Introduction

Version: 05–03–07, Pre-Alpha.

\TeX\ has become a very important tool in the preparation of critical editions of texts. In par-
ticular, EDMAC for Plain\TeX, by Lavagnino and Wujastyk, has come to the rescue of many an
editor of texts (myself included). In the last two years the \LaTeX\ world has produced at least
two general-purpose packages for the preparation of critical editions: LEDMAC (a port of
EDMAC with even additional features) and ednotes. With its extensive and high-level config-
urability, typographic flexibility, and database capabilities – not to mention its user-friendly
and consistent interface –, CONTEXT is perhaps the most natural typesetting platform for a full-
featured and easy-to-use user interface for authors and typesetters who need to produce a
sophisticated camera-ready critical edition. With the maturation of projects like Lua\TeX\ and
Oriental\TeX\ well underway, the capacity of \TeX\ for even more efficient production and con-
figuration of the highest quality of critical texts in multiple languages is almost at hand.

This document outlines the high-level interface to the critical-text editing module for CONTEXT,
called crit\TeXt. The module is in pre-alpha status and the entire interface can be expected
to undergo extensive changes in the coming weeks.

In what follows: Technical terms are colored. The first and/or most illustrative mention of a
technical term is emphasized, generally by italics.

I acknowledge the critical comments, suggestions and addenda of my collaborator Thomas A.
Schmitz in the preparation of this manual. By the time it’s done he may very well be its coau-
thor :-)
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1 Critical Edition, Critical Apparatus

An edition of a given text is a specific version or representation of that text. A *critical* edition enables its readers and users to reconstruct the transmitted material upon which the editor has based his or her version. In order to make this possible, minimum requirements for any critical edition are

1. a list of the witnesses which transmit the text (e.g., manuscripts, papyri, inscriptions, secondary transmission);
2. the text itself in the version which the editor considers accurate, authoritative and definitive;
3. a summary of *variant readings* as they are found in the textual *witnesses*.

Frequently, the editor will describe the *witnesses* and explain their relation to each other in a preface which often contains an explanation of abbreviations and a so-called stemma, a graphical diagram of the genetical relationship between *witnesses*.

The *variants* and other classes of textual criticism of a given *critical* text are placed in the *critical apparatus*, traditionally at the bottom of the page below the *main text*. (These and other highlighted terms in this chapter will be defined in Chapter 2.)

For any given *passage*, the *apparatus* provides a succinct summary of the editor's research of the editor on the *variants* as they are found in the transmission, as well as interpretations, or other aspects of that given *passage*. In practice, the following classes of apparatus entry are common:

- **Testimonia**
  This is a summary where the text in question is transmitted, quoted, alluded to, etc.;
- **Similia**
  This is a collection of passages with similar wording, thought, etc.;
- **Exegetica**
  This is a commentary on selected passages;
- **Critica**
  This is generally the most important part of the *critical apparatus* proper, where *variants*, conjectures etc. are recorded.

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1 Of course, critical editions can be established by a group of editors; the singular will be used for convenience.
On the technical level, preparation of the critical edition involves three things:

1. the main text;
2. the apparatus;
3. the rest of the book.

The critical edition module we are developing is concerned primarily with preparing and typesetting the apparatus. This module is meant to be consistent with the rest of CONTEXT so that the integration of the apparatus with the main text and the rest of the book is seamless.

In preparation of the apparatus we distinguish two things, elemental structure and typographic structure:

1. **Elemental Structure**
   Each building block of the apparatus, up to and including the apparatus itself and relevant parts of the main text, constitutes an element. Given an element, it performs a distinct function. For example, a textual variant of a passage is one element of the apparatus, the source for that variant is another.

2. **Typographic Structure**
   Given an element of the apparatus, the editor or typesetter must decide where (layout) and how (style) to place that element on the page. Will we use footnotes, endnotes, marginal notes, or a separate volume entirely for the presentation of the apparatus? What symbol will we use to separate the lemma of a given entry class from its associated comment?

EDMAC and other critical edition packages for \TeX{} mix elemental structure and typographic structure. In what follows we try to precisely identify the various components of the elemental structure of the critical edition. Then, when we consider typesetting in CONTEXT, one may choose a plethora of options for the typographic structure. This allows for much more flexibility as we will see. Another advantage of this approach is that it gives us a framework for easy translation of apparatus data to and from XML.³

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Parts of Chapter 2 roughly correspond to aspects of the TEI schema for critical editions. That schema is more detailed and less precise than we need; for us at this juncture it is more useful to have a clearer and more precisely defined elemental structure. Then, once the typographic structure interface is in place, a user can define those elements of the TEI schema he needs how he needs.
A related matter is preparing and typesetting of parallel texts. In a bilingual edition, for example, the main text of the edition may appear on one side of a given book, and its translation on another.


2 Elemental Structure

2.1 Apparatus

2.1.1 Defining “Apparatus”

The set of all succinct scholarly comments on passages (See Section 2.3) of the main text (See Section 2.2) of a given edition constitutes the apparatus, as explained in Chapter 1. The term ‘apparatus’ is ambiguous: It may refer to

- The entire set of all succinct scholarly comments with respect to the set of all selected passages (See Section 2.3) of the text: this is the apparatus in general, or apparatus proper. Given a main text, the apparatus proper succinctly summarizes – with respect to the entire set of selected passages of the main text – the editor’s research on the various manuscripts, readings, variants, orthographies, interpretations, sources or other aspects of each passage.

- A specific set of comments – one which serves a specific purpose or function – on a specific passage of the main text. To distinguish this from the apparatus in general we will call it the apparatus entry (hereafter called just the entry). Note that a single passage can have more than one entry. For example, one entry for a given passage can be for variant readings, and a separate one can be for commentary on that same passage. Given a passage of the main text an entry of that passage succinctly summarizes the editor’s research on either the various manuscripts, readings, variants, orthographies, interpretations, sources or some other aspect of that given passage.

Henceforth in this manual we will use the word ‘apparatus’ to refer to the apparatus proper and ‘entry’ to refer to the apparatus entry. Thus in our terminology the set of all entries constitutes the apparatus.

2.1.2 Elements of an Entry

Given an entry to a given passage, it is composed of three main elements:

- **Marker**

  Given an entry, the marker is a string of characters that connects that entry to the appropriate passage. Often the marker consists of at least a line numeral or line numeral range. So if the
passage spans lines 7–8 of the main text, then the marker could be ‘7–8’. If the passage is marked by some symbol, say ‘†’, one could also include that in the entry marker, e.g., ‘† 7–8’. If the passage under consideration is part of a heading (e.g., ‘Scene II’ of a play), then there may be no line numeral at all.

- **Lemma**
  Given an entry to a given passage, the lemma contains a representation of that passage. The lemma could be an exact duplicate of the entire passage, particularly if the passage is short. Or it could be an abbreviation of the passage, particularly if the passage is long. So if our passage is, say,
  
  ‘The Earth, as a habitat for animal life, is in old age and has a fatal illness.’
  
  then the lemma could be ‘The Earth. . . illness’.
  
  The elemental structure of the lemma may include, in addition to the representation of a given passage, a witness to the source used in the main text. This is not always necessary, especially when a single source is consistently used in the main text.

- **Comment**
  Given an entry to a given passage, a comment is a note to the passage that succinctly summarizes the editor’s research on that passage. A single entry may have a multiplicity of comments, each separated appropriately (see Subsection 2.1.4).
  
