

# Parallel typesetting for critical editions: the `reledpar` package\*

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## Abstract

The `reledmac` package has been used for some time for typesetting critical editions. The `reledpar` package is an extension to `reledmac` which enables texts and their critical apparatus to be typeset in parallel, either in two columns or on pairs of facing pages.

`reledpar` provides many tools and options. Normally, they are all documented in this file. Also provided is a help folder, “examples”. The folder contains additional examples (although not for all cases). Examples starting by “3-” are for basic uses, those starting by “4-” are for advanced uses.

To report bugs, please go to `ledmac`’s GitHub page and click “New Issue”: <https://github.com/maieul/ledmac/issues/>. You must open an account with [github.com](https://github.com) to access my page ([maieul/ledmac](https://github.com/maieul/ledmac)). GitHub accounts are free for open-source users. You can report bug in English or in French (better).

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## 1 Introduction

### 1.1 Aim of this package

Some critical editions contain texts in more than one form, such as a set of verses in one language and their translations in another. In such cases there is a desire to be able to typeset the two texts, together with any critical apparatus, in parallel. The `reledpar` package is an extension to `reledmac` that enables two texts and their apparatus to be set in parallel, either in two columns or on pairs of facing pages.

The package has to try and coerce  $\TeX$  into paths it was not designed for. Use of the package, therefore, may produce some surprising results. In this case, please reports them to the author via github's issues: <https://github.com/maieul/ledmac/issues/>.

This manual contains a general description of how to use `reledpar` starting in section 3; the complete source code for the package, with extensive documentation (in sections I through XXV); and an Index to the source code. As `reledpar` is an adjunct to `reledmac` we assume that you have read the `reledmac` manual. Also `reledpar` requires `reledmac` to be used, in the version distributed with version.

You do not need to read the source code for this package in order to use it but doing so may help to answer any questions you might have. The documentation's sections are numbered in roman numeral.

On a first reading, We suggest that you should skip anything after the general documentation in first sections until I, unless you are particularly interested in the innards of `reledpar`.

## 1.2 Historical overview

Many of the code of this package is based on the `eledpar` package, which was based on the `ledpar`, created as an extension of the `ledmac` package.

Names of the package related to parallel typesetting have moved in parallel of names of the package related to critical edition.

Please read `reledmac`'s handbook in order to understand this evolution.

## 2 Options

The package can be loaded with a number of global options which are listed here. Those options are fully described in the paragraphs devoted to their feature.

### 2.1 Synchronization's options

Please read the paragraph on synchronization's option on 5.2.2 p. 10 to understand better those options.

**shiftedpstarts** prevents white space between paragraphs on facing pages, the white space necessary to sync pages is collected at the bottom of the page instead.

**advancedshiftedpstarts** does the same as **shiftedpstarts**, but the **pstart** shift are not counted to determine when cutting the page. That could help to avoid page with blank lines at the bottom.

**nomaxlines** allows facing pages to have different numbers of lines.

**nosyncpstarts** disables syncing on facing pages. In that case the pages are filled as two streams normal.

### 2.2 Other options

**parledgroup** allows the use of `ledgroup` environment with `reledpar`.<sup>1</sup>

**widthliketwocolumns** set the width of the text printed in a single column to be the same as the width of the text printed in two parallel columns with `reledpar`. This is useful when alternating between normal and parallel typesetting.<sup>2</sup>

**sameparallelpagenumbers** sets page numbers on facing pages to the same value.

**prevpgnotnumbered** enables that the page before facing pages (the one automatically inserted to start parallel pages on a left page) is not counted. This applies only if the page is empty.

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<sup>1</sup>This option can either be used on `reledmac` or `reledpar`.

<sup>2</sup>This option can either be used on `reledmac` or `reledpar`.

### 3 General

A file may mix *numbered* and *unnumbered* text. Numbered text is printed with marginal line numbers and can include footnotes and endnotes that are referenced to those line numbers: this is how you will want to print the text that you are editing. Unnumbered text is not printed with line numbers, and you can't use `reledmac`'s note commands with it: this is appropriate for introductions and other material added by the editor around the edited text.

The `reledpar` package lets you typeset two *numbered* texts in parallel<sup>3</sup>. This can be done either as setting the 'Leftside' and 'Rightside' texts in two columns or on facing pages. In the paired pages case footnotes are placed at the bottom of the page on which they are called out — that is, footnotes belonging to the left are set at the foot of a left (even numbered) page, and those for right texts are at the bottom of the relevant right (odd numbered) page. However, in the columnar case, all footnotes are set at the bottom left of the page on which they are called out — they are not set below the relevant column. The line numbering schemes need not be the same for the two texts.

`reledmac` essentially puts each chunk of numbered text (the text within a `\pstart` ...`\pend`) into a box and then following the `\pend` extracts the text line by line from the box to number and print it. More precisely, the text is first put into the box as though it was being typeset as normal onto a page and any notes are stored without being typeset. Then each typeset line is extracted from the box and any notes for that line are recalled. The line, with any notes, is then output for printing, possibly with a line number attached. Effectively, all the text is typeset and then afterwards all the notes are typeset.

`reledpar` similarly puts the left and right chunks into boxes but can't immediately output the text after a `\pend` — it has to wait until after both the left and right texts have been collected before it can start processing. This means that several boxes are required and possibly  $\TeX$  has to store a lot of text in its memory; both the number of potential boxes and memory are limited. If  $\TeX$ 's memory is overfilled the recourse is to reduce the amount of text stored before printing.

`\maxchunks` It is possible to have multiple chunks in the left and right texts before printing them. The macro `\maxchunks{<num>}` specifies the maximum number of chunks within the left or right texts. This is initially set as:

```
\maxchunks{5120}
```

meaning that there can be up to 5120 chunks in the left text and up to 5120 chunks in the right text, requiring a total of 10240 boxes. If you need more chunks then you can increase `\maxchunks`. The `\maxchunks` must be called in the preamble.

If you `\maxchunks` is too little you can get a `reledpar` error message along the lines: "Too many `\pstart` without printing. Some text will be lost." then you will have to either increase `\maxchunks` or use the parallel printing commands (`\Columns` or `\Pages`) more frequently.

When typesetting verse using `\stanza`, each line is treated as a chunk, so be warned that if you are setting parallel verses you might have to increase `\maxchunks` much more than it appears at first sight.

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<sup>3</sup>You can use, anyway, `\numberlinefalse` to disable printing of line numbers.

In general, `reledmac` is a  $\TeX$  resource hog, and `reledpar` only makes things worse in this respect.

## 4 Parallel columns

### 4.1 Basic use

`pairs` Numbered text that is to be set in columns must be within a `pairs` environment. Within the environment the text for the lefthand and righthand columns is placed within the `Leftside` and `Rightside` environments, respectively; these are described in more detail below in section 6.

`\Columns` The command `\Columns` typesets the texts in the previous pair of `Leftside` and `Rightside` environments. The general scheme for parallel columns looks like this:

```
\begin{pairs}
\begin{Leftside} ... \end{Leftside}
\begin{Rightside} ... \end{Rightside}
\end{pairs}
\Columns
\begin{pairs}
\begin{Leftside} ... \end{Leftside}
...
\end{pairs}
\Columns
```

`\AtBeginPairs` Keep in mind that the `\Columns` **must be** outside of the `pairs` environment. You can use the macro `\AtBeginPairs` to insert a code at the beginning of each `pairs` environments. That could be useful to add the `\sloppy` macro to prevent overfull hboxes in two columns.

```
\AtBeginPairs{\sloppy}
```

There is no required pagebreak before or after the columns.

### 4.2 Setting

#### 4.2.1 Column's width

`\Lcolwidth` The lengths `\Lcolwidth` and `\Rcolwidth` are the widths of the left and right columns, respectively. By default, these are:

```
\setlength{\Lcolwidth}{0.45\textwidth}
\setlength{\Rcolwidth}{0.45\textwidth}
```

They may be adjusted if one text tends to be 'bulkier' than the other.



### 4.2.2 Column's separator

`\columnrulewidth` `\columnseparator` The macro `\columnseparator` is called between each left/right pair of lines. By default it inserts a vertical rule of width `\columnrulewidth`. As this is initially defined to be 0pt the rule is invisible. For a visible rule between the columns you could try:  
`\setlength{\columnrulewidth}{0.4pt}`  
 You can also modify `\columnseparator` if you want more control.

### 4.2.3 Column's positions

`\columnspan` By default, columns are positioned to the right of the page. However, you can use `\columnspan{L}` to align them to the left, or `\columnspan{C}` to center them.

When you use `\stanza`, the visible rule may shift when a verse has a hanging indent. To prevent shifting, use `\setstanzaindent` outside the `Leftside` or `Rightside` environment.

