanded\expandafter{\ekdlr@pre}\space\else\fi

```

```

560     \else
561         \ifdefined\ekdlr@post%
562             \space\unexpanded\expandafter{\ekdlr@post}\space\else\fi
563         {\textdir TRT\unexpanded{#2}}%
564         \ifdefined\ekdlr@pre%
565             \space\unexpanded\expandafter{\ekdlr@pre}\space\else\fi
566     \fi
567     \ifdefined\ekdlr@postwit%
568         \space\unexpanded\expandafter{\ekdlr@postwit}\else\fi
569     \ifdefined\ekdlr@wit\space\getsiglum{\ekdlr@wit}\else\fi
570     \ifdefined\ekdlr@prewit%
571         \space\unexpanded\expandafter{\ekdlr@prewit}\space\else\fi
572     }%
573 }%
574 {%
575 \edef\rdg@app{%
576     \ifdefined\ekdlr@alt%
577         \ifdefined\ekdlr@pre%
578             \space\unexpanded\expandafter{\ekdlr@pre}\space\else\fi
579         \ltx@ifpackageloaded{babel}%
580         {\noexpand\selectlanguage{\languagename}}%
581         \unexpanded\expandafter{\ekdlr@alt}}%
582         {\unexpanded\expandafter{\ekdlr@alt}}%
583     \ifdefined\ekdlr@post%
584         \space\unexpanded\expandafter{\ekdlr@post}\space\else\fi
585     \else
586         \ifdefined\ekdlr@pre%
587             \space\unexpanded\expandafter{\ekdlr@pre}\space\else\fi
588         \ltx@ifpackageloaded{babel}%
589         {\noexpand\selectlanguage{\languagename}\unexpanded{#2}}{%
590             \unexpanded{#2}}%
591         \ifdefined\ekdlr@post%
592             \space\unexpanded\expandafter{\ekdlr@post}\space\else\fi
593     \fi
594     \ifdefined\ekdlr@prewit%
595         \space\unexpanded\expandafter{\ekdlr@prewit}\space\else\fi
596     \ifdefined\ekdlr@wit\space\getsiglum{\ekdlr@wit}\else\fi
597     \ifdefined\ekdlr@postwit%
598         \space\unexpanded\expandafter{\ekdlr@postwit}\else\fi
599     }%
600 }%
601 \ifekd@mapps%
602     \append@app[\ekdan@type]{\rdg@app}%
603 \else%
604     \append@app{\rdg@app}%
605 \fi%
606 \fi%
607 \egroup%
608 }

```

Define keys to be used by the optional argument of `\note` when this command is found outside `\app`:—

```

609 \ekvdefinekeys{note}{
610     store type = \ekdan@type,
611     store lem = \ekdn@lem,
612     code labelb = \def\ekdn@labelb{#1},

```

```

613 code labele = \def\ekdn@labele{#1},
614 store sep = \ekdn@sep,
615 initial type = default,
616 initial sep = \ekdsep
617 }

```

\note@noapp is used internally when a \note command is found outside \app. This command is mostly used to insert short comments or references to texts quoted or cited in the edition text to go into additional layers of the apparatus criticus, e.g. the *apparatus testium*. It accepts the optional key-value arguments just defined above. It must be noted that labelb must be specified; otherwise ekdosis will issue an error message.