  Given a comment, its general elemental structure may include a witness to that comment; this is generally indicated with a simple symbol or very short string called a siglum (plural sigla). It may also include a secondary note on the substance of the comment or that of the witness by the editor. We will call such a note a remark. Thus the elemental structure of a comment generally consists of the following attributes:
  
  - **Witness**
  - **Core Comment**
    - This is the core of the comment which contains the main observation of the editor about the corresponding passage
  - **Remark.**

  Of course, it is not necessary to use all three, and other attributes can be defined as well.

  In general an entry looks like

  `<marker><lemma><comment>`

  In general a comment has at least one string with the elemental structure

  `<witness><core comment><remark>`
Altogether we have, for our general entry

<marker><lemma><witness><core-comment><remark>>

Each of these elements may need particular typographic attention, including punctuation; perhaps the remark will be placed in a footnote to the entry; this remark would then constitute a subentry to the main entry, with its own

<marker><lemma><comment>

structure. This raises another distinction, discussed next.

2.1.3 Main Apparatus and Subapparatus

As we will mention in Subsection 2.3, a given passage in the main text may have more than one entry. Consider a single passage that corresponds to three entries in the apparatus. Let’s call them entry-A, entry-B, and entry-C. The reason for three entries is that each entry serves a unique function. For example, the function of

- entry-A may be to record variant readings of a given passage. For example, a given passage in the main text may read ‘as a habitat for animal life’. In the comment the variant reading could be ‘as a home for animal life’;
- entry-B may be to record source references or testimonia for where the passage in question is transmitted, quoted, alluded to, etc.;
- entry-C may be to provide a commentary or exegetica on a given passage.

Now given a function A for entry-A, that same purpose may be the case for another entry to another passage. Let entry-A=entry_n A. Then an entry to another passage with the same purpose as entry_n A will be entry_n + 1 A, and so forth.

Now then:
entry_n A, entry_n + 1 A and entry_n + 2 A belong to class-A;
entry_n B, entry_n + 1 B and entry_n + 2 B belong to class-B;
entry_n C, entry_n + 1 C and entry_n + 2 C belong to class-C;

So to be more precise: In normal typesetting of critical editions, each entry_n A belongs to apparatus class-A, and so forth.

Together, class-A, class-B, and class-C (and more perhaps), each with respect to passages of the main text, form what I call the main apparatus.
A classical way of setting this up typographically is to give each class its own footnote series (see Chapter 3).

Let’s consider another scenario. It may be that, within a given comment of a given entry, the editor may want to make a remark about something particular to something in that comment. If, as alluded to above, that remark also has a

\[
<\text{marker}><\text{lemma}><\text{comment}>
\]

structure, then the original comment itself now becomes a subpassage to a subentry. The set of all subentries to comments I call the subapparatus.4

To summarize, we distinguish main apparatus and subapparatus:

- **Main Apparatus**
  Each entry in the apparatus whose lemma is taken from a passage of the main text we will call a main entry. The set of all main entries in the apparatus minus any subentries, constitutes the main apparatus.

- **Subapparatus**
  Each remark with its own

\[
<\text{marker}><\text{lemma}><\text{comment}>
\]

structure we will call a subentry. The set of all subentries in the apparatus constitutes the subapparatus.

The subapparatus forms a distinct typographical unit, whose subentries could take the form of footnotes to entries in the main apparatus.5

### 2.1.4 Classification of Entries

The entries to the main apparatus may be classified in different ways. The classification of a particular entry is generally a function of the class of comment it contains. The class is generally reflected directly in the core comment. An editor can define any number of classes; we mentioned three types of class in Subsection 2.1.3. It is up to the editor to define the most appropriate typology for his purposes.

---

4 We could also say metaentry or metaapparatuses, in analogy with the object-language/metalanguage (or use-mention) distinction.

5 If the main apparatus takes the form of footnotes to the main text, then such a subapparatus would employ footnotes to footnotes.
Given a comment class, it may also have one or more groupings. For example, the difference between a variant reading and the main text may be just a matter of variant orthography, or it could be quite substantial, perhaps even involving a change in meaning. In a given entry corresponding to a distinct class, the comments for that entry may be organized into separate groupings. Each grouping contains at least one subcomment, with elemental structure

\[
\text<witness> \langle\text<core comment>\rangle \langle\text<remark>\rangle
\]

just like that of comment.

It is up to the editor to decide whether the research material is best served by listing two or more groupings separately under a single reading-class entry for a given passage, treating them as distinct groupings, or organizing them some other way. For example, a single comment with three groupings may look like

\[
\langle\text<comment>\rangle=\langle\langle\text<grouping A>\text<grouping B>\text<grouping C>\rangle\rangle
\]

If each grouping has, say, two subcomments, then the following is equivalent:

\[
\langle\langle\text<comment 1A>\text<comment 2A>\rangle\langle\text<comment 1B>\text<comment 2B>\rangle\langle\text<comment 1C>\text<comment 2C>\rangle\rangle
\]

where A stands for grouping A and so forth. Recall that each subcomment may also have a three-part structure as well.

Another way of organizing is to treat subcomments like remarks (see Subsection 2.1.2). So, say, grouping B could be treated as a subentry in the subapparatus.

### 2.1.5 Placement of the Apparatus

Each entry class of the apparatus is usually placed in a footnote series, but it may be placed in a margin, an endnote, or collected and printed as a separate volume. We discuss this kind of matter in Chapter 3. The point for now is to consider the elemental structure independent of layout and typographical considerations.

### 2.2 Main Text

The main text is the version of the text that has been determined by the editor to be accurate, authoritative and definitive in some sense. It is the text that is intended by the editor for the perusal of the general reader of the text. It is also the text subject to textual criticism in the apparatus.
2.3 Passages

We distinguish between passage and transpassage:

- **Passage**
  A given passage of the main text is a single, continuous selection of the main text subject to textual criticism in the apparatus. Each entry in the apparatus corresponds to exactly one passage, although one passage may correspond to any number of entries, usually one entry per comment class (so one entry for variants, one for testimonia, etc.). Given a passage, either its exact copy or abbreviation is passed to the apparatus entry.

- **Transpassage**
  Sometimes a given passage for one entry may overlap with the passage for another entry. In some cases a given passage may completely overlap a second one (nested). In other cases neither passage completely contains the other (unnested). This can create problems for future typesetting, where it is not trivial to write macros with overlapping but unnested arguments. In anticipation of this issue we introduce the notion of transpassage. A transpassage is a continuous, complete string of possibly unnested passages, within which the individual passages can be identified and operated upon in through the typographical interface.

This is just an idea; maybe Hans (or Taco, or Thomas . . .) has a better one.

2.4 Source Details

2.4.1 Sigla

As we mentioned in Subsection 2.1.2, the elemental structure of a comment normally includes a witness. The witness is usually represented by a symbol or short string of symbols called a siglum. The siglum is basically a kind a citation (as in a traditional bibliography).

2.4.2 Source-text Witness Lists

Usually the front matter of a critical edition includes a witness list. The witness list is analogous to a bibliography, though its format is somewhat different.

As in the bibliography module, we want a witness database that both specifies the siglum as well as contain the bibliographic information about the witness.
Given a witness list, it may contain more than one type of witness. There may be fragmentary witnesses, witnesses in a particular library, and so forth. The witness entry in the database should include a type attribute such that the typeset witness list will be organized according to that type.

Future developments of critTeXt may attempt to define a database format which would allow us to treat the witness list like a list of bibliographical references. However, it is difficult to think of such specifications in advance: different philological and scholarly traditions have vastly differing requirements for such lists, and editions of different texts demand special considerations. Hence, we wish that such specifications will arise out of concrete editions prepared with critTeXt, but will not discuss this matter here.