`\beforecolumnseparator` `\aftercolumnseparator` By default, the spaces around column separator are the same as the space:

- On the left of columns, if columns are aligned right.
- On the right of columns, if columns are aligned left.
- On both the left and right columns, if columns are centered.

You can redefine `\beforecolumnseparator` and `\aftercolumnseparator` length to define spaces before or after the column separator, instead of letting `reledpar` calculate them automatically.

```
\setlength{\beforecolumnseparator}{length}
\setlength{\aftercolumnseparator}{length}
```

If you want to revert to the previous behavior, just set with a negative value.

### 4.2.4 Mixing two columns and one column texts

`\widthliketwocolumns` If you want to mix two-column with single-column text, you can align horizontally single-column text to two-column text with `\widthliketwocolumnstrue`. To reset this feature, use `\widthliketwocolumnsfalse`. You can also call `\widthliketwocolumns` as a global option when loading `reledmac` or `reledpar`.

`\Xnoteswidthliketwocolumns` `\notesXwidthliketwocolumns` In most cases, you should use `\widthliketwocolumns` in combination with `\Xnoteswidthliketwocolumns` and `\notesXwidthliketwocolumns` to align the critical/familiar footnotes with the two columns. See `reledmac`'s handbook for more details.

## 5 Facing pages

### 5.1 Basic usage

`pages` Numbered text that is to be set on facing pages must be within a `pages` environment.

Within the environment the text for the lefthand and righthand pages is placed within the `Leftside` and `Rightside` environments, respectively.

`\Pages` The command `\Pages` typesets the texts in the previous pair of `Leftside` and `Rightside` environments. The general scheme for parallel pages looks like this:

```
\begin{pages}
\begin{Leftside} ... \end{Leftside}
\begin{Rightside} ... \end{Rightside}
\begin{Leftside} ... \end{Leftside}
...
\end{pages}
\Pages
```

The `Leftside` text is set on lefthand (even numbered) pages and the `Rightside` text is set on righthand (odd numbered) pages. Each `\Pages` command starts a new even numbered page. After parallel typesetting is finished, a new page is started. Note that the `\Pages` **must be** outside of the `pages` environment.

## 5.2 Setting

### 5.2.1 Text width

`\Lcolwidth` `\Rcolwidth` Within the `pages` environment the lengths `\Lcolwidth` and `\Rcolwidth` are the widths of the left and right pages, respectively. By default, these are set to the normal `textwidth` for the document, but can be changed within the environment if necessary.

### 5.2.2 Way of synchronizing<sup>4</sup>

Synchronization of left and right texts in parallel processing requires some ‘numbered’ auxiliary files to be written (namely `.1`, `.1R`, `.2`, `.2R`, and so forth), the content of which may change as long as synchronization is not complete. This usually requires LaTeX to be run several times. Therefore, it is advised to use in conjunction utilities such as `latexmk` to ensure that synchronization is complete.

Numbered paragraphs which are contained between the `\pstart` and `\pend` macros are thereafter called ‘chunks’.

In short, the default setting is designed in such a way that corresponding chunks of text are always kept in synchronization, even at the cost of page padding, as it may result in leaving blank lines between chunks of text. Conversely, using in conjunction `advancedshiftedpstarts` and `nomaxlines` settings ensures that pages are filled with text to full advantage—at the cost of the chunks not being kept in synchronization—and every chunk starts on the facing page of its corresponding chunk.

To understand better how each of the synchronization settings of `reledpar` works, one must first understand how the default setting of `reledpar` synchronizes the left and right chunks.

The aim of the default setting is twofold:

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<sup>4</sup>There is a French version of this article on <http://geekographie.maieul.net/185>.

- To ensure that left pages contain what is to be on left sides and that right pages contain what is to be on right sides.
- To ensure that every chunk starts on the page that is facing its corresponding chunk.

As regards the latter, `reledpar` checks that both of the following rules are respected:

- The numbers of lines of every pair of chunks must be identical. To keep this rule, `reledpar` may insert some blank lines at the bottom of the chunk that is shorter so that it may eventually have the same number of lines as the one that is longer.
- The main content of two facing pages, apart from critical and familiar footnotes, must have the same numbers of lines, including those that may be blank. Consequently, if one left page contains more notes than the corresponding right page, the bottom of the right page must be left blank.

Each of these rules can be modified by a number of optional synchronization settings in `reledpar`:

1. Regarding the number of lines a pair of chunks may have:
  - (a) 'shiftedpstarts' setting merely moves any added blank lines from the bottom of the chunks to the bottom of the page. It does not allow to have more lines on a given page as it just removes the blank lines between the chunks and does nothing more. To understand better how this work, you may compare the total amounts of lines of text on a given page whether you have activated this setting or not: you will see that both amounts are the same.
  - (b) 'advancedshiftedpstarts' prevents any blank lines from being inserted at the bottom of the chunks, also taking them away from the total amount of lines the page may have. This allows to get more lines on the pages. However, please note that:
    - Blank lines are taken into account as `reledpar` moves from one to the following chunk of text, so that every pair of chunks may always start on the same facing pages.
    - Consequently, blank lines continue to be taken into account in the calculation of the amount of lines a given pair of pages may have. This is why when a longer chunk runs from one page to another the shorter corresponding one also runs across pages, even if this may result in some blank vertical space being left on the first page.
2. As regards the number of lines per page, including blank ones, the `nomaxlines` setting disregards the rule that forces two facing pages to have the same numbers of lines. So it allows to have more text on the pages. Then, by a complex mechanism it is ensured that two corresponding chunks may always start on the same facing pages, provided that `shiftedpstarts` or `advancedshiftedpstarts` settings shall not be activated.

Lastly, one may disregard all of the synchronization rules and content himself with parallel texts typesetting. To achieve this, please use the `nosyncpstarts` setting.

Please note that every change of synchronization setting resets the content of the ‘numbered’ auxiliary files to make sure that `reledpar` does not try to make the synchronization with wrong calculations.

### 5.2.3 Page number

By default, `\Pages` use the standard  $\text{\TeX}$  page number scheme. This means that pages are numbered continuously following printed-book conventions: from left-hand to right-hand side, left-hand pages having even numbers, right-hand pages having odd numbers.

However, you can use the package option `sameparallelpagenumber` to have the same page number for both left and right side. In this case, this setting will apply only for pages typeset by `\Pages`, not for “normal” pages.

Please also read advising in 11 p. 20.

### 5.2.4 Page breaking

`\setgoalfraction` When doing parallel pages `reledpar` has to guess where  $\text{\TeX}$  is going to put pagebreaks and hopefully get there first in order to put the pair of texts on their proper pages. When it thinks that the fraction `\@goalfraction` of a page has been filled, it finishes that page and starts on the other side’s text. The standard value is 0.9.

If you think you can get more on a page, increase this. On the other hand, if some left text overflows onto an odd numbered page or some right text onto an even page, try reducing it. You can change it using `\setgoalfraction{<newvalue>}`.

### 5.2.5 Right page before `\Pages`

When `\Pages` are called, it starts at a new left page, in order to have parallel pages. Consequently, if it is called on a left page, it clears the current page and then lets a right void page.

`reledpar` provides two options to customize this (eventual) right page.

`prevpgstyle=<style>` in order to set the style of this page. A common value of `<style>` is empty. Use `prevpgstyle=empty` will suppress header and footer in this page. Please also read advising in 11 p. 20.

`prevpgnotnumbered` will make this page won’t be counted in the page counter.

### 5.2.6 Notes about `\mainmatter`

If you use `\frontmatter`, do not use `\mainmatter` directly before `\Pages` because it could create spurious empty pages.

Use instead `\pages` with the optional argument `[mainmatter]`. In this case, the content of `\Pages` will start on a left side, without any spurious empty page, and the left pages will be odd (and not event like in normal way), the first one being 1.

### 5.3 Critical and familiar footnotes

Of course, in “Facing pages”, the `reledmac`’s both critical and familiar footnotes can be used. However, some specific points must be taken into consideration.

#### 5.3.1 Notes height setting

Since `eledpar` v1.13.0, long notes in facing pages can flow from left to right pages, and *vice-versa*.

However, the `reledmac` default setting for the maximum allotted size to notes is greater than `\textheight`. That makes impossible for long notes to flow across pages.<sup>5</sup> We have not changed this default setting, because we do not want to break compatibility with older version of `reledmac` and we want to be as close as possible to default  $\text{\LaTeX}$ ’s feature.