```

618 \NewDocumentCommand{\note@noapp}{0{ } +m}{%
619   \bgroup%
620   \ekvset{note}{#1}%
621   \stepcounter{ekd@lab}%
622   \zlabel{ekd:\theekd@lab}%
623   \luadirect{ekdosis.storeabspg(
624     \luastring{\zref@extract{ekd:\theekd@lab}{abspage}})}%
625   \ifekd@state\add@apparatus\fi%
626   \ifekd@mapps%
627     \ifnum%
628       \luadirect{tex.sprint(ekdosis.get_bagunits(\luastring0{\ekdan@type}))}
629       = 1
630       \boolfalse{subsq@unit@\ekdan@type}%
631     \fi%
632   \luadirect{ekdosis.increment_bagunits(\luastring0{\ekdan@type})}%
633   \def\ekd@munit@delim{%
634     \luadirect{tex.sprint(ekdosis.getappdelim(\luastring0{\ekdan@type}))}}%
635   \fi%
636   \ifdefined\ekdn@labelb%
637     \luadirect{tex.sprint(ekdosis.setnotelab(\luastring0{\ekdn@labelb}))}%
638     \ifdefined\ekdn@labele\else\def\ekdn@labele{\ekdn@labelb}\fi%
639   \else\PackageError{ekdosis}{missing labelb}{`labelb' must be
640     set.}\fi%
641   \ifbool{al@rlmode}%
642   {\edef\note@contents{%
643     % \hskip .75em
644     \ifekd@mapps
645       \ifbool{subsq@unit@\ekdan@type}%
646         {\ekd@munit@delim}{}%
647       \else%
648         \ifsubsq@unit\unexpanded\expandafter{\ekd@unit@delim}\fi%
649       \fi%
650     \current@ref@arg{\ekdn@labelb}{\ekdn@labele}\hskip .25em
651     \ifdefined\ekdn@lem%
652       {\textdir TRT\unexpanded\expandafter{\ekdn@lem}}%
653       \unexpanded\expandafter{\ekdn@sep}\else\fi%
654     {\textdir TRT\unexpanded{#2}}}}%
655   {\edef\note@contents{%
656     % \hskip .75em
657     \ifekd@mapps
658       \ifbool{subsq@unit@\ekdan@type}%
659         {\ekd@munit@delim}{}%
660       \else%
661         \ifsubsq@unit\unexpanded\expandafter{\ekd@unit@delim}\fi%
662       \fi%

```

```

663     \current@ref@arg{\ekdn@labelb}{\ekdn@labelc}%\hskip .25em
664     \ifdefined\ekdn@lem
665         \ltx@ifpackageloaded{babel}%
666             {\noexpand\selectlanguage{\languagename}%
667                 \unexpanded\expandafter{\ekdn@lem}}}%
668             {\unexpanded\expandafter{\ekdn@lem}}}%
669         \unexpanded\expandafter{\ekdn@sep}\else\fi%
670     \ltx@ifpackageloaded{babel}%
671     {\noexpand\selectlanguage{\languagename}\unexpanded{#2}}-%
672     \unexpanded{#2}}}%
673 \ifekd@mapps%
674 \unconditional@appin[\ekdan@type]{\note@contents}%
675 \else%
676 \unconditional@appin{\note@contents}%
677 \fi%
678 \luadirect{ekdosis.setprevnotelab(\luastring0{\ekdn@labelb})}%
679 \egroup%
680 \subsqu@unittrue%
681 }

```

Define keys to be used by the optional argument of `\note` when this command is found inside `\app`:—

```

682 \ekvdefinekeys{ekd@note}{
683   store pre = \pre@value,
684   store post = \post@value
685 }

```

The following three commands, `\note@app`, `\ekd@note` and `\ekd@note@star` are used internally when a `\note` command is found inside `\app`. These commands are used to insert short comments after the lemma text or after any variant reading in the apparatus criticus. `\note@app` and subsequently `\ekd@note` and `\ekd@note@star` accept the optional key-value arguments just defined above.

```

686 \NewDocumentCommand{\ekd@note}{0{} m}{%
687   \bgroup%
688   \ekvset{ekd@note}{#1}%
689   \edef\note@contents{%
690     \ekvifdefinedNoVal{note}{pre}{-}{-%
691       \unexpanded\expandafter{\pre@value}}}%
692   \unexpanded{#2}%
693   \ekvifdefinedNoVal{note}{post}{-}{-%
694     \unexpanded\expandafter{\post@value}}}%
695   }%
696   \append@app{\note@contents}%
697   \egroup%
698 }
699 \NewDocumentCommand{\ekd@note@star}{0{} m}{%
700   \if@pkg@parnotes
701     \bgroup%
702     \ekvset{ekd@note}{#1}%
703     \edef\note@contents{%
704       \ekvifdefinedNoVal{note}{pre}{-}{-%
705         \unexpanded\expandafter{\pre@value}}}%
706       \unskip\noexpand\parnote{#2}%
707       \ekvifdefinedNoVal{note}{post}{-}{-%
708         \unexpanded\expandafter{\post@value}}}%
709     }%

```