2.5 Summary

Here is a summary of the elemental structure of the main parts of a critical edition:
Figure 2.1  The Elemental Structure of a Critical Edition.
3 Typographical Structure

In this chapter we discuss the typographic structure of the elements of the edition. Based on our previous discussion we can divide the typographical task into three areas:

1. Main Text
   Under this heading we consider the layout and typographical configuration of the main text insofar as it relates to keying passages of the main text to the entries of the apparatus.

2. Entry
   Under this heading we consider the layout and typographical configuration of the elements of the entry, viz., the marker, lemma, comment, siglum, core comment, and remark.

3. Apparatus
   Under this heading we consider the layout and typographical configuration of the apparatus as a whole, including the layout of each entry class as a whole.

Let us consider each of the above in turn.

3.1 Main Text

3.1.1 Marginal Numerals

The relationship of the main text to the apparatus is generally accomplished through marginal numerals. Consider Figure 3.1. There are three general classes of marginal numeral:

1. Line Numeral
   These are the numerals on the inside-right of the left margin of Figure 3.1.

2. Paragraph Numeral
   These are the numerals in the middle of the left margin of Figure 3.1.

3. Critical-Section Numeral
   Finally, the critical-section numerals are towards the left of the left margin of Figure 3.1.

The immediate function of line numerals and paragraph numerals is obvious: each class counts lines and paragraphs respectively. As for critical-section numerals: Note that we distinguish critical section and text-section:
The Earth, as a habitat for animal life, is in old age and has a fatal illness. Several, in fact. It would be happening whether humans had ever evolved or not. But our presence is like the effect of an old-age patient who smokes many packs of cigarettes per day, and we humans are the cigarettes.

Had our solar system included two suns, the problem would have involved three bodies (the two suns and each planet), and chaos would have been immediately obvious. Planets would have had erratic and unpredictable orbits, and creatures living on one of these planets would never have perceived the slightest harmony. Nor would it have occurred to them that the universe might be ruled by laws and that it is up to man's intellect to discover them. Besides, it is not at all obvious that life and conscience could even emerge in such a chaotic system.

**Figure 3.1** Line, Paragraph, and Margin-Section Numerals

- **Margin Section**
  The critical section divides the main text but there is no paragraphed heading and it can occur anywhere inside of a paragraph without disturbing the linespacing etc. You could even call it a virtual section heading.
  The critical-section numerals may be used to count certain aspects of the main text, e.g., folios of the primary manuscript used to establish the base of the main text.

- **Text Section**
  These are just the usual text headings (part, chapter, heading, etc.).

These three classes of marginal numeral should cover the needs of the bulk of critical editions. The editor, however, will also be able to define his own class of marginal numeral. For example, classical critical editions often provide section numbers, pagination, or foliotation of earlier, canonical editions, for which more than one critical-section numeral may be necessary. In general, then, let's analyze the typographic structure of marginal numerals in terms of marginal numeral classes.

Each marginal numeral class will need its own setup. This includes configurations of things such as
• **Location**
  This includes options for placing the entire **marginal numeral class**. It can be in the left margin, the right margin, and the inner or outer margins of a double-sided document. For screen documents one may want to use the left or right edge, and so forth.

• **Criterium**
  What are we counting? A **marginal numeral class** may count lines, paragraphs, or **critical sections** (as we have already described), so that’s three options.

• **Stanza**
  In cases like poetry we need an option to count lines differently. Given a means of distinguishing and tagging lines of poetry, the stanza mode will count each tagged line.

• **Way**
  Given a **marginal numeral class**, how often do we want to automatically reset the counting? Every page, every paragraph, every **critical section**, or every **text-section**? We should also be able to manually reset as well when necessary.

• **Increments (Stepping)**
  We do not usually want to count every, e.g., **line numeral**. So we can count in increments of, say, every five lines instead of every line.

• **Conversion**
  For example, we may want to use Arabic numerals for **line numerals**, Roman for **paragraph numerals**, and a manually defined conversion (e.g., XY1a, XY1b, XY2a, XY2b . . .) for **critical-section numerals**.

• **Auto**
  In accordance with the criterium, CONTEXT will **automatically** number lines, paragraph, or text sections. One can also define a marginal that is counted as though it were a line, paragraph, etc. (For example, an editor could typeset each **critical section** as a single paragraph). But sometimes one needs to do things manually, and set auto to none. In the latter case the user has to declare each occurrence of the marginal numeral (though not necessarily each numeral) manually. One example is **folios**: You have to tell the **main text** where they must occur but the numeral increment will be done automatically. In some cases the editor may need to override the automatic mechanism.

• **Font Style**
  Choose your numeral class’ font and style. Useful for selecting, independent of the **main text**, things like superior, inferior, **bold, italic**, upright, or oldstyle numerals.

• **Width**
  Each **marginal numeral class** has its own **margin space**; each **margin space** has a particular width. See **Figure 3.2**
  By default we have three margin spaces
The Earth, as a habitat for animal life, is in old age and has a fatal illness. Several, in fact. It would be happening whether humans had ever evolved or not. But our presence is like the effect of an old-age patient who smokes many packs of cigarettes per day, and we humans are the cigarettes. The Earth, as a habitat for animal life, is in old age and has a fatal illness. Several, in fact. It would be happening whether humans had ever evolved or not. But our presence is like the effect of an old-age patient who smokes many packs of cigarettes per day, and we humans are the cigarettes. Had our solar system included two suns, the problem would have involved three bodies (the two suns and each planet), and chaos would have been immediately obvious. Planets would have had erratic and unpredictable orbits, and creatures living on one of these planets would never have been able to perceive the slightest harmony. Nor would it have occurred to them that the universe might be ruled by laws and that it is up to man's intellect to discover them. Besides, it is not at all obvious that life and conscience could even emerge in such a chaotic system.

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**Figure 3.2** Margin Spaces: Critical (C), Paragraph(P), and Line (L).

- **Distance**
  This gives us the distance of the margin space from the closest edge of the main text. Among other things this option allows us to control the relative distances of the different margin spaces from one another. Of course spaces can (and often do) overlap as well. (Maybe there is a way to, given a set of margin spaces, set up their relative distances more directly.)

- **Alignment**
  Within a given margin space, the numerals may be aligned in the middle, right, or left of that space.

- **Prefixes And Suffixes**
  Given a numeral, it may be given a prefix or suffix, e.g., ‘–2–’.

In some case one may want to temporarily pause marginal numbering and then resume it (see Figure 3.3). This should be automatic, that is, when marginal numbering is turned back on it should remember from where it left off.
The Earth, as a habitat for animal life, is in old age and has a fatal illness. Several, in fact. It would be happening whether humans had ever evolved or not. But our presence is like the effect of an old-age patient who smokes many packs of cigarettes per day, and we humans are the cigarettes.

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3.1.2 Passages

When marking a given passage for an entry, we need to configure whether and how that passage is marked. Now it may be that just giving the marginal numeral range in the entry marker is enough (so there is no mark in the main text at all). But one could also get fancy. For example, if the passage in question is entered in entry class-A, maybe we want to mark it (and each other passage in entry class-A) with a dagger (‘†’); for entry class-B, use a star (‘⋆’). If we want to get really fancy, use an entire conversion per page per entry class. So if a single page has four passages entered under entry class-A, we mark them with ‘i’, ‘ii’, ‘iii’, and ‘iv’ respectively; for entry class-B we use ‘⋆’, ‘†’, ‘‡’, and ‘***’; and so forth.