So, you MUST change the default setting via `\Xmaxhnotes` (for critical notes) and `\maxhnotesX` (for familiar notes). Both commands are explained in `reledmac` handbook (6.11.5 p. 40). As an advisable setting:

```
\AtBeginDocument{%
  \Xmaxhnotes{0.6\textheight}
  \maxhnotesX{0.6\textheight}
}
```

#### 5.3.2 About the numbering of familiar footnotes

If you use the same series of familiar footnotes on both sides, the numbers won’t be correct in the first run. There will be a continuous numbering for left notes, and a continuous numbering for right notes. However, after the second run, the numbering will be continuous, alternating between the left and right side. For example if you have two left pages and two right pages, with one note by page, you will obtain the following numbering at the first run: 1 (left page), 3 (right page), 2 (left page), 4 (right page). But at the next run, you will obtain: 1 (left page), 2 (right page), 3 (left page), 4 (right page).

If you use parallel columns, during the second of run of typesetting the footnote numbering will not run down the columns. Instead, it will read both column lines completely across the page, and number footnotes from left to right.

#### 5.3.3 Using `perpage` package

It follows from what has been said in the preceding paragraph that if you use the `\MakePerPage` command of the `perpage` package for footnotes called in parallel typesetting, you must append to the counter the suffix `@typeset`.

So do not set:

```
\MakePerPage{footnote}
\MakePerPage{footnoteA}
```

---

<sup>5</sup>The same applies to  $\text{\LaTeX}$  normal notes. Read <http://tex.stackexchange.com/a/228283/7712> for technical informations.

```
\MakePerPage{footnoteB}
```

But set:

```
\MakePerPage{footnote@typeset}
\MakePerPage{footnoteA@typeset}
\MakePerPage{footnoteB@typeset}
```

### 5.3.4 Notes for one side only

`\Xonlyside` You may want to typeset notes on one side only (either left or right). Use `\Xonlyside[⟨s⟩]{⟨p⟩}` to set critical notes, and `\onlysideX[⟨s⟩]{⟨p⟩}` to set familiar notes. `⟨p⟩` must be set to L for notes to be confined only on the left side and to R for notes to be confined only on the right side.

### 5.3.5 Familiar notes called in the right side, but to be printed in the left side

`\footnoteXnomk` As often happens, the left side has less room for text. We may want to call familiar notes in the right side while using at the same time the available space in the left side to print them.

To achieve this, we call `\footnoteXnomk{⟨notecontent⟩}` in the left side. X is to be replaced by the series letter. We do this call in the left side after the word which matches up to the one in the right side after which we want to insert the actual footnote mark.

In the right side, we call `\footnoteXmk` at the place we want to have the footnote mark. X is to be replaced by the series letter. For example:

```
\begin{Leftside}
\beginnumbering
\pstart
A little cat\footnoteAnomk{A note.}. And so one ...
\pend
\endnumbering
\end{Leftside}
\begin{Rightside}
\beginnumbering
\pstart
Un petit chat\footnoteAmk. And so one ...
\pend
\endnumbering
\end{Rightside}
```

## 5.4 Using line flag

`\Xlineflag` Use `\Xlineflag[⟨s⟩]` to add right line flag (6.4 p. 16) to right critical footnotes and  
`\Xendlineflag` `\Xendlineflag[⟨s⟩]` to add it to right critical endnotes.

## 6 Left and right texts

### 6.1 Environments

Parallel texts are divided into Leftside and Rightside. The form of the contents of these two are independent of whether they will be set in columns or pages.

**Leftside**      The left text is put within the Leftside environment and the right text likewise in  
**Rightside**    the Rightside environment. The number of Leftside and Rightside environments must be the same.

### 6.2 Numbering text lines and paragraphs

**\beginnumbering**    Each section of numbered text must be preceded by \beginnumbering and followed by  
**\endnumbering**    \endnumbering, like:

```
\beginnumbering
<text>
\endnumbering
```

These have to be separately specified within Leftside and Rightside environments.

The \beginnumbering macro resets the line number to zero, reads an auxiliary file called <jobname>.nn (where <jobname> is the name of the main input file for this job, and nn is 1 for the first numbered section, 2 for the second section, and so on), and then creates a new version of this auxiliary file to collect information during this run. Separate auxiliary files are maintained for right hand texts and these are named <jobname>.nnR, using the ‘R’ to distinguish them from the left hand and serial (non-parallel) texts.

**\memorydump**      The command \memorydump effectively performs an \endnumbering immediately followed by a \beginnumbering while not restarting the numbering sequence. This has the effect of clearing T<sub>E</sub>X’s memory of previous texts and any associated notes, allowing longer apparent streams of parallel texts. The command should be applied to both left and right texts, and after making sure that all previous notes have been output. For example, along the lines of:

```
\begin{pages}
\begin{Leftside}
  \beginnumbering
  ...
\end{Leftside}
\begin{Rightside}
  \beginnumbering
  ...
\end{Rightside}
\end{pages}
\Pages
\begin{pages}
\begin{Leftside}
  \memorydump
  ...
\end{Leftside}
```

```

\begin{Rightside}
  \memorydump
  ...
\end{pages}

```

```

\numberpstarttrue
\numberpstartfalse
  \thepstartL
  \thepstartR
\skipnumbering
\hidenumbering

```

It is possible to insert a number at every `\pstart` command. You must use the `\numberpstarttrue` command to have it. You can stop the numbering with `\numberpstartfalse`. You can redefine the commands `\thepstartL` and `\thepstartR` to change style. The numbering restarts on each `\beginnumbering`.

The command `\skipnumbering` when inserted in a line of parallel text causes the numbering of that particular line to be skipped. This can be useful if you are putting some kind of marker (even if it is only a blank line) between stanzas. Remember, parallel texts must be numbered and this provides a way to slip in an “unnumbered” line. When inserted into a numbered line the macro `\hidenumbering` causes the number for that particular line to be hidden; namely, no line number will print. Note that if you use it in `\stanza`, you must call it at the beginning of the verse.

### 6.3 Line numbering scheme

Within these environments you can designate the line numbering scheme(s) to be used.

### 6.4 Lineation system

```

\firstlinenum
\linenumincrement
\firstsublinenum
\sublinenumincrement

```

Following `\firstlinenum{<num>}` the first line number will be `<num>`, and following `\linenumincrement{<num>}` only every `<num>`th line will have a printed number.

The lineation commands which finish by a `R` apply for right text. The lineation commands which are starred apply for both left and right texts. The lineation command which does not finish by a `R` and who are not starred apply for the left side. **However, these commands apply to right side when they are called inside a left environment. However, such features should not be used any more. The recommended practice is to add all setting commands to the preamble.**

```

\firstlinenum*
\linenumincrement*
\firstsublinenum*
\sublinenumincrement*
  \firstlinenumR
  \linenumincrementR
  \firstsublinenumR
  \sublinenumincrementR
    \lineationR
    \lineation*
  \linenumberstyleR
  \sublinenumberstyleR
  \linenumberstyle*
  \sublinenumberstyle*
    \linenummarginR
    \linenummargin*
  \setRlineflag

```

The starred versions change both left and right numbering schemes.

The suffixed version change the right side, without regard to the position they are called.

`\lineationR` macro is the equivalent of `reledmac \lineation` macro for the right side.

`\lineation*` macro is the equivalent of `reledmac \lineation` macro for both sides.

`\linenumberstyleR` is the equivalent of `reledmac \linenumberstyle` for right text. `\sublinenumberstyleR` is the equivalent of `reledmac \sublinenumberstyle` right text. The starred version are for both side.

`\linenummarginR{<margin>}` sets the line margin for right side. `\linenummargin*{<margin>}` sets for both side. `<margin>` can be, as for `reledmac`’s `\linenummargin` one of these values: left, right, inner, outer. A “R” is appended to the line numbers of the right texts. This may be useful for parallel columns but for parallel pages it might be



more appropriate to redefine it using `\setRlineflag{flag}`. Use `\setRlineflag{}` to empty it.

## 6.5 Chunks

`\pstart`  
`\pend` In a serial (non-parallel) mode, each numbered paragraph, or chunk, is contained between the `\pstart` and `\pend` macros, and the paragraph is output when the `\pend` macro occurs. The situation is somewhat different with parallel typesetting as the left text (contained within `\pstart` and `\pend` groups within the `Leftside` environment) has to be set in parallel with the right text (contained within its own `\pstart` and `\pend` groups within the corresponding `Rightside` environment) the `\pend` macros cannot immediately initiate any typesetting — this has to be controlled by the `\Columns` or `\Pages` macros. Several chunks may be specified within a `Leftside` or `Rightside` environment. A multi-chunk text then looks like:

```
\begin{...side}
% \beginnumbering
\pstart first chunk \pend
\pstart second chunk \pend
...
\pstart last chunk \pend
% \endnumbering
\end{...side}
```

Numbering, via `\beginnumbering` and `\endnumbering`, may extend across several `Leftside` or `Rightside` environments. Remember, though, that the left/right sides are effectively independent of each other.