```

710     \append@app{\note@contents}%
711     \egroup%
712 \else
713     \append@app{\unskip\footnote{#2}}%
714 \fi%
715 }
716 \NewDocumentCommand{\note@app}{s O{} +m}{%
717 \ifbool{al@rlmode}{%
718     \IfBooleanTF{#1}{\ekd@note@star[#2]{%
719         {\textdir TRT#3}}}%
720     {\ekd@note[#2]{\textdir TRT#3}}}%
721 }{%
722     \IfBooleanTF{#1}{\ekd@note@star[#2]{#3}}%
723     {\ekd@note[#2]{#3}}}%
724 }%
725 }

```

`\note` Finally, `\note` is a simple command designed to check whether `\note` itself is called inside or outside `\app`. Then, unless it is found inside `\lem`, it calls `\note@app` in the former case and `\note@noapp` in the latter case:—

```

726 \NewDocumentCommand{\note}{s O{} +m}{%
727 \ifekd@state%
728     \ifekd@isinapp%
729         \ifekd@isinlem%
730             \note@noapp[#2]{#3}%
731         \else%
732             \IfBooleanTF{#1}{\note@app*[#2]{#3}}{\note@app[#2]{#3}}%
733         \fi%
734     \else%
735         \note@noapp[#2]{#3}%
736     \fi%
737 \fi%
738 }

```

`\apparatus` is used internally by `ekdosis` to print the apparatus at the bottom of pages. Therefore, it is not documented, but this may change in the future for it will be possible to have apparatuses printed at other places.

```

739 \NewDocumentCommand{\apparatus}{}{%
740 \luadirect{tex.sprint(ekdosis.appout())}

```

The following two commands call Lua functions to check whether an apparatus should be printed on a given page and to store the current column id.

```

741 \NewDocumentCommand{\test@apparatus}{}{%
742 \luadirect{tex.sprint(ekdosis.testapparatus())}
743 \NewDocumentCommand{\ekd@storecol}{}{%
744 \luadirect{ekdosis.storecurcol(\luastring{\thecolumn})}%
745 }

```

Start and stop `ekdosis`:

```

746 \NewDocumentCommand{\EkdosisOn}{}{%
747 \ekd@statetrue}
748 \NewDocumentCommand{\EkdosisOff}{}{%
749 \ekd@statefalse%
750 }

```

Neutralize unwanted commands provided by `lineno` within the `ekdosis` environment:—

```

751 \def\ekd@setlineno{%
752   \let\setpagewiselinenumbers\relax%
753   \let\pagewiselinenumbers\relax%
754   \let\endpagewiselinenumbers\relax%
755   \let\runningpagewiselinenumbers\relax%
756   \let\realpagewiselinenumbers\relax%
757 }

```

ekdosis Finally comes the `ekdosis` environment meant to receive the edition text equipped with an apparatus criticus. This environment collects its contents and delivers it to Lua functions if a TEI xml output file be desired.

```

758 \NewDocumentEnvironment{ekdosis}{+b}{%
759   \ekd@setlineno%
760   \runninglinenumbers
761   \EkdosisOn#1}{%
762   \EkdosisOff
763   \endrunninglinenumbers%
764   \iftei@export
765   \luadirect{ekdosis.exporttei(\luastringN{\par #1\par })}\fi}

```

**Alignment** What follows isto arrange texts in parallel columns either on single pages or on facing pages.

Define keys to be used by the `alignment` environment:—