We will call the (optional) mark used for the passage a passage symbol, or symbol for short. When ‘symbol’ is colored we are using it to mention the passage symbol.

3.1.3 Utilities

On any page of the main text one can declare the marginal numeral range. This gives the value or value-range of the critical-section numerals, the paragraph numerals, and/or the line
numerals. This is useful for things like endnotes or header information (above the translation block bilingual text for example). This utility should be configurable, for example:

- **Criterium**
  Which marginal numeral range(s) do we want?
- **Separator, Prefix and Suffix**
  How do we punctuate the range?

### 3.2 Entry

#### 3.2.1 Individual Entry

We now consider the entry. Figure 3.4 illustrates the basic structure we discussed in Chapter 2. There are two entries in this example:

In the first entry we have a **marker** (‘3–4’), a **lemma** identical to the passage of the main text (‘But our presence’), and a **comment** (‘But our existence {obvious error}’). The second example is structurally identical to the first except that the **lemma** in this case is an abbreviation of its respective passage.

The **comment** in each example contains a **siglum** (‘T4’; plus a symbol separating the siglum from the following **core comment** (‘;’)); a **core comment** (‘But our existence; ‘packs of weed’); and a **remark** (‘{obvious error}; ‘{truly obvious error}’; which each include a prefix and suffix (left and right braces)). Let us discuss some typographical niceties of each element:
• **Marker**
This is the device that keys the passage of the main text to the entry. The marker can use a number of the configuration options listed on page 17, such as

  – **Location**
  In this case, do we want the marker flush with the block edge, in the margin, indented?

  – **Criterium**
  Do we want the passage symbol reproduced? Which marginal numeral range do we want to reproduce? Sometimes none. The line numeral range should be the default.

  – **Font Style**

  – **Distance**
  This is the distance between the marker and the rest of the entry.

In addition we need the option

  – **Direction**
  In right-to-left documents we need the numeral range typeset from right-to-left, e.g. 12–13. Umm, shouldn’t that be 13–12?

• **Lemma**
Important options include

  – **Criterium**
  Here context should automatically create the lemma by gobbling, say, everything after the second word in the passage, everything before the last word, in the passage, and placing a separator (configurable of course) in between. Of course the lemma may also be identical to the passage.

  – **Separator**
  See above. The ellipsis ‘…’ is usually standard; will be the default.

  – **Font Style**

  – **Prefixes and Suffixes**
  The suffix ‘]’ is usually standard; will be the default.

  – **Distance**
  This is the distance between the lemma and the comment.

It should also be noted that the lemma can be empty; this is the tradition of the so-called “negative apparatus”. Consider the passage,

‘The Earth, as a habitat for animal life, is in old age and has a fatal illness.’

Given the sentence above, a negative apparatus could record a variant reading thus (this is configurable): “sickness A: B” The user would read as “manuscript A has the variant ‘sickness,’ the reading ‘illness,’ which was adopted into the text, is found in manuscript B.”
• **Comment**
  We treat the configuration of each element of the comment in turn:
  - **Siglum**
    This is a special form of citation; its configuration is mainly a bibliography-module issue. Of course it can typeset naively, but for demanding editions it makes more sense to tie it into a bibliographic database with which one can generate a complete bibliography, and perhaps for other purposes as well.
  - **Core Comment**
    Basic configuration of this element includes
    - **Prefixes and Suffixes**
      Maybe a simple period suffices. But the default should be empty.
  - **Remark**
    Unless the remark is a subentry, it uses the same configuration options as core comment. Otherwise it is treated like a regular footnote. More on this point in our discussion of the typographical configuration of the apparatus as a whole.

3.2.2 **Entry Class**

For each entry class-<n>, the set of all entries per page per class should form a list, much the way the set of all text-sections of a normal document form a list, which may then be placed. This is not a typographical issue per se but this notion of list will be used in our discussion of the apparatus and its configuration.

3.3 **Apparatus**

3.3.1 **Considering the Main Apparatus as a List**

The main apparatus (see Subsection 2.1.3) for a given page of the main text consists of all entries to that page of main text. These entries are organized according to entry classes.

In this model, the main apparatus for a single page is like a book with parts: each part contains a set of several chapters. Let each part have its own table of contents. Then the table of contents for a given part is constructed from the set of chapter headings unique to that part.
So each part corresponds to an entry class; each chapter heading corresponds to an entry within that class; and each table of contents (one per part) corresponds to the main apparatus for a given page.

Put another way, the main apparatus for a given page is like a set of tables of contents. If there is one entry class on the page, there will be one table of contents. If there are three entry classes, there will be three tables of contents.

The apparatus for the entire book, then, corresponds to a general set of sets of tables of contents. Just as one may typeset a table of contents in different ways, one may set the main apparatus for a given page in different ways. See Figure 3.5. Here we have three entry classes, each typeset in a different way.

The main apparatus for a given page may be placed anywhere on the page. Following the standard, by default it is placed in the footer, although in principle it can be placed anywhere on the page. For example, in a screen document one may want to place it in the right edge.
3.3.2 Options for the Main Apparatus

Once the options for the elements of each entry of the main apparatus have been determined (see Section 3.2), global options for each entry class as a whole remain to be determined:

- **Rule, Separator**
  By default, each entry class is prefaced with a one-half text-width horizontal rule. This may be turned on and off. In addition one may define one’s own separator.

- **Repeater**
  In a given entry class, if two or more succeeding entries have the same line numeral range, then the redundant occurrences of that range will be replaced with a ‘∥’ (default) or whatever symbol desired. Of course, this behavior can be turned off entirely (so redundant ranges will be typeset).

- **Before and After**
  One can specify, e.g., the amount of whitespace needed before or after each entry class.

- **Alternative**
  See Figure 3.5 for examples. One may choose single column entries (the default), paragraphed entries, or \(<n>\)-column entries \((n=2\) shown here).

- **Width**
  The width of the entry class may be greater or less than the textwidth of the main text.

3.3.3 Options for the Subapparatus

The subapparatus consists mainly of footnotes to the main apparatus. All of the options that apply to footnotes may apply to the subapparatus. A few default defined footnotes will be available. See Figure 3.6 for examples.

For more fancy applications an entry class can have line numerals and hence the subapparatus will need a full

\(<\text{marker}><\text{lemma}><\text{comment}>\)

structure. Consider an entry class that consists of a line-numbered commentary on the main text. Notes on that commentary will be handled just like notes on the main text.

3.4 Parallel Texts: a Consideration

Finally we can briefly consider parallel texts. In addition to a main text and an apparatus (main and sub), there is now an added element, which we will call the bi-text. Given, e.g., a
bilingual critical edition, we may have, e.g., the main text on the left page and the bi-text on the right. The bi-text may also have a biapparatus and so forth.

This issue needs more consideration and we will save that for later. One thought: Although the number of line numerals of the main text and the number of line numerals of the bi-text will hardly ever precisely match, the number of paragraphs or critical sections could. This could provide a basis for comparing and setting the main text and bi-text side-by-side.
Based on the above analysis we propose a user interface consisting of a small set of commands. These should prove sufficient to handle the bulk of the relevant typographic structure of a critical edition. We classify the interface into five components:

- Marginal Numerals
- Individual Entry
- Entry Class
- Apparatus
- Utilities

4.1 Marginal

A marginal numeral class is defined by

\texttt{\definemarginal[name]}

which produces the commands

- \texttt{\start[name]numbering \stop[name]numbering}
- \texttt{\name[marginspace]}

This may be used for, e.g. to declare a critical section, with each numeral incremented automatically;

- \texttt{\set[name]number \advancenumber[name]}

This may be used to override the automatically generated margin space numeral.