`\autopar` The `\autopar` macro can be used, instead of manually inserting `\pstart... \pends`. Please read `reledmac`'s handbook (4.2.2 p. 16).

## 6.6 \AtEveryPstart and \AtEveryPstartCall

In general, remember that the moment where a `\pstart` is called is different from the moment when the `\pstart... \pend` content is printed, which is when `\Pages` or `\Columns` is processed.

Consequently:

- The argument of `\AtEveryPstart` (see 4.2.4 p. 17) is called before every chunk is printed, except if you used an optional argument for the `\pstart`.
- The argument of `\AtEveryPstartCall` is called before every `\pstart`.

## 6.7 Language setting

If you are using the `babel` package or the `polyglossia` package, with different languages (via, say, `\selectlanguage`) for the left and right texts it is particularly important to select the appropriate language within the `Leftside` and `Rightside` environments. The initial language selected for the right text is the `babel` package's default.

Also, it is the *last* language setting in a side that controls the language used in any notes for that side when they get printed. If you are using multilingual notes then it is probably safest to explicitly specify the language(s) for each note rather than relying on the language selection for the side. The right side language is also applied to the right side line numbers.

## 7 Verse

If you are typesetting verses with `reledmac` you can use the `\stanza` construct, and you can also use this in right or left parallel texts. In this case each verse line is a chunk which has two implications. (1) you can unexpectedly exceed the `\maxchunks` limit or the overall limit on the number of boxes, and (2) left and right verse lines are matched, which may not be desirable if one side requires more print lines for verse lines than the other does.

`astanza` `reledpar` provides an `astanza` environment which you can use instead of `\stanza`. A `astanza` environment is a chunk. Consequently left and right *verse* are matched, and not, as with standard `\stanza`, left and right *verse lines*.

Within the `astanza` environment each verse line is treated as an individual paragraph, so there must be no blank lines in the environment otherwise there will be some extraneous vertical spacing. To use `astanza`, simply replace `\stanza` by `\begin{astanza}` and add `\end{astanza}` after the ending `\&`.

The difference between `astanza` and `\stanza` is, that the letter syncs verse by verse, while the environment syncs stanza by stanza.

If you get an error message along the lines of ‘Missing number, treated as zero `\szi@00`’ it is because you have forgotten to use `\setstanzaindent` to set the stanza indents.

As `astanza` is a specify type `\pstart... \pend` structure, you can:

- Add optional argument (in brackets) after `\begin{astanza}`, as the optional argument of `\pstart`.
- Use optional argument after the last `\&` as optional argument of `\pend`.

`\sethangingsymbol` Like in `reledmac`, you could use the `\sethangingsymbol` command to insert a character in each hanging line. If you use it, you must run  $\TeX$  two time. Example for the French typography

```
\sethangingsymbol{[,]}
```

You can also use it to force hanging verse to be flush right:

```
\sethangingsymbol{\protect\hfill}
```

When you use `\lednopb` make sure to use it on both sides in the corresponding verses to keep the pages in sync.

`\thestanzaL` `\thestanzaR` When using `\stanzanumtrue` (8.9 p. 44) in parallel typesetting, stanza counter is replaced by `stanzaL` counter in left side and by `stanzaR` counter in right side. Consequently, you can redefine `\thestanzaL` and `\thestanzaR` to change their aspect.

## 8 Side notes

As in `reledmac`, you must use one of the following commands to add side notes: `\ledsidenote`, `\ledleftnote`, `\ledrightnote`, `\ledouterote`, `\ledinnerrote`.

The `\sidenotemargin` defines the margin of the sidenote for either left or right side, depending on the current environment. You can use `\sidenotemargin*` to define it for both sides.

## 9 Parallel ledgroups

### 9.1 General

You can also make parallel ledgroups (see the documentation of `reledmac` about ledgroups, 9 p. 45). To do it you have:

- To load `reledpar` package with the `parledgroup` option, or to add `\parledgrouptrue`.
- To push each ledgroup between `\pstart... \pend` command.

See the following example:

```
\begin{pages}
\begin{Leftside}
\beginnumbering
\pstart
\begin{ledgroup}
ledgroup content
\end{ledgroup}
\pend
\pstart
\begin{ledgroup}
ledgroup content
\end{ledgroup}
\pend
\endnumbering
\end{Leftside}
\begin{Rightside}
\beginnumbering
\pstart
\begin{ledgroup}
ledgroup content
\end{ledgroup}
\pend
\pstart
\begin{ledgroup}
ledgroup content
\end{ledgroup}
\pend
\endnumbering
\end{Rightside}
```

```
\end{pages}
\Pages
```

## 9.2 Parallel ledgroups and setspace package

If you use the `setspace` package and want your notes in parallel ledgroups to be single-spaced (not half-spaced or double-spaced), just add to your preamble:

```
\setparledgroupnotespacing{\singlespacing}
```

*In effect, to have correct spacing, do not change the font size of your notes.*

## 10 Sectioning commands

The standard sectioning commands of `reledmac` are available, and provide parallel sectioning, for both two-column and two-page layout.

`\eledsectnotoc` By default, the section commands of the right side are not added to the table of contents. But you can change it, using `\eledsectnotoc{⟨arg⟩}`, where `⟨arg⟩` could be L (for left side) or R (for right side).

`\eledsectmark` By default, the headers are tokens from the left side. You can change them, using `\eledsectmark{⟨arg⟩}`, where `⟨arg⟩` could be L (for left side) or R (for right side).

## 11 Notes about page number

If you use `sameparallepagenumber` option (5.2.3 p. 12 or `prevpgnotnumbered` option (5.2.5 p. 12), please read the following paragraph if you want to manipulate page numbers manually.

In order to implement these two options, `reledpar` uses its own page counter, called `par@page`. Consequently, if you use at least one of these options:

1. If you modify `\thepage` command, use the value of `par@page` counter inside and not the value of `page` counter.
2. If you want to modify a page number, modify the value of `page` counter AND the value `par@page` counter.

Notes that `reledpar` automatically do it when you use `\frontmatter` and `\mainmatter` commands.

## I Implementation overview

$\TeX$  is designed to process a single stream of text, which may include footnotes, tables, and so on. It just keeps converting its input into a stream typeset pages. It was not designed for typesetting two texts in parallel, where it has to alternate from one to the other. Further,  $\TeX$  essentially processes its input one paragraph at a time — it is very difficult to get at the ‘internals’ of a paragraph such as the individual lines in case you want to number them or put some mark at the start or end of the lines.

`reledmac` solves the problem of line numbering by putting the paragraph in typeset form into a box, and then extracting the lines one by one from the box for  $\TeX$  to put them onto the page with the appropriate page breaks. Most of the `reledmac` code is concerned with handling this box and its contents.

`reledpar`’s solution to the problem of parallel texts is to put the two texts into separate boxes, and then appropriately extract the pairs of lines from the boxes. This involves duplicating much of the original box code for an extra right text box. The other, smaller, part of the code is concerned with coordinating the line extractions from the boxes.

## II Preliminaries

### II.1 Package’s meta-data

Announce the name and version of the package, which is targeted for  $\LaTeX$ 2e. The package also requires the `reledmac` package, however we do not load it automatically, because we prefer users to know it.

```

1 %<*code>
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{reledpar}[2015/12/13 v2.6.3 reledmac extension for
  parallel texts]%
4
5 %
```

### II.2 Package’s requirement

Few commands use `\xspace` command.

```

6 \RequirePackage{xspace}%
7 %
```

### II.3 Package’s options

We use `xkeyval` in order to manage options with arguments.

```

8 \RequirePackage{xkeyval}
9 %
```

## II.4 Package's options

### II.4.1 Synchronization's options

`\@par@this@sync@option` The `\par@sync@option` stores the options of synchronization. It use to ensure these options do not change between two run.

```
10 \def\@par@this@sync@option{%
11 %
```

With the option 'shiftedpstarts' a long pstart on the left side (or on the right side) does not make a blank on the corresponding pstart, but the blank is put on the bottom of the page. Consequently, the pstarts on the parallel pages are shifted, but the shift stops at every end of pages.

```
\ifshiftedpstarts12 \newif\ifshiftedpstarts
13 \DeclareOptionX{shiftedpstarts}{%
14 \shiftedpstartstrue%
15 \apptocmd{\@par@this@sync@option}{shifted}{-}{-}%
16 }%
17 %
```

With the option 'advancedshiftedpstarts' a long pstart on the left side (or on the right side) does not make a blank on the corresponding pstart, but the blank is put on the bottom of the page. Consequently, the pstarts on the parallel pages are shifted, but the shift stops at every end of pages. Differing to shiftedpstarts, the pstart shift are not counted to determine when cutting the page. That could help to avoid page with blank lines at the bottom.

```
\ifshiftedpstarts18 \newif\ifadvancedshiftedpstarts
19 \DeclareOptionX{advancedshiftedpstarts}{%
20 \advancedshiftedpstartstrue%
21 \shiftedpstartstrue%
22 \apptocmd{\@par@this@sync@option}{advancedshifted}{-}{-}%
23 }%
24 %
```