```

766 \newif\ifekd@pagelineation
767 \ekvdefinekeys{ekd@align}{
768   store tcols = \tcols@num,
769   store lcols = \lcols@num,
770   store texts = \texts@value,
771   store apparatus = \apparatus@value,
772   bool paired = \ifekd@paired,
773   choice lineation = {page = \ekd@pagelineationtrue,
774                       document = \ekd@pagelineationfalse},
775   unknown-choice lineation = \PackageError{ekdosis}{unknown
776     lineation=#1}{`lineation' must be either `page' or `document'.},
777   choice segmentation = {auto = \def\segmentation@val{auto},
778                           noauto = \def\segmentation@val{noauto}},
779   unknown-choice segmentation = \PackageError{ekdosis}{unknown
780     segmentation=#1}{`segmentation' must be either `auto' or
781     `noauto'.},
782   bool flush = \ifekd@flushapp,
783   initial tcols = 2,
784   initial lcols = 1,
785   initial texts = edition;translation,
786   initial apparatus = edition,
787   default segmentation = auto
788 }

```

`\SetEkdosisAlignment` `\SetEkdosisAlignment{<settings>}` can be used either in the preamble or at any point of the document to set or modify the keys-value settings just defined above.

```

789 \NewDocumentCommand{\SetEkdosisAlignment}{m}{
790   \ekvset{ekd@align}{#1}
791 }

```

Patch `paracol` to insert a hook in `\pcol@nextpage`. This hook is used to reset line numbers on new pages.

```

792 \patchcmd{\pcol@nextpage}{%
793   \endgroup}{%
794   \ifekd@pagelineation\resetlinenumber\fi
795   \endgroup}{-}{-}

```

`\EkdosisColStart` and `\EkdosisColStop` initialize columns meant to receive edition texts. These commands are used internally by `ekdosis`.

```

796 \NewDocumentCommand{\EkdosisColStart}{-}{%
797   \ekd@setlineno%
798   \runninglinenumber%
799   \ekd@storecol%
800   \stepcounter{ekd@lab}%
801   \zlabel{ekd:\theekd@lab}%
802   \luadirect{%
803     ekdosis.storeabspg(\luastring{\zref@extract{ekd:\theekd@lab}{abspage}},
804     "pg_i")}%
805   \ifekd@pagelineation
806     \luadirect{tex.sprint(ekdosis.checkresetlineno())}
807   \fi
808 }
809 \NewDocumentCommand{\EkdosisColStop}{-}{%
810   \stepcounter{ekd@lab}%
811   \zlabel{ekd:\theekd@lab}%
812   \luadirect{%
813     ekdosis.storeabspg(\luastring{\zref@extract{ekd:\theekd@lab}{abspage}},
814     "pg_ii")}%
815   \endrunninglinenumber%
816 }

```

`alignment` `\begin{alignment}[\langle options \rangle]...\end{alignment}` can be used as it is provided to typeset a standard critical edition text on the left-hand pages accompanied with a translation on the right-hand pages. To that effect, it provides by default two new environments, `edition` and `translation`, to be used to typeset both texts. (Either whole texts or texts entered by paragraphs alternately.) The optional argument of `alignment` accepts the exact same key-value options as `\SetEkdosisAlignment` described above. One may contrast these options with those accepted by `\SetEkdosisAlignment` as “local settings”.

```

817 \NewDocumentEnvironment{alignment}{0{}}
818 {%
819   \ekvset{ekd@align}{#1}%
820   \luadirect{ekdosis.mkenvdata(
821     \luastring{\texts@value},
822     "texts"
823   )}
824   \ifekd@flushapp
825     \luadirect{ekdosis.newalignment("set")}
826   \fi
827   \luadirect{ekdosis.mkenvdata(
828     \luastring{\apparatus@value}, "apparatus"
829   )}
830   \setrunninglinenumber%
831   \luadirect{tex.sprint(ekdosis.mkenv())}
832   \ifekd@paired
833   \begin{paracol}[\lcols@num]{\tcols@num}
834   \else
835   \begin{paracol}[\lcols@num]*{\tcols@num}

```

```

836 \fi
837 }
838 {\end{paracol}
839 \iftei@export\luadirect{ekdosis.export_coldata_totei()}\fi
840 \ifekd@flushapp
841   \luadirect{ekdosis.newalignment("reset")}
842 \fi
843 \luadirect{ekdosis.flushenvdata()}
844 \luadirect{ekdosis.flushcolnums()}
845 }

```

**Divisions of the Body** ekdosis can convert `\book`, `\part`, `\chapter`, `\section`, `\subsection` and `\subsubsection` into corresponding TEI ‘numbered’ `<divn>` elements, where  $1 \leq n \leq 6$ .

`\MkBodyDivs` `\MkBodyDivs` is used to let ekdosis know which sectional commands are actually being used in an edition text. This command takes six mandatory arguments. For example, if `\section` and `\subsection` are the only sectional commands being used, `\MkBodyDivs{section}{subsection}{ }{ }{ }` will have `\section` and `\subsection` converted into `<div1>` and `<div2>` respectively.