So \texttt{\definemarginal[line]} produces the commands

\texttt{\start[linenumbering] \stop[linenumbering]}

And \texttt{\definemarginal[folio]} produces

\texttt{\foliomarginspace}, which allows one to declare a new manuscript folio page.

Marginal numbering is set up with

\texttt{\setupmarginal[name][...][.....=......]}

or

\texttt{\setup[name][numbering][...][.....=......]}

For our list of options see Table 4.1. Most of these will be clear, especially with reference to Subsection 3.1.1. Let’s explain a few of the not-so-obvious options:
... reset pause resume lock unlock, first, last, all, none
location rightmargin leftmargin outermargin innermargin intext rightedge leftedge outeredge inneredge insideedge
criterium line subline paragraph criticalsection textsection [more?]
stanza latin arabic
way page paragraph criticalsection textsection
step number
conversion numbers characters Characters roman numerals Roman numerals text userdefined
auto on off
increment yes no
style normal bold slanted boldslanted type cap small...command
width dimension
distance dimension
align left right middle outer inner
prefix text
suffix text
start number
color color

Table 4.1 Options for \setupmarginal.

- **Lock and Unlock**
  For example, \setupmarginal[line][lock] or \setuplinenumbering[lock] locks the current line number in place so each subsequent typeset line carries the same line numeral until unlock is declared.
  If we do \setuplinenumbering[lock,all] the locked line numeral will be repeated on every line; if we do \setuplinenumbering[lock,first] only the first will be typeset; \setuplinenumbering[lock,first,last] both first and last will be typeset. There is also a none option.

- **Subline**
  Sublines: 1.1, 1.2, 1.3, 1.4 etc.
  Instead of defining separators, etc. it's better to have predefined conversions that may be modified and redefined if necessary.

- **Stanza**
  For, e.g., a Latin poetry line that spans more than one typeset line and which ends in \verseline, that poetry line will be counted as one line;
  Arabic-script poetry is generally counted as one line spanning two equal-width columns, e.g.
Here is the first line 1a Here is the first line 1b
Here is the second line 2a Here is the second line 2b

So with \stanza=arabic and a \verseline at the end of each column \CONTEXT will count columns in addition to line numerals.

To set automatic 2-column stanza counting you can declare
\autoverseline[on,arabic],\autoverseline[off]

- **Auto**
  If auto=none then the editor must manually declare each occurrence, and the numbers will be incremented automatically (just like text-section headers). For example
  \foliomargin[space][X1a]
  will place ‘X1a’ in the folio margin space; the next declaration
  \foliomargin[space]
  (with no optional argument) will automatically place ‘X1b’ in the folio margin space (where the appropriate conversion has been defined by the user).
  If one sets increment=off then every \foliomargin[space] numeral would have to be declared manually.
  Further, we can use \namemargin[space] like a sectioning command for marginal notes:
  \foliomargin[space][X1a]{text}
  One could leave out the folio and just make a marginal comment:
  \foliomargin[space][X1a]{text}

- **Prefix and Suffix**
  ‘prefix’ and ‘suffix’ are more neutral than ‘left’ and ‘right’. The problem is that, when \TeX switches to right-left mode, all left options become right and all right options become left. Thus we need more abstraction in our definitions so that RL or mixed LR-RL typesetting does not get too confusing.

Sometimes you may want to override the numeral placed in the margin space: for this you have
\set
\advance
\e.g., \setlinenumeral[],\advancelinenumeral[]

These change both the marginal numeral as well as the numeral passed to the entries. To change only the line number or line-number range passed to the notes, see \textbf{Section 4.4}. 
4.2 Entry Class

4.2.1 Tagging the Passage

In the course of the main text, one enters a command sequence to tag the passage and operate upon it in the main entry. The basic form of the passage-main entry command sequence is

\startpassage
  passage
  \entryclass[\textit{class-m}][\textit{lemma}][\textit{siglum}]{\textit{corecomment}}[\textit{remark}]
\stoppassage

There may be more than one class of entry per passage, e.g.

\startpassage
  passage
  \entryclass[\textit{class-m}][\textit{lemma}][\textit{siglum}]{\textit{corecomment}}[\textit{remark}]
  \entryclass[\textit{class-n}][\textit{lemma}][\textit{siglum}]{\textit{corecomment}}[\textit{remark}]
\stoppassage

To explain: Given a passage in the main text it is tagged by

\startpassage
\stoppassage

such that typing, e.g.

Here is some text.
\startpassage
  Here is a passage.
\stoppassage
Here is some text.

in the main text produces exactly

Here is some text. Here is a passage. Here is some text.
4.2.2 Main Entry Class

An apparatus main entry class is defined by
\defineentryclass[name]
which produces the commands

- \nameclass
- \entryclass[name]

These two commands are equivalent.
So, for example, \defineentryclass[variant] produces the equivalent commands
\variantclass
and
\entryclass[variant]

The \nameclass command takes up to four arguments. So for \variantclass we have, by default:
\variantclass[lemma][siglum]{corecomment}[remark]

We can also do
\entryclass[variant][lemma][siglum]{corecomment}[remark]

If the lemma option is omitted or left blank, it may be created automatically (as configured in our setups; the default is to just reproduce the respective passage). If the siglum or remark option is omitted or left blank, it is ignored. So a minimum declaration is
\variantclass{corecomment}

For example:

The Earth, as a habitat for
\startpassage
   animal life\variantclass{human life}
\stoppassage%
   . is in old age and has a fatal illness. Several, in fact.

This will leave the passage as is, use an exact replica of the passage as the lemma, and, after the marker and lemma, produce the comment:
animal life] human life

The lemma option takes priority over the siglum option. So \variantclass[T]{corecomment} will make the ‘T’ a lemma. If you want the siglum you must at least do \variantclass[]()[T]{corecomment}.

If you want a lemma that does not correspond to any specific passage, then you can, e.g.

\startpassage
\variantclass[lemma]{corecomment}
\stoppassage

The main entry class is setup by \setupentryclass[...][.....=.....] with the most relevant options described in Table 4.2. See page 21 for explanation of these options.

<table>
<thead>
<tr>
<th>...</th>
<th>class</th>
<th>entry</th>
<th>entrysize</th>
<th>passesymbol</th>
<th>symbolconversion</th>
<th>markerlocation</th>
<th>marker criterium</th>
<th>marker style</th>
<th>marker distance</th>
<th>direction</th>
<th>lemmacriterium</th>
<th>lemmaseparator</th>
<th>lemmastyle</th>
<th>lemmaprefix</th>
<th>lemmasuffix</th>
<th>lemadistance</th>
<th>commentstyle</th>
<th>commentprefix</th>
<th>commentsuffix</th>
<th>remarkstyle</th>
<th>remarkprefix</th>
<th>remarksuffix</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>flush</td>
<td>indent</td>
<td>bodyfont</td>
<td>command</td>
<td>inmargin</td>
<td>margin</td>
<td>normal</td>
<td>dimension</td>
<td>lr</td>
<td>passage</td>
<td>[default:....]</td>
<td>normal</td>
<td>text</td>
<td>text</td>
<td>dimension</td>
<td>normal</td>
<td>text</td>
<td>text</td>
<td>normal</td>
<td>text</td>
<td>text</td>
</tr>
</tbody>
</table>

\textbf{Table 4.2} Options for \setupentryclass.

The main entry-class commands can be nested:
Here is a passage of text with nested entries.

For example:

The Earth, as a habitat for animal life, is in old age and has a fatal illness. Several, in fact.