With the option `nomaxlines`, `reledpar` allows facing pages to have not the same number of lines.

```
\ifnomaxlines25 \newif\ifnomaxlines%
26 \DeclareOptionX{nomaxlines}{%
27 \nomaxlinestrue%
28 \apptocmd{\@par@this@sync@option}{nomax}{-}{-}%
29 }%
30 %
```

With the option `nosyncpstarts`, `reledpar` only alternate between left and right side, and does not try to obtain the same number of line in corresponding page.

```

\ifnosyncpstarts%31 \newif\ifnosyncpstarts%
32 \DeclareOptionX{nosyncpstarts}{%
33   \shiftedpstartstrue%
34   \nomaxlinesttrue%
35   \nosyncpstartstrue%
36   \apptocmd{\@par@this@sync@option}{nosync}{-}{-}%
37 }%
38 %

```

#### II.4.2 Other options

The `parledgroup` can be called either on `reledmac` or `reledpar`.

```

39 \DeclareOptionX{parledgroup}{\parledgrouptrue}
40 %

```

`\ifwidthliketwocolumns` The `widthliketwocolumns` option can be called either on `reledmac` or `reledpar`.

```

41 \DeclareOptionX{widthliketwocolumns}{\widthliketwocolumnstrue}%
42 %

```

`\ifsameparallelpagenunder` Options related to page numbering

`\ifprevpgnotnumbered`

```

43 \newif\ifsameparallelpagenunder
44 \newif\ifprevpgnotnumbered
45 \DeclareOptionX{sameparallelpagenunder}{\sameparallelpagenundertrue}
46 \DeclareOptionX{prevpgnotnumbered}{\prevpgnotnumberedtrue}
47 %

```

`\prevpgstyle` We store on `\prevpgstyle` the argument of the option `prevpgstyle`.

```

48 \DeclareOptionX{prevpgstyle}{\gdef\prevpgstyle{#1}}%
49 %

```

```

50 \ProcessOptionsX%
51 %

```

## II.5 Determining side and category of parallel processing

As noted above, much of the code is a duplication of the original `reledmac` code to handle the extra box(es) for the right hand side text, and sometimes for the left hand side as well. In order to distinguish we use ‘R’ or ‘L’ in the names of macros for the right and left code. The specifics of ‘L’ and ‘R’ are normally hidden from the user by letting the `Leftside` and `Rightside` environments set things up appropriately.

`\ifl@dpairing` `\ifl@dpairing` is set TRUE if we are processing parallel texts and `\ifl@dpaging` is also set TRUE if we are doing parallel pages. `\ifledRcol` is set TRUE if we are doing the right hand text. They are defined in `reledmac`.

## II.6 Text's width

`\Lcolwidth` The widths of the left and right parallel columns (or pages).

```
\Rcolwidth
52 \newdimen\Lcolwidth
53 \Lcolwidth=0.45\textwidth
54 \newdimen\Rcolwidth
55 \Rcolwidth=0.45\textwidth
56 %
```

## II.7 Messages

All the error and warning messages are collected here as macros.

```
\reledpar@error57 \newcommand{\reledpar@error}[2]{\PackageError{reledpar}{#1}{#2}}
58 %
```

```
\reledpar@warning59 \newcommand{\reledpar@warning}[1]{\PackageWarning{reledpar}{#1}}%
60 %
```

```
\led@err@TooManyPstarts61 \newcommand*\led@err@TooManyPstarts{%
62 \reledpar@error{Too many \string\pstart\space without printing.
63 Some text will be lost}{\@ehc}}
64 %
```

```
\led@err@BadLeftRightPstarts65 \newcommand*\led@err@BadLeftRightPstarts}[2]{%
66 \reledpar@error{The numbers of left (#1) and right (#2)
67 \string\pstart s do not match}{\@ehc}}
68 %
```

```
\led@err@LeftOnRightPage69 \providebool{syntax@}
\led@err@RightOnLeftPage70 \newcommand*\led@err@LeftOnRightPage{%
71 \notbool{syntax@}%
72 {\reledpar@error{The left page has ended on a right page}{\@ehc}}%
73 {}%
74 }
75 \newcommand*\led@err@RightOnLeftPage{%
76 \notbool{syntax@}%
77 {\reledpar@error{The right page has ended on a left page}{\@ehc}}
78 {}%
79 }%
80 %
```



```

ftside@PreviousNotPrinted81 \newcommand*{\led@err@Leftside@PreviousNotPrinted}{%
htside@PreviousNotPrinted82   \reledpar@error{You call a new Leftside environment while the previous
                                one has not been typeset by \string\Pages\space or \string\Columns}{\@ehc}}
83 \newcommand*{\led@err@Rightside@PreviousNotPrinted}{%
84   \reledpar@error{You call a new Rightside environment while the previous
                                one has not been typeset by \string\Pages\space or \string\Columns}{\@ehc}}
85 %

```

```

\led@err@Pages@InsideEnv86 \newcommand*{\led@err@Pages@InsideEnv}{%
led@err@Columns@InsideEnv87   \reledpar@error{\string\Pages\space must be called *outside* of the `
                                pages` environment}{\@ehc}}
88 \newcommand*{\led@err@Columns@InsideEnv}{%
89   \reledpar@error{\string\Columns\space must be called *outside* of the `
                                pairs` environment}{\@ehc}}
90 %

```

```

\led@err@Pages@WithoutEnv91 \newcommand*{\led@err@Pages@WithoutEnv}{%
led@err@Columns@WithoutEnv92   \reledpar@error{\string\Pages\space called without previous `pages`
                                environment}{\@ehc}}
93 \newcommand*{\led@err@Columns@WithoutEnv}{%
94   \reledpar@error{\string\Columns\space called without previous `pairs`
                                environment}{\@ehc}}
95 %

```

```

@error@fail@patch@thepage96 \newcommand{\led@error@fail@patch@thepage}{%
97   \reledpar@error{Fail to patch \string\@thepage\space command.}{\@ehc}%
98 }%
99 %

```

```

@fail@patch@pagenumbering100 \newcommand{\led@error@fail@patch@pagenumbering}{%
101   \reledpar@error{Fail to patch \string\pagenumbering\space command.}{\@ehc
102 }%
103 }%
104 %

```

```

error@fail@patch@@mempnum104 \newcommand{\led@error@fail@patch@@mempnum}{%
105   \reledpar@error{Fail to patch \string@mempnum\space command.}{\@ehc}%
106 }%
107 %

```

```

or@fail@patch@@outputpage108 \newcommand{\led@error@fail@patch@@outputpage}{%
109   \reledpar@error{Fail to patch \string@outputpage\space command.}{\@ehc}%
110 }%
111 %

```

```

\led@warn@ChangeSyncOption 12 \newcommand*{\led@warn@ChangeSyncOption}[1]{%
113 \reledpar@warning{You have changed synchronization's options since last
run. We have not read line-list file #1. Please run LaTeX again.}%
114 }%
115 %

```

```

\led@warn@setting@in@rightside 16 \newcommand{\led@warn@setting@in@rightside}[1]{%
117 \reledpar@warning{You use #1 inside rightside environment.\MessageBreak%
118 Such behavior is deprecated.\MessageBreak%
119 Use instead #1R or #1* in your preamble.}%
120 }
121 %

```

### III Sectioning commands

`\section@numR` This is the right side equivalent of `\section@num`.