```

846 \NewDocumentCommand{\MkBodyDivs}{mmmmmm}{
847   \luadirect{ekdosis.mkdivdepths(
848     \luastringN{#1},
849     \luastringN{#2},
850     \luastringN{#3},
851     \luastringN{#4},
852     \luastringN{#5},
853     \luastringN{#6}
854   )}
855 }
856 }

```

Divisions specific to ekdosis. Define keys to be used by `\ekddiv`:—

```

857 \ekvdefinekeys{ekd@div}{
858   code type = \def\type@value{#1},
859   code n = \def\n@value{#1},
860   code head = \def\head@value{#1},
861   code barehead = \def\barehead@value{#1},
862   store depth = \depth@value,
863   choice toc = {book = \def\toc@value{book},
864                 part = \def\toc@value{part},
865                 chapter = \def\toc@value{chapter},
866                 section = \def\toc@value{section},
867                 subsection = \def\toc@value{subsection},
868                 subsubsection = \def\toc@value{subsubsection},
869                 paragraph = \def\toc@value{paragraph},
870                 subparagraph = \def\toc@value{subparagraph}},
871   unknown-choice toc = \PackageError{ekdosis}{unknown toc=#1}{\toc'
872     must be either `book', `part', `chapter', `section', `subsection',
873     \MessageBreak `subsubsection', `paragraph' or `subparagraph'.},
874   initial depth = 1
875 }

```

`\ekdfmtdiv` `\ekdfmtdiv{<n>}{<code before>}{<code after>}` is used to lay out the heading of the title. It takes three mandatory arguments: *n*, namely the number referring to the particular

depth of the division, and then some L<sup>A</sup>T<sub>E</sub>X formatting commands to go before and after the heading itself:—

```
876 \NewDocumentCommand{\ekdfmtdiv}{m m m}{
877   \luadirect{ekdosis.fmtdiv(\luastring{#1},
878     \luastringN{#2},
879     \luastringN{#3})}
880 }
```

`\ekd@getfmtdiv` gets the formatting commands that have been stored by `\ekdfmtdiv`.

```
881 \NewDocumentCommand{\ekd@getfmtdiv}{m m}{%
882   \luadirect{tex.sprint(ekdosis.getfmtdiv(\luastring0{#1},
883     \luastringN{#2}))}%
884 }
```

`\ekddiv` `\ekddiv{<key-value arguments>}` is the standard command provided by `ekdosis` to meet the requirements of classical and literary texts the divisions of which depend on many different received traditions. It takes one optional argument in which the key-value arguments defined above are accepted, and converts the divisions into TEI ‘un-numbered’ `<div>` elements.

```
885 \NewDocumentCommand{\ekddiv}{m}{
886   \begingroup
887   \ekvset{ekd@div}{#1}%
888   \ifdefined\head@value
889     \bgroup
890     \ekd@getfmtdiv{\depth@value}{b}%
891     \head@value
892     \ekd@getfmtdiv{\depth@value}{e}%
893   \egroup
894   \ifdefined\toc@value
895     \ltx@ifpackageloaded{hyperref}{\phantomsection}{}%
896     \ifdefined\barehead@value
897       \addcontentsline{toc}{\toc@value}{\barehead@value}%
898     \else
899       \addcontentsline{toc}{\toc@value}{\head@value}%
900     \fi
901   \fi
902 \fi
903 \endgroup
904 }
```

A very basic and provisional implementation of poetry lines follows:—