These commands are used so often it’s good to have abbreviations to make editing easier. For example, we can abbreviate

\startpassage

\startpassage

\startpassage

\startpassage

\startpassage

\startpassage

\startpassage
So nested entries could look like

<[(Here is a passage of text)]

with nested entries.)

For example

The Earth, as a habitat for animal life, is in old age dwelling for animal and human life, is aging)

and has a fatal illness. Several, in fact.

In my experience this kind of alias makes life easier (less unmatched delimiters, easier reading). In \setuppassage we can activate the abbreviation:

\setuppassage[abbr=angle]

Sometimes we may have overlapping but unnested entries. Here we can use metapassages:

\startmetapassage
Here is some overlapping and unnested text.
\startpassage
is some overlapping\variantclass{are a few overlapping}
\stoppassage
\startpassage
Abbreviations could look like:

\< \{ \text{metapassage} \} \>
\< \{ \text{passage1} \} \>
\[ \text{class-m} \]
\[ \text{lemma} \]
\[ \text{siglum} \]
\{ \text{corecomment} \}
\[ \text{remark} \]

\> \< \{ \text{passage2} \} \>
\[ \text{class-n} \]
\[ \text{lemma} \]
\[ \text{siglum} \]
\{ \text{corecomment} \}
\[ \text{remark} \]

> 

4.2.3 Subentry Class

Given a subentry, it is generally merely a footnote to the comment. For any given purpose one can define a note with a unique conversion and use that for a specific class of subentry. In some cases it may be useful to be able to define a footnote series with a marker-lemma-comment structure. Consider a main entry class consisting of a running commentary. That commentary could be marked with line numerals and its text could have variants, etc.

4.3 Apparatus

As we discussed in Figure 3.3.1 we consider each apparatus entry command to be analogous to a section-head entry. Together, the apparatus entries form a combined list. This can happen in one of three ways:

- **Per Page**
  In this case all entries to passages on a single given page are collected into a list.

- **Per Main-Text Section**
  All entries to passages within a single given section of the main text are collected into a list.

- **Per Entire Text**
  All entries to passages within the entire main text are collected into a list.

The list of entries is defined by
\defineapparatus\[name\][options]  
Configuration is setup by  
\setupapparatus\[name\][options][.....=.....]  
Finally, placement is determined by  
\placeapparatus\[name\][options][.....=.....] 

The configuration options largely mirror those of \setupcombinedlist on page 185 of the \texttt{CONTEXT} manual. Some of the most relevant options to \setupapparatus are given in Table 4.3.

<table>
<thead>
<tr>
<th>criterium</th>
<th>text</th>
<th>section</th>
<th>page</th>
</tr>
</thead>
<tbody>
<tr>
<td>alternative</td>
<td>normal</td>
<td>paragraph</td>
<td>column a b c</td>
</tr>
<tr>
<td>column</td>
<td>n</td>
<td></td>
<td></td>
</tr>
<tr>
<td>location</td>
<td>footnote</td>
<td>manual</td>
<td></td>
</tr>
<tr>
<td>rule</td>
<td>on</td>
<td>off</td>
<td>command</td>
</tr>
</tbody>
</table>

Table 4.3 Options for \setupapparatus.

For example: We want all variants to go in an appendix in the back of the book, and all commentary and source references to go in footnotes to the main text. We define two apparatuses. First, lets define the variant apparatus:

\defineapparatus[appendix][variant]  
\setupapparatus[appendix][criterium=text,  
alternative=normal,  
location=manual]  

This will create a list of all the \texttt{variantclass} entries throughout the text, line them up one by one, and allow you to declare  
\placeapparatus[appendix]  
in your appendix.  
For the \texttt{exegetica} layer of the apparatus:
\defineapparatus[main][exegetica,source]
\setupapparatus[main][criterium=page, location=footnote]
\setupapparatus[main][exegetica]
[alternative=column, column=2]
\setupapparatus[main][source]
[alternative=paragraph]

This will create, for each page, a list of all the
\entryclass[exegetica], \entryclass[source] entries for each respective page and place them in two layers below the main text, with the exegetica layer first and the source layer second. If one decides to typeset the source layer first, then simply reverse the order:

\defineapparatus[main][source,exegetica]

The exegetica will be typeset in 2 columns and the source references will be done in paragraph format.

Although we have been explicit in the above example: If location is set to manual, then the default criterium is text; if location is set to footnote, then the default criterium is page.

4.4 Utilities

Finally, we have a few utilities:

- \currentmarginalrange[......]
  See Subsection 3.1.3. This records, for a given page, the value or value-range of the critical-section numerals, the paragraph numerals, and/or the line numerals on that page. For example: If a given page ranges over folio's X1a and X1b, paragraph numerals vii–x, and line numerals 1–17, then
  \currentmarginalrange typesets X1a–X1b; vii–x; 1–17
  This can be configured. So
  \currentmarginalrange[section, line] typesets
X1a–X1b; 1–17
without the paragraph numerals.
When declared in \setupheadertexts this command will typeset the info for the respective page. This is especially useful if a part of the apparatus has been placed at the back of the book, for example. So our earlier (see Section 4.3) \placeapparatus[appendix] could be combined with \setupheadertexts and \currentmarginalrange to produce headings that relate the entries back to the main text. \currentmarginalrange is set up with \marginalrange
See Table 4.4.

\begin{table}[htbp]
\begin{tabular}{llllll}
\hline
rangenseparator & \text {text} \{default: \-\} \\
separator & \text {text} \{default: ::\} \\
\hline
\end{tabular}
\caption{Table 4.4 Options for \currentmarginalrange.}
\end{table}

- \verseline
  See heading Stanza, at page 27
- \autoverseline
  See heading Stanza, at page 27
- \marginalmarker[passagesymbol][linel,linel2][sublinel,sublinel2]
  \[paragraph][criticalsection]
  \[textsection][page]

Each line numeral pair marks the beginning and end of a range, e.g., \[12,14\] produces 12–14 in the entry marker.
\setupmarginalmarker uses the six relevant options from \setupentryclass (from passagesymbol through markerdistance).
Usage:

\startpassage
  \marginalmarker[][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][][[...
4.5 Conclusion

We believe that the above constitutes a very rich and flexible interface for typesetting the apparatus of a critical edition. This manual remains a work in progress, and we expect many improvements in the days and weeks ahead. Please contact myself or Thomas A. Schmitz (thomas.schmitz@uni-bonn.de) with any suggestions, improvements, or clarifications.