Each section will read and write an associated ‘line-list file’, containing information used to do the numbering. Normally the file will be called `\jobname\section@num.nn`, where `nn` is the section number. However, for right side texts the file is called `\jobname\section@num.nnR`. The `\extensionchars` applies to the right side files just as it does to the normal files.

```

122 \newcount\section@numR
123 \section@numR=\z@
124 %

```

`\ifpst@rtedL` `\ifpst@rtedL` is set FALSE at the start of left side numbering, and similarly for `\ifpst@rtedR`. `\ifpst@rtedL` is defined in `reledmac`.

```

125 \pst@rtedLfalse
126 \newif\ifpst@rtedR
127
128 %

```

`\beginnumberingR` This is the right text equivalent of `\beginnumbering`, and begins a section of numbered text.

```

129 \newcommand*{\beginnumberingR}{%
130 \ifnumberingR
131 \led@err@NumberingStarted
132 \endnumberingR
133 \fi
134 \global\l@dnumpstartsR \z@
135 \global\pst@rtedRfalse
136 \global\numberingRtrue
137 \global\advance\section@numR \@ne
138 \global\absline@numR \z@

```

`\endnumberingR` This is the right text equivalent of `\endnumbering` and must follow the last text for a right text numbered section.

```

161 \def\endnumberingR{%
162   \ifnumberingR
163     \global\numberingRfalse
164     \normal@pars
165     \ifnum\l@dnumstartR=0%
166       \led@err@NumberingWithoutPstart%
167     \fi%
168     \ifl@dpairing
169       \global\pst@rtedRfalse
170     \else
171       \ifx\insertlines@listR\empty\else
172         \global\noteschanged@true
173       \fi
174       \ifx\line@listR\empty\else
175         \global\noteschanged@true
176       \fi
177     \fi
178   \ifnoteschanged@

```

```

179     \led@mess@NotesChanged
180     \fi
181     \else
182     \led@err@NumberingNotStarted
183     \fi
184     \endgroup
185     \if@noeled@sec\else%
186     \immediate\closeout\eled@sectioningR@out%
187     \fi%
188   }
189
190 %

```

`\initnumbering@sectcountR` We do not want the right side section commands to be numbered after the left side ones, instead we want them numbered after which is typeset before the pages or columns environments. we switch the  $\LaTeX$  counter in `\numberingR`.

`\save@section@number`

`\set@sectcountR`

```

191 \newcounter{chapterR}
192 \newcounter{sectionR}
193 \newcounter{subsectionR}
194 \newcounter{subsubsectionR}
195
196 \newcount\old@chapter%
197 \newcount\old@section%
198 \newcount\old@subsection%
199 \newcount\old@subsubsection%
200 \newcommand{\save@section@number}{%
201   \ifdefined\c@chapter%
202     \global\old@chapter\value{chapter}%
203   \fi%
204   \global\old@section\value{section}%
205   \global\old@subsection\value{subsection}%
206   \global\old@subsubsection\value{subsubsection}%
207 }%
208 \newcommand{\initnumbering@sectcountR}{%
209   \ifdefined\c@chapter%
210     \setcounter{chapterR}{\old@chapter}%
211   \fi%
212   \setcounter{sectionR}{\old@section}%
213   \setcounter{subsectionR}{\old@subsection}%
214   \setcounter{subsubsectionR}{\old@subsubsection}%
215   \set@sectcountR%
216 }
217 \newcommand{\set@sectcountR}{%
218   \let\c@chapter\c@chapterR%
219   \let\c@section\c@sectionR%
220   \let\c@subsection\c@subsectionR%
221   \let\c@subsubsection\c@subsubsectionR%
222 }%
223 %

```

`\pausenumberingR` These are the right text equivalents of `\pausenumbering` and `\resumenumbering`.  
`\resumenumberingR`

```

224 \newcommand*{\pausenumberingR}{%
225   \endnumberingR\global\numberingRtrue}
226 \newcommand*{\resumenumberingR}{%
227   \ifnumberingR
228     \global\pst@rtedRtrue
229     \global\advance\section@numR \@ne
230     \led@mess@SectionContinued{\the\section@numR R}%
231     \line@list@stuffR{\jobname.\extensionchars\the\section@numR R}%
232     \l@dend@stuff
233     \begingroup%
234     \initnumbering@sectcountR%
235   \else
236     \led@err@numberingShouldHaveStarted
237     \endnumberingR
238     \beginnumberingR
239   \fi}
240
241 %

```

`\memorydumpL` `\memorydump` is a shorthand for `\pausenumbering\resumenumbering`. This will clear  
`\memorydumpR` the memorised stuff for the previous chunks while keeping the numbering going.

```

242 \newcommand*{\memorydumpL}{%
243   \endnumbering
244   \numberingtrue
245   \global\pst@rtedLtrue
246   \global\advance\section@num \@ne
247   \led@mess@SectionContinued{\the\section@num}%
248   \line@list@stuff{\jobname.\extensionchars\the\section@num}%
249   \l@dend@stuff}
250
251 \newcommand*{\memorydumpR}{%
252   \endnumberingR
253   \numberingRtrue
254   \global\pst@rtedRtrue
255   \global\advance\section@numR \@ne
256   \led@mess@SectionContinued{\the\section@numR R}%
257   \line@list@stuffR{\jobname.\extensionchars\the\section@numR R}%
258   \l@dend@stuff}
259
260 %

```

## IV Line counting

### IV.1 Setting lineation reset

Sometimes you want line numbers that start at 1 at the top of each page; sometimes you want line numbers that start at 1 at each `\pstart`; other times you want line numbers that start at 1 at the start of each section and increase regardless of page breaks. `reledpar` lets you choose different schemes for the left and right texts.

`\lineationR` `\lineationR{<word>}` is the macro used to select the lineation system for right texts. Its argument is a string: either `page`, `pstart` or `section`.

```

261 \newcommand*{\lineationR}[1]{%
262   \ifnumbering
263     \led@err@LineationInNumbered
264   \else
265     \def\@tempa{#1}\def\@tempb{page}%
266     \ifx\@tempa\@tempb
267       \global\bypage@Rtrue
268       \global\bypstart@Rfalse
269       \unless\ifnocritical@%
270         \Xpstart[] [false]%
271       \fi%
272     \else
273       \def\@tempb{pstart}%
274       \ifx\@tempa\@tempb
275         \global\bypage@Rfalse
276         \global\bypstart@Rtrue
277         \unless\ifnocritical@%
278           \Xpstart%
279         \fi%
280       \else
281         \def\@tempb{section}
282         \ifx\@tempa\@tempb
283           \global\bypage@Rfalse%
284           \global\bypstart@Rfalse%
285           \unless\ifnocritical@%
286             \Xpstart[] [false]%
287           \fi%
288         \else
289           \led@warn@BadLineation
290         \fi%
291       \fi
292     \fi
293   \fi}}
294 %

```

`\lineation*` `\lineation*` change the lineation system for both sides.

```

295 \WithSuffix\newcommand\lineation*[1]{%

```

```

296 \lineation{#1}%
297 \lineationR{#1}%
298 }%
299 %

```

## IV.2 Setting line number margin

`\linenummargin` You call `\linenummargin{<word>}` to specify which margin you want your right text's line numbers in; it takes one argument, a string. You can put the line numbers in the same margin on every page using `left` or `right`; or you can use `inner` or `outer` to get them in the inner or outer margins. You can change this within a numbered section, but the change may not take effect just when you would like; if it is done between paragraphs nothing surprising should happen.

For right texts the selection is recorded in the count `\line@marginR`, otherwise in the count `\line@margin`: 0 for left, 1 for right, 2 for outer, and 3 for inner.

It is defined only once time, in `reledmac`.

```

300 \newcount\line@marginR
301 %

```

By default put right text numbers at the right.

```

302 \line@marginR=\@ne
303
304 %

```

`\linenummarginR` `\linenummarginR` applies directly for right side, while `\linenummargin*` applies for both side.

```

305 \newcommand{\linenummarginR}[1]{%
306   \l@getline@margin{#1}%
307   \ifnum\@l@tempcntb>\m@ne%
308     \global\line@marginR=\@l@tempcntb%
309   \fi%
310 }
311 \WithSuffix\newcommand\linenummargin*[1]{%
312   \l@getline@margin{#1}%
313   \ifnum\@l@tempcntb>\m@ne%
314     \global\line@marginR=\@l@tempcntb%
315     \global\line@margin=\@l@tempcntb%
316   \fi%
317 }
318 %

```

## IV.3 Setting lineation start and step

`\c@firstlinenumR` The following counters tell `reledmac` which right text lines should be printed with line numbers. `firstlinenumR` is the number of the first line in each section that gets a number; `linenumincrementR` is the difference between successive numbered lines. The ini-

tial values of these counters produce labels on lines 5, 10, 15, etc. `linenumincrementR` must be at least 1.

```

319 \newcounter{firstlinenumR}
320 \setcounter{firstlinenumR}{5}
321 \newcounter{linenumincrementR}
322 \setcounter{linenumincrementR}{5}
323 %

```

`\c@firstsublinenumR` The following parameters are just like `firstlinenumR` and `linenumincrementR`, but  
`\c@sublinenumincrementR` for sub-line numbers. `sublinenumincrementR` must be at least 1.

```

324 \newcounter{firstsublinenumR}
325 \setcounter{firstsublinenumR}{5}
326 \newcounter{sublinenumincrementR}
327 \setcounter{sublinenumincrementR}{5}
328
329 %