```
905 \newlength{\ekdverseindentlength}
906 \setlength{\ekdverseindentlength}{\parindent}
907 \newenvironment*{ekdverse}[1][\ekdverseindentlength]{
908   \begin{list}{}{
909     \setlength{\leftmargin}{#1}
910     \setlength{\itemsep}{0pt}
911     \setlength{\topsep}{0pt}
912     \setlength{\partopsep}{0pt}
913   }
914   \item[]
915 }{\end{list}}
```

## 7 Sample: C. J. Caesar, *Gallic War*, VI, XIII.1

### 7.1 .tex Source File

```
\documentclass[12pt]{article}
\usepackage{fontspec}
\usepackage[latin.classic,french,english]{babel}
\babelfont{rm}{Old Standard}
\babelfont{sf}{NewComputerModern Sans}
\babelfont{tt}{NewComputerModern Mono}

\usepackage{nextpage}
\usepackage{xltabular}

\usepackage[telexport=tidy]{ekdosis}
\DeclareApparatus{default}[
  delim=\hskip0.75em,
  ehook=.]

\ekdfmtdiv{2}{}{.}

\SetEkdosisAlignment{
  tcols=3,
  lcols=1,
  texts=latin[xml:lang="la"];
  english[xml:lang="en"];
  french[xml:lang="fr"],
  apparatus=latin,
  segmentation=auto}

\AtBeginEnvironment{latin}{\selectlanguage{latin}}
\AtBeginEnvironment{english}{\sloppy\selectlanguage{english}}
\AtBeginEnvironment{french}{\sloppy\selectlanguage{french}}

\DeclareWitness{A}{A}{\emph{Bongarsianus} 81}[
  msName=\emph{Bongarsianus},
  settlement=Amsterdam,
  idno=81,
  institution=University Library,
  origDate=s. IX--X]

\DeclareHand{A1}{A}{A\textsuperscript{1}}[\emph{Emendationes
  scribae ipsius}]

\DeclareWitness{M}{M}{\emph{Parisinus Lat.} 5056}[
  origDate={s. XII}]
\DeclareWitness{B}{B}{\emph{Parisinus Lat.} 5763}[
  origDate={s. IX--X}]
\DeclareWitness{R}{R}{\emph{Vaticanus Lat.} 3864}[
  origDate={s. X}]
\DeclareWitness{S}{S}{\emph{Laurentianus} R 33}[
  origDate={s. X}]
\DeclareWitness{L}{L}{\emph{Londinensis} Br. Mus. 10084}[
  origDate={s. XI}]
\DeclareWitness{N}{N}{\emph{Neapolitanus} IV, c. 11}[
  origDate={s. XII}]
```

```

\DeclareWitness{T}{T}{\emph{Parisinus Lat.} 5764}[
    origDate={s. XI}]
\DeclareWitness{f}{\emph{f}}{\emph{Vindobonensis} 95}[
    origDate={s. XII}]
\DeclareWitness{U}{U}{\emph{Vaticanus Lat.} 3324}[
    origDate={s. XI}]
\DeclareWitness{l}{\emph{l}}{\emph{Laurentianus} Riccard. 541}[
    origDate={s. XI--XII}]
\DeclareShorthand{a}{\alpha}{A,M,B,R,S,L,N}
\DeclareShorthand{b}{\beta}{T,f,U,l}

\begin{document}

\begin{xltabular}[c]{0.75\linewidth}{lXl}
  \caption*{\textbf{Conspectus siglorum}\label{tab:conspectus-siglorum}}\
  \multicolumn{3}{c}{\emph{Familia} \getsiglum{a}}\
  \SigLine{A}\
  & \getsiglum{A1} \emph{Emendationes scribae ipsius} & \
  \SigLine{M}\
  \SigLine{B}\
  \SigLine{R}\
  \SigLine{S}\
  \SigLine{L}\
  \SigLine{N}\
  \multicolumn{3}{c}{\emph{Familia} \getsiglum{b}}\
  \SigLine{T}\
  \SigLine{f}\
  \SigLine{U}\
  \SigLine{l}\
\end{xltabular}