March 5, 2007
Idris Samawi Hamid
ishamid@colostate.edu

EDMAC uses this kind of solution for overlapping, unnested notes. Hopefully our metapassage approach solves that but there may other, unforseen, situations.
We include a few examples of pages from critical editions with comments. These examples are meant to demonstrate the various requirements and specifications which have been outlined on the preceding pages; they provide the practical examples for the theory. They correspond, almost line for line, to pages from actual editions. We have simply copied the design and will point out what would actually be needed to have this typeset automatically.
ΣΟΛΩΝ 7, 2–7, 6

奥林匹克，以此为标志的人，会看到更多的，因为
更富有，也更公平，因为他们是父
和儿子。同样，当他们

τὸν τῆς ἀδελφῆς ὡς φαίη Κύβισθον. ἔχονής γάρ τι
tῆς ψυχῆς ἀγαπητικὸν ἐν ἑαυτῇ, καὶ σεφυκοία, ὡσπερ
ισθάνονται καὶ διανοεῖσθαι καὶ μνημονεύειν, οὕτω καὶ

φιλεῖ, ἐνδυτεί τι τούτῳ καὶ προσφέρεται τῶν ἐκτὸς οἷς
οἰκεῖοι οὐδὲν ἔστι, καὶ καθάπερ ὁικὸν ἡ χώραν γνησίων

ἐρήμων διαδόχων τὸ φιλόστοργον ἀλλότριοι καὶ νόθων καὶ
θεράποντες εἰσοκισάμενοι καὶ καταλαμβάντες, ἀμα τῷ φί-

λεῖ τὸ φροντίζειν καὶ δεδιέναι περὶ αὐτῶν ἐνεποίησαν. 4

ὡστ' ἰδοὺς ἂν ἀνθρώπος στερρὸτέρα τῇ φύσει περὶ γάμου
καὶ γενέσεως παῖχων διαμαχομένους, εἶτα τοὺς αὐτο-

ἐς ἐπὶ παιὸν οἰκοτρίβοιν ἡ θρέμμασι παλλακῶν νοσοῦσι
καὶ θυγακουσι παρατεινομένους πάθος καὶ φωνᾶς ἀγει-
νεῖς ἀδύνατος, ἐνοῦ δὲ καὶ κυνῶν θανάτῳ καὶ ἐπὶ

αἰσχρῶς καὶ ἄβιωτος ὑπὸ ὁδύνης διετέθησαν. ἀλλ' ἐπεροί

γε καὶ παιὰς ἀγαθῶς ἀπολέοντες οὐδὲν ἐπαθὼν δεινῶν
οὐδ' ἐπαίσχουν αἰσχρῶν, ἀλλὰ καὶ χρώμενοι τῷ λοιπῷ βίῳ
κατὰ λόγον διετέθησαν. ἀσθένεια γάρ, οὐκ εὖνοια, λύπαι

ἀπεράντους ἐπάγεται καὶ φόβους ἀνθρώπους ἀνακήτους
ὑπὸ λόγου πρὸς τύχην, οἷς οὐδ' ἀπόλαυσις ἐγύνεται

τοῦ ποθομένου παρόντος, τοῦ μέλλοντος ὁδίνας ἀεὶ καὶ

τρόμους καὶ ἁγιων ὑπὸ στερηθῶσαν, παρέχωσαν αὐτοῖς.

ἀεὶ δὲ μήτε πενίᾳ πρὸς χρημάτων πεφράξθαι στέρησιν,

μήτ' ἀφυλλά πρὸς φίλων ἀποβολήν, μήτ' ἀπαιδία πρὸς

τέκνων θάνατον,

ι cf. Diog. L. 1, 26

[S(UMA=)] οὐδὲν ὁρὸν Ζιέ. || 3 οὐδ' μήρον ἀλλὰ Ζιέ. || 9 § Ζ: καὶ Ζ || 10
tο SU: τῶν Ζ || 11 καὶ om. Ζ ||

Figure 4.1 Page from Ziegler's edition of Plutarch [14]
The preceding page is taken from Konrat Ziegler's edition of Plutarch [14]. The design of main text and critical apparatus is not overly complex. The text is a simple running text. The apparatus consists of three parts:

1. The topmost part is the similia apparatus. It is keyed to the line numbers of the main text.
2. The second part is a testimonia apparatus. It consists of a list of manuscripts (= witness list) which is included in square brackets. This list is repeated at the beginning of every page. Typographically, it is integrated into the third part, the
3. critical apparatus. Again, it is keyed to line numbers of the main text. The separation of single entries is done via the symbol ||. If there is more than one entry to a line, these single entries are separated via a single |. As you can see, the apparatus is not entirely consistent: the entries to lines 9 and 10 have the lemma; the entries to lines 1, 3, 11 do not repeat the lemma from the main text, they are examples of a negative apparatus.

What makes this specimen interesting is the multitude of marginal numberings. I have added color keys to make this easier to follow:

- Left margin, small black numbers: these are the line numbers. They restart at every page; both testimonia and critical apparatus are keyed to these numbers.
- Right margin blue numbers: the subparagraphs of the current edition. These are used as markings for the page headers.
- Right margin, red numbers and letters: pages and sections in Estienne's edition.
- Left margin, green numbers: pages in the edition by Lindskog;
- Left margin, magenta numbers: pages in the edition by Sintenis.

Only the line numbers can be calculated automatically; all other numbers have to be entered manually. Ziegler's edition has all these different numbers share the same margin space – I don't know if this was a conscious decision or just for lack of better typographical solutions. Idris has suggested to have differently nested marginal spaces for such cases. This may very well be the best solution, but we need to take into account that editors may wish a scenario such as this one: use the same space for different levels. One interesting thing is happening in line 15: since the line number would fall on the same line as the Lindskog page number, it is postponed for one line. I have no idea if this can be done automatically.
τυφλὸν δὲ τὸν Πλούτων φησιν ἐκ Ἰππόνακτος τούτῳ σφετερισμένος. φησι γὰρ οὕτως Ἰππόναξ:

ἐμοὶ δὲ Πλούτως—ἐστὶ γὰρ λίθν τυφλὸς—
ἐς τοῖκοι ἐλθὼν οὐδόμη ἐπιεῖν Ἰππόναξ,
διδοῦ τοι μνέας ἀργύρου τρυήκοντα
cαὶ πόλλ' ἐτ' ἀλλά—δεῖλαιος γὰρ τὰς φρένας.

Τζετζ. ἐν Λύκ. 690 (p. 227. 25 Scheer)

ἡ δὲ λέξις ἦ πάλμυς ἦστιν Ἰάων, καὶ χρῆται ταύτῃ Ἰππόναξ λέγων.

ὁ Ζεῦς, πάτερ Ὁ Ζεῦς, θεὸς Ὁ Ὀλυμπίων πάλμυν,
τι μοῦ ἐδωκας χρυσών, ἀργύρου τὸ πάλμυν;

36 Τζετζ. ἐν Ἀριστ. Πλ. 87 p. 30

37 Τζετζ. ἐν Ἡφαιστ. p. 195. 22 Cronsbruch (quae praeceedunt v. ad fr. 43–4)

38 Τζετζ. ἐν Λύκ. 690 (p. 227. 25 Scheer)

37 Choerob. ἐν Ἡφαιστ. p. 195. 22 Cronsbruch (quae praeceedunt v. ad fr. 43–4)

Figure 4.2 Page from West’s edition [13]
The preceding page is taken from Martin West’s edition of the fragments of Greek elegy and iambus [13]. Editions of fragmentary texts are frequent in classical scholarship. The design is straightforward, yet a couple of points merits attention:

- There are two active numbering systems which are referred to in the apparatus: number of fragment (in bold, in the margin); line within single fragment (which is only shown if there are more than 5 lines to a fragment, yet used in the apparatus). The fragment numbers are also used for the running header; both set of numbers is also used for cross-references.
- The apparatus is typeset as a single paragraph for each fragment; every new paragraph is indented. The apparatus is separated from the main text by a narrow black rule.
- The separator for entries referring to separate lines is a large horizontal blank space, for entries referring to the same line a smaller horizontal blank.
ALCMAN 168, 169, 170, 171

DORICA EX AP. DYSC., ETYMOLOGICIS, AL.
OMNIA SINE NOMINE AUCTORIS

καὶ τυ φιλιππον ἔθηκεν

id. paulo inferius (p. 184 Uhlig) et rursus Pron. p. 54 Schn. καὶ — ἔθηκεν(ν)

καὶ τοι καὶ τοι Pron.

Alcmani tribuit Ahrens, Rh. Mus. 6 (1838) 234


καὶ τὐ Διὸς θύγατερ μεγαλόσθενες.