```

`\firstlinenum` These are the user's macros for changing (sub) line numbers. They are defined in  
`\linenumincrement` `reledmac`. The starred versions are specific to `eledpar`.

```

\firstsublinenum
\sublinenumincrement
\firstlinenum*
\linenumincrement*
\firstsublinenum*
\sublinenumincrement*
330 \WithSuffix\newcommand\firstlinenum*[1]{%
331 \setcounter{firstlinenumR}{#1}%
332 \setcounter{firstlinenum}{#1}%
333 }
334 \WithSuffix\newcommand\linenumincrement*[1]{%
335 \setcounter{linenumincrementR}{#1}%
336 \setcounter{linenumincrement}{#1}%
337 }
338 \WithSuffix\newcommand\firstsublinenum*[1]{%
339 \setcounter{subfirstlinenumR}{#1}%
340 \setcounter{subfirstlinenum}{#1}%
341 }
342 \WithSuffix\newcommand\sublinenumincrement*[1]{%
343 \setcounter{sublinenumincrementR}{#1}%
344 \setcounter{sublinenumincrement}{#1}%
345 }
346 %

```

`\firstlinenumR` And the 'R' suffixed version.

```

\linenumincrementR
\firstsublinenumR
\sublinenumincrementR
347 \newcommand\firstlinenumR[1]{%
348 \setcounter{firstlinenumR}{#1}%
349 }
350 \newcommand\linenumincrementR[1]{%
351 \setcounter{linenumincrementR}{#1}%
352 }
353 \newcommand\firstsublinenumR[1]{%
354 \setcounter{subfirstlinenumR}{#1}%

```



```

355 }
356 \newcommand\sublinenumincrementR[1]{%
357   \setcounter{sublinenumincrementR}{#1}%
358 }
359 %

```

## IV.4 Setting line flag

**\Rlineflag** This is appended to the line numbers of right text.

```

360 \newcommand{\setRlineflag}[1]{%
361   \gdef\Rlineflag{#1}%
362 }
363 \setRlineflag{R}
364 %

```

## IV.5 Setting line number style

**\linenumrepR** **\sublinenumrepR**  $\langle ctr \rangle$  typesets the right line number  $\langle ctr \rangle$ , and similarly **\sublinenumrepR** for subline numbers.

```

365 \newcommand*\linenumrepR[1]{\@arabic{#1}}
366 \newcommand*\sublinenumrepR[1]{\@arabic{#1}}
367
368 %

```

**\linenumberstyleR** **\sublinenumberstyleR** The style can be changed by some user level command

```

369 \newcommand*\linenumberstyleR[1]{%
370   \def\linenumrepR##1{\@nameuse{@#1}{##1}}
371 \newcommand*\sublinenumberstyleR[1]{%
372   \def\sublinenumrepR##1{\@nameuse{@#1}{##1}}
373 %

```

**\linenumberstyle\*** **\sublinenumberstyle\*** And for both side.

```

374 \WithSuffix\newcommand\linenumberstyle*[1]{%
375   \linenumberstyle{#1}%
376   \linenumberstyleR{#1}%
377 }%
378
379 \WithSuffix\newcommand\sublinenumberstyle*[1]{%
380   \sublinenumberstyle{#1}%
381   \sublinenumberstyleR{#1}%
382 }%
383 %
384 %

```

## IV.6 Print marginal line number

`\leftlinenumR` `\leftlinenumR` and `\rightlinenumR` are the macros that are called to print the right text's marginal line numbers. Much of the code for these is common and is maintained in `\l@dlinenumR`.

```

385 \newcommand*{\leftlinenumR}{%
386   \l@dlinenumR
387   \kern\linenumsep}
388 \newcommand*{\rightlinenumR}{%
389   \kern\linenumsep
390   \l@dlinenumR}
391 \newcommand*{\l@dlinenumR}{%
392   \numlabfont\linenumrepR{\line@numR}\@Rlineflag%
393   \ifsublines@
394     \ifnum\subline@num>\z@
395       \unskip\fullstop\sublinenumrepR{\subline@numR}%
396     \fi
397   \fi}
398
399 %

```

## IV.7 Line-number counters and lists

### IV.7.1 Correspond to those in `reledmac` for regular or left text

We need another set of counters and lists for the right text, corresponding to those in `reledpar` for regular or left text.

`\line@numR` The count `\line@numR` stores the line number that is used in the right text's marginal line numbering and in notes. The count `\subline@numR` stores a sub-line number that qualifies `\line@numR`. The count `\absline@numR` stores the absolute number of lines since the start of the right text section: that is, the number we have actually printed, no matter what numbers we attached to them.

```

400 \newcount\line@numR
401 \newcount\subline@numR
402 \newcount\absline@numR
403
404 %

```

`\line@listR` `\line@listR` Now we can define the list macros that will be created from the line-list file. They are directly analogous to the left text ones. The full list of action codes and their meanings is given in the `reledmac` manual.

`\insertlines@listR` `\insertlines@listR` Here are the commands to create these lists:

`\actionlines@listR` `\actionlines@listR`

`\actions@listR` `\actions@listR`

```

405 \list@create{\line@listR}
406 \list@create{\insertlines@listR}
407 \list@create{\actionlines@listR}
408 \list@create{\actions@listR}

```

```
409
410 %
```

`\page@numR` The right text page number.

```
411 \newcount\page@numR
412
413 %
```

#### IV.7.2 Specific to reledpar

`\linesinpar@listL` In order to synchronise left and right chunks in parallel processing we need to know how many lines are in each left and right text chunk, and the maximum of these for each pair of chunks.

`\linesinpar@listR`

`\maxlinesinpar@list`

```
414 \list@create{\linesinpar@listL}
415 \list@create{\linesinpar@listR}
416 \list@create{\maxlinesinpar@list}
417
418 %
```

### IV.8 Reading the line-list file

`\list@clearing@regR` \Clear the right lines for \read@linelist

```
419 \newcommand{\list@clearing@regR}{%
420   \list@clear{\line@listR}%
421   \list@clear{\insertlines@listR}%
422   \list@clear{\actionlines@listR}%
423   \list@clear{\actions@listR}%
424   \list@clear{\linesinpar@listR}%
425   \list@clear{\linesonpage@listR}
426 }
427 %
```

`\@par@sync@option` When typesetting parallel pages, `\@par@sync@option` check if we have changed the synchronization's option since the last run. If true, we just not read the numbered file.

```
428 \newcommand{\@par@sync@option}[1]{%
429   \IfStrEq{#1}{\@par@this@sync@option}%
430   {}%
431   {\ifledRcol%
432     \led@warn@ChangeSyncOption{\jobname.\extensionchars\the\section@num}
433   }%
434   \else%
435     \led@warn@ChangeSyncOption{\jobname.\extensionchars\the\section@num}
436   }%
437   \fi%
438   \endinput%
```

```

437 }%
438 }%
439 %

```

`\read@linelist` `\read@linelist{⟨file⟩}` is the control sequence that is called by `\beginnumbering` (via `\line@list@stuff`) to open and process a line-list file; its argument is the name of the file. . It is defined only once time in `reledmac`.

## IV.9 Commands within the line-list file

This section defines the commands that can appear within a line-list file, except for `\@lab` which is in a later section among the cross-referencing commands it is associated with.

The macros with `action` in their names contain all the code that modifies the action-code list.

`\@nl@regR` `\@nl@regR` is called by `\@nl` if we are on a right side. It does everything related to the start of a new line of numbered text on a right side.

```

440 \newcommand{\@nl@regR}{%
441   \ifx\l@dchset@num\relax \else
442     \advance\absline@numR \@ne
443     \set@line@action
444     \let\l@dchset@num\relax
445     \advance\absline@numR \m@ne
446     \advance\line@numR \m@ne%    % do we need this?
447   \fi
448   \advance\absline@numR \@ne
449   \ifx\next@page@numR\relax \else
450     \page@action
451     \let\next@page@numR\relax
452   \fi
453   \ifx\sub@change\relax \else
454     \ifnum\sub@change>\z@
455       \sublines@true
456     \else
457       \sublines@false
458     \fi
459     \sub@action
460     \let\sub@change\relax
461   \fi
462   \ifcase\@lockR
463   \or
464     \@lockR \tw@
465   \or\or
466     \@lockR \z@
467   \fi
468   \ifcase\sub@lockR
469   \or

```

```

470 \sub@lockR \tw@
471 \or\or
472 \sub@lockR \z@
473 \fi
474 \ifsublines@
475 \ifnum\sub@lockR<\tw@
476 \advance\subline@numR \@ne
477 \fi
478 \else
479 \ifnum\@lockR<\tw@
480 \advance\line@numR \@ne \subline@numR \z@
481 \fi
482 \fi}
483
484
485 %

```

`\last@page@numR` `\last@page@numR` store the page number of the last right page. It is modified by `\fix@page` `\fix@page`, defined by `reledmac`.

```

486 \newcount\last@page@numR
487 \last@page@numR=-10000
488
489 %

```

`\@adv` The `\@adv{<num>}` macro advances the current visible line number by the amount specified as its argument. This is used to implement `\advanceline`. It is defined in `reledmac`.