\cleartoevenpage

\begin{alignment}
  \begin{latin}
    \ekddiv{head=XIII, depth=2, n=6.13, type=section}
    In omni Gallia eorum hominum qui \app{
      \lem[wit=a]{aliquo}
      \rdg[wit=b, alt=in al-]{in aliquo}}
    sunt numero atque honore genera sunt duo. Nam plebes paene
    seruorum habetur loco, quae \app{
      \lem[wit={A,M}, alt={nihil audet (aut et \getsiglum{A1})}
      per se]{nihil audet per se}
      \rdg[wit=A1,nordg]{nihil aut et per se}
      \rdg[wit={R,S,L,N}]{nihil habet per se}
      \rdg[wit=b]{per se nihil audet}}, \app{
      \lem[wit=a]{nullo}
      \rdg[wit=b]{nulli}} adhibetur \app{
      \lem{consilio}
      \rdg[wit={T, U}, alt=conc-]{concilio}}.
    \end{latin}
  \begin{english}
    \ekddiv{head=XIII, depth=2, n=6.13, type=section}
    Throughout all Gaul there are two orders of those men who are of
    any rank and dignity: for the commonality is held almost in the
  \end{english}

```

```

condition of slaves, and dares to undertake nothing of itself,
and is admitted to no deliberation.
\end{english}
\begin{french}
\ekddiv{head=XIII, depth=2, n=6.13, type=section}
Partout en Gaule il y a deux classes d'hommes qui comptent et qui
sont considérés. Quant aux gens du peuple, ils ne sont guère
traités autrement que des esclaves, ne pouvant se permettre aucune
initiative, n'étant consultés sur rien.
\end{french}
\end{alignment}

\end{document}

```

## 7.2 TEI xml Output

```

<?xml version="1.0" encoding="utf-8"?>
<TEI xmlns="http://www.tei-c.org/ns/1.0">
  <teiHeader>
    <fileDesc>
      <titleStmt>
        <title>
          <!-- Title -->
        </title>
        <respStmt>
          <resp>
            <!-- Edited by -->
          </resp>
          <name>
            <!-- Name -->
          </name>
        </respStmt>
      </titleStmt>
      <publicationStmt>
        <distributor>
          <!-- Distributor name -->
        </distributor>
      </publicationStmt>
      <sourceDesc>
        <listWit>
          <witness xml:id="A">
            <abbr type="siglum">A</abbr>
            <emph>Bongarsianus</emph>81
          <msDesc>
            <msIdentifier>
              <settlement>Amsterdam</settlement>
              <institution>University Library</institution>
              <idno>81</idno>
              <msName>
                <emph>Bongarsianus</emph>
              </msName>
            </msIdentifier>
          </msDesc>
        </listWit>
      </sourceDesc>
    </fileDesc>
  </teiHeader>

```

```

<physDesc>
  <handDesc hands="1">
    <handNote xml:id="A1">
      <abbr type="siglum">A
      <hi rend="sup">1</hi></abbr>
      <p>
        <emph>Emendationes scribae ipsius</emph>
      </p>
    </handNote>
  </handDesc>
</physDesc>
<history>
  <origin>
    <origDate>s. IX--X</origDate>
  </origin>
</history>
</msDesc></witness>
<witness xml:id="M">
<abbr type="siglum">M</abbr>
<emph>Parisinus Lat.</emph>5056
<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. XII</origDate>
    </origin>
  </history>
</msDesc></witness>
<witness xml:id="B">
<abbr type="siglum">B</abbr>
<emph>Parisinus Lat.</emph>5763
<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. IX--X</origDate>
    </origin>
  </history>
</msDesc></witness>
<witness xml:id="R">
<abbr type="siglum">R</abbr>
<emph>Vaticanus Lat.</emph>3864
<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. X</origDate>
    </origin>
  </history>
</msDesc></witness>
<witness xml:id="S">
<abbr type="siglum">S</abbr>
<emph>Laurentianus</emph>R 33
<msDesc>
  <msIdentifier />

```