Alcmani tribuit Ahrens, Rh. Mus. 6 (1838) 234

Figure 4.3 Page from Davies's edition [2]
The preceding page is taken from Malcolm Davies’s edition of the fragments of Greek lyrics [2]. This is another solution to the problem of editing fragmentary material. The editor has chosen to append the apparatus directly to each fragment. There are up to four kinds of apparatus: testimonia, critical, exegetica, and bibliographical. It is rare, however, to have all four kinds with one single fragment. The different apparatus are separated by a rule.

Only the line numbers within every fragment is referred to in the apparatus (not in our example, where the fragments have only one line). The fragment number (in bold, in the margin) is used for internal cross-references and in the header.
ἐαυτὸν τούτων, καὶ τοιούτος ἐστὶν οἶος ἀξιόν ἐαυτὸν. οὕτως ἐπαινετὸς καὶ μέσος τούτων.

ἐπεὶ οὖν περὶ τιμῆς άιρεσιν καὶ χρήσιν καὶ τῶν ἄλλων ἀγαθῶν τῶν ἐντιμῶν ἀρίστη ἐστὶ διάθεσις ἡ μεγαλοψυχία, καὶ τούτῳ ἀποδίδομεν, καὶ οὐ περὶ τὰ χρήσματα, τὸ μεγαλοψύχω, ἀμα δὲ καὶ ἡ μεσότης αὕτη ἐπαινεται· δήλον ὅτι καὶ ἡ μεγαλοψυχία μεσότης ἢ εἴη, τῶν δ’ ἐναντίων, ὡσπερ διεγράφαμεν, ἡ μὲν ἐπὶ τὸ ἄξιον ἐαυτὸν ἀγαθῶν μεγάλων ἀνάξιον ὅταν χαυνότης {τοὺς τοιούτους γὰρ χαύνους λέγομεν, ὅσιοι μεγάλων ῥίνται άξιοι εἶναι οὐκ ὄντες}, ἡ δὲ περὶ τὸ ἄξιον ὅταν μή ἄξιον ἐαυτὸν μεγάλων μικροψυχία (μικροψυχών γὰρ εἶναι δοκεῖ, ὅσιος ὑπαρχόντων δι’ ἄ δικαιῶς ἃν ήξιοῦστο, μή άξιοι μηθένος μεγάλου ἐαυτῶν), ὡστ’ ἀνάγκη καὶ τὴν μεγαλοψυχίαν εἶναι μεσότητα χαυνότητος καὶ μικροψυχίας. ὃ δὲ τέταρτος τῶν διαριθθέντων οὐτέ πάμπαν φικτός οὔτε μεγαλόψυχος, περὶ οὐδὲν ἤχου ὃν μέγεθος οὔτε γὰρ ἄξιοι οὔτε ἄξιοι μεγάλων, διὸ οὐκ ἐναντίος. καίτιοι δ’ ἔναντιος οὔτε τῷ μὴ

Figure 4.4  Page from Walzer’s and Mingay’s edition of Aristotle [11]
The preceding page shows a philosophical prose text, Aristotle’s *Eudemian Ethics* edited by Walzer and Mingay [11]. Most of the phenomena have already been shown: the bipartite apparatus (*testimonia* and *critical*). Editors for Aristotle always show the pagination and line numbers of the Bekker edition in the margin; here in the right (= outer) margin. Line 4 is split into two physical lines to emphasize the section; that’s why the number is repeated in the margin. The Bekker line numbers and pages are also displayed in the page header. The left (= inner) margin shows the traditional paragraphs.

One thing that is worth pointing out is that the editors here, as in most critical editions, use a mixture of negative and positive apparatus: the last entry has a lemma, a separator (|), and a critical comment, yet no witnesses for the main text. Editors usually have good reasons for choosing one alternative, and the module should not try to impose homogeneity where traditionally, it has always been the editor’s good judgment which decided.
de préférence à Euripide, si tu dois ramener quelqu’un de là-bas ?

Dionysos. — Non, pas avant qu’ayant pris Iophon tout seul j’aie éprouvé ce qu’il peut composer sans Sophocle.

D’ailleurs Euripide, en débrouillard qu’il est, fera tout pour s’évader ici avec moi. L’autre, accommodant ici, est resté accommodant là-bas.

Héraclès. — Et Agathon¹, où est-il ?

Dionysos. — Il m’a quitté, il est parti; un bon poète, regretté de ses amis.

Héraclès. — En quel pays, le malheureux ?

Dionysos. — Au banquet des Bienheureux².

Héraclès. — Et Xénoclès³ ?

Dionysos. — Qu’il périsse, par Zeus.

tragédies aidé par son père.


² C’est-à-dire il est mort. Cf. ες μακάριον Καστίουν 1151, ες μακάριον εὐδαιμονίαν Platon, Φιδίων 115 ε.

ΒΑΤΡΑΧΟΙ

μέλλεις ἀνάγειν, εἴπερ γ' ἐκεῖθεν δεί σ' ἄγειν;

∆Ι. Οὖ, πρὶν γ' ἂν Ἰοφώντ', ἀπολαβὼν αὐτὸν μόνον, ἄνεν Σοφοκλέους ὁ τι ποιεῖ κωδωνιάσω.

Κάλλιος ὁ μέν γ' Ἑὐριπίδης πανόρμος ὁν κἂν ξυναποδράναι δεύρ' ἐπιχειρήσει μοι ὁ δ' εὐκόλος μὲν ἐνθάδ', εὐκόλος δ' ἐκεῖ.

ΗΡ. Ἀγάθων δὲ ποῦ ἕστω;

∆Ι. Ἀπολιπὼν μ' ἀποίχεται, ἀγαθὸς ποιητής καὶ ποθεινὸς τοῖς φίλοις.

ΗΡ. Ποῖ γῆς ὁ τλῆμοιν;

∆Ι. Ἔξ μακάρων εὐοχηῖν.

ΗΡ. Ὡ δὲ Ξενοκλῆς;

∆Ι. Ἐξόλοιτο νῆ Δία.

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Figure 4.6  … and text of Coulon’s edition of Aristophanes [1]
Despite the fact that bilingual editions are out of the direct scope of what we are trying to achieve with critTEXt, we show one example of such an edition to make readers aware of what is needed. The preceding pages are from Victor Coulon’s edition of the comedies of Aristophanes; they provide a good example of the typographical conventions of the “Budé” series, an important collection of Greek and Latin classical texts (see Irigoin’s rules for establishing such editions [6]). We want to emphasize the following aspects:

- Of course, translation and main text face each other. The streams module already provides some utilities for synchronization of output streams, but first attempts with it have also shown how complex this sort of setup is; a fully automated solution may well be impossible.
- One specialty of the “Budé” editions (that most bilingual editions do not follow) is the page numbering: even and odd pages which contain the same text and translation have the same pagenumber.
- Both pages have their own sets of notes: the translation (left side) has a series of footnotes; they can be carried over to the next left (even) side. The text (right, odd side) has a critical apparatus.
- One important aspect which has been mentioned in chapter 4.1: in dramatic texts, many lines are split between speakers. The convention is to have these parts typeset on different physical lines, but with the same linenumber (which will be used for references in the critical apparatus).
- Both main text and translation have the linenumbers in the margin. While it is imaginable that a complex solution for automatic linenumbers can be found for the text, this will be impossible for the translation: no algorithm can tell how many physical lines of translation will correspond to how many physical lines of text. Since the linenumbers of the translation are not used for referencing, they can and will have to be set manually.
References