```

    <history>
      <origin>
        <origDate>s. X</origDate>
      </origin>
    </history>
  </msDesc></witness>
<witness xml:id="L">
<abbr type="siglum">L</abbr>
<emph>Londinensis</emph>Br. Mus. 10084
<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. XI</origDate>
    </origin>
  </history>
</msDesc></witness>
<witness xml:id="N">
<abbr type="siglum">N</abbr>
<emph>Neapolitanus</emph>IV, c. 11
<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. XII</origDate>
    </origin>
  </history>
</msDesc></witness>
<witness xml:id="T">
<abbr type="siglum">T</abbr>
<emph>Parisinus Lat.</emph>5764
<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. XI</origDate>
    </origin>
  </history>
</msDesc></witness>
<witness xml:id="f">
<abbr type="siglum">
  <emph>f</emph>
</abbr>
<emph>Vindobonensis</emph>95
<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. XII</origDate>
    </origin>
  </history>
</msDesc></witness>
<witness xml:id="U">
<abbr type="siglum">U</abbr>
<emph>Vaticanus Lat.</emph>3324

```

```

<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. XI</origDate>
    </origin>
  </history>
</msDesc></witness>
<witness xml:id="1">
<abbr type="siglum">
  <emph>l</emph>
</abbr>
<emph>Laurentianus</emph>Riccard. 541
<msDesc>
  <msIdentifier />
  <history>
    <origin>
      <origDate>s. XI--XII</origDate>
    </origin>
  </history>
</msDesc></witness>
</listWit>
</sourceDesc>
</fileDesc>
<encodingDesc>
  <variantEncoding method="parallel-segmentation"
    location="internal" />
</encodingDesc>
</teiHeader>
<text>
  <body>
    <div xml:id="div-latin_1" xml:lang="la">
      <div type="section" n="6.13">
        <head>XIII</head>
        <p>In omni Gallia eorum hominum qui
        <app>
          <lem wit="#A #M #B #R #S #L #N">aliquo</lem>
          <rdg wit="#T #f #U #l">in aliquo</rdg>
        </app>sunt numero atque honore genera sunt duo. Nam
        plebes paene seruorum habetur loco, quae
        <app>
          <lem wit="#A #M">nihil audet per se</lem>
          <rdg wit="#A1">nihil aut et per se</rdg>
          <rdg wit="#R #S #L #N">nihil habet per se</rdg>
          <rdg wit="#T #f #U #l">per se nihil audet</rdg>
        </app>,
        <app>
          <lem wit="#A #M #B #R #S #L #N">nullo</lem>
          <rdg wit="#T #f #U #l">>nulli</rdg>
        </app>adhibetur
        <app>
          <lem>consilio</lem>
          <rdg wit="#T #U">concilio</rdg>
        </app>.</p>
      </div>
    </div>

```

```

</div>
<div xml:id="div-english_1" xml:lang="en">
  <div type="section" n="6.13">
    <head>XIII</head>
    <p>Throughout all Gaul there are two orders of those men
    who are of any rank and dignity: for the commonality is
    held almost in the condition of slaves, and dares to
    undertake nothing of itself, and is admitted to no
    deliberation.</p>
  </div>
</div>
<div xml:id="div-french_1" xml:lang="fr">
  <div type="section" n="6.13">
    <head>XIII</head>
    <p>Partout en Gaule il y a deux classes d'hommes qui
    comptent et qui sont considérés. Quant aux gens du
    peuple, ils ne sont guère traités autrement que des
    esclaves, ne pouvant se permettre aucune initiative,
    n'étant consultés sur rien.</p>
  </div>
</div>
</body>
</text>
</TEI>

```

## 8 Change History

v0.99a

General: First public release  
 (documentation in progress) . . . . . 1

## 9 Index

Numbers written in *italics* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

<b>Symbols</b>	<code>\@parboxrestore</code> . . . . . 206	<code>\add@apparatus</code> . . . . .
<code>\@MM</code> . . . . . 205	<code>\@parnotesromantrue</code> . . . 25	. . . . . 282, 313, 625
<code>\@blfootnotetext</code> 200, 201	<code>\@pkg@ekddivfalse</code> . . . 18	<code>\addcontentsline</code> 897, 899
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