`\@set` The `\@set{<num>}` macro sets the current visible line number to the value specified as its argument. This is used to implement `\setline`. It is defined in `reledmac`.

`\l@d@set` The `\l@d@set{<num>}` macro sets the line number for the next `\pstart...` to the value specified as its argument. This is used to implement `\setlinenum`. It is defined in `reledmac`.

`\page@action` `\page@action` adds an entry to the action-code list to change the page number. It is defined in `reledmac`.

`\set@line@action` `\set@line@action` adds an entry to the action-code list to change the visible line number. It is defined in `reledmac`.

`\sub@action` `\sub@action` adds an entry to the action-code list to turn sub-lineation on or off, according to the current value of the `\ifsublines@` flag. It is defined in `reledmac`.

`\do@lockon` `\lock@on` adds an entry to the action-code list to turn line number locking on. The current setting of the sub-lineation flag tells us whether this applies to line numbers or sub-line numbers. It is defined in `reledmac`, however the code specific to right side is defined here, in `\do@lockonR`.

```

490 \newcount\@lockR
491 \newcount\sub@lockR
492
493 \newcommand*\do@lockonR}{%
494   \xright@appenditem{\the\absline@numR}\to\actionlines@listR
495   \ifsublines@
496     \xright@appenditem{-1005}\to\actions@listR
497     \ifnum\sub@lockR=\z@
498       \sub@lockR \@ne
499     \else
500       \ifnum\sub@lockR=\thr@@
501         \sub@lockR \@ne
502       \fi
503     \fi
504   \else
505     \xright@appenditem{-1003}\to\actions@listR
506     \ifnum\@lockR=\z@
507       \@lockR \@ne
508     \else
509       \ifnum\@lockR=\thr@@
510         \@lockR \@ne
511       \fi
512     \fi
513   \fi}
514
515 %

```

`\lock@off` `\lock@off` adds an entry to the action-code list to turn line number locking off. It is defined in `reledmac`, however the code specific to right side is defined here, in `\do@lockoff` `\do@lockoffR`. `\do@lockoffR` `\do@lockoffR`.

```

516 \skip@lockoff
517
518 \newcommand*\do@lockoffR}{%
519   \xright@appenditem{\the\absline@numR}\to\actionlines@listR
520   \ifsublines@
521     \xright@appenditem{-1006}\to\actions@listR
522     \ifnum\sub@lockR=\tw@
523       \sub@lockR \thr@@
524     \else
525       \sub@lockR \z@
526     \fi
527   \else
528     \xright@appenditem{-1004}\to\actions@listR
529     \ifnum\@lockR=\tw@
530       \@lockR \thr@@
531     \else
532       \@lockR \z@
533     \fi
534   \fi}

```

```

535
536
537 %

```

`\n@num`

`\@ref` marks the start of a passage, for creation of a footnote reference. It takes two arguments:

`\@ref@regR`

`\insert@countR`

- #1, the number of entries to add to `\insertlines@list` for this reference. This value for right text, here and within `\edtext`, which computes it and writes it to the line-list file, will be stored in the count `\insert@countR`.

```

538 \newcount\insert@countR
539 %

```

- #2, a sequence of other line-list-file commands, executed to determine the ending line-number. This may also include other `\@ref` commands, corresponding to uses of `\edtext` within the first argument of another instance of `\edtext`.

`\@ref` itself is defined in `reledmac`. It calls `\ref@reg` or `\ref@regR`, depending whether we are in left or right side. Here, we define only `\ref@regR`, `\ref@reg` is already defined in `reledmac`.

The first thing `\@ref@regR` itself does is to add the specified number of items to the `\insertlines@listR` list.

```

540 \newcommand*{\@ref@regR}[2]{%
541   \global\advance\@edtext@level by 1%
542   \global\insert@countR=#1\relax
543   \loop\ifnum\insert@countR>\z@
544     \xright@appenditem{\the\absline@numR}\to\insertlines@listR
545     \global\advance\insert@countR \m@ne
546   \repeat
547 %

```

Next, process the second argument to determine the page and line numbers for the end of this lemma. We temporarily equate `\@ref` to a different macro that just executes its argument, so that nested `\@ref` commands are just skipped this time. Some other macros need to be temporarily redefined to suppress their action.

```

548 \begingroup
549   \let\@ref=\dummy@ref
550   \let\@lopR\@gobble
551   \let\page@action=\relax
552   \let\sub@action=\relax
553   \let\set@line@action=\relax
554   \let\@lab=\relax
555   \let\@lemma=\relax
556   \let\@sw\@gobblethree%
557   #2

```

```

558 \global\endpage@num=\page@numR
559 \global\endline@num=\line@numR
560 \global\endsubline@num=\subline@numR
561 \endgroup
562 %

```

Now store all the information about the location of the lemma's start and end in `\line@list@R`.

```

563 \xright@appenditem%
564   {\the\page@numR|\the\line@numR|}%
565   \ifsublines@ \the\subline@numR \else 0\fi|}%
566   \the\endpage@num|\the\endline@num|}%
567   \ifsublines@ \the\endsubline@num \else 0\fi}\to\line@listR
568 %

```

Create a list which will store all the second argument of each `\@sw` in this lemma, at this level.

```

569 \expandafter\list@create\expandafter{\csname sw@list@edtext@tmp@\the\
@edtext@level\endcsname}%
570 %

```

Declare and init boolean for lemma in this level.

```

571 \providebool{lemmacommand@\the\@edtext@level}%
572 \boolfalse{lemmacommand@\the\@edtext@level}%
573 %

```

Execute the second argument of `\@ref` again, to perform for real all the commands within it.

```

574 #2
575 % Now, we store the list of \protect\cs{@sw} of this current \protect\cs{
edtext} as an element of
576 % the global list of list of \protect\cs{@sw} for a \protect\cs{edtext}
depth.
577 % \begin{macrocode}
578 \ifnum\@edtext@level>0%
579 \def\create@this@edtext@level{\expandafter\list@create\expandafter{
csname sw@list@edtextR@\the\@edtext@level\endcsname}}%
580 \ifcsundef{sw@list@edtextR@\the\@edtext@level}{\
create@this@edtext@level}{}%
581 \letcs{\@tmp}{sw@list@edtextR@\the\@edtext@level}%
582 \letcs{\@tmpp}{sw@list@edtext@tmp@\the\@edtext@level}%
583 \xright@appenditem{\expandonce\@tmpp}\to\@tmp%
584 \global\cslet{sw@list@edtextR@\the\@edtext@level}{\@tmp}%
585 \fi%
586 %

```

Decrease edtext level counter.

```

587 \global\advance\@edtext@level by -1%
588 }
589 %

```



**\@pend**    \@pend{<num>} adds its argument to the \linesinpar@listL list, and analogously  
**\@pendR**    for \@pendR. If needed, it resets line number. Both are defined in reledmac, but they  
 are empty. They are really defined only in reledpar.

```

590 \renewcommand*{\@pend}[1]{%
591   \ifbypstart@global\line@num=0\fi%
592   \xright@appenditem{#1}\to\linesinpar@listL}
593 \renewcommand*{\@pendR}[1]{%
594   \ifbypstart@R\global\line@numR=0\fi
595   \xright@appenditem{#1}\to\linesinpar@listR}
596
597 %

```

**\@pstart**    \@pstart and cs@pstartR allows us to know, when using \nomaxlines option in which  
**\@pstartR**    page we should start a pstart, and also how many empty lines we should let before  
 starting this pstart at the beginning of the page

```

598 \newcommand{\@pstart}[3]{%
599   \ifcsdef{minpage@pstart@#1}%
600     {\ifnumgreater{#2}{\csuse{minpage@pstart@#1}}%
601       {\csnumgdef{minpage@pstart@#1}{#2}}%
602       {}%
603     }%
604     {\csnumgdef{minpage@pstart@#1}{#2}}
605   \csnumgdef{afterlines@pstart@#1L}{#3}%
606   }%
607
608 \newcommand{\@pstartR}[3]{%
609   \numdef{\@tmp}{#2-1}%Because we have not to know in which page the pstart
610   \ifcsdef{minpage@pstart@#1}%
611     {\ifnumgreater{\@tmp}{\csuse{minpage@pstart@#1}}%
612       {\csnumgdef{minpage@pstart@#1}{\@tmp}}%
613       {}%
614     }%
615     {\csnumgdef{minpage@pstart@#1}{\@tmp}}
616   \csnumgdef{afterlines@pstart@#1R}{#3}%
617   }%
618 %

```

**\@lopL**    \@lopL{<num>} adds its argument to the \linesonpage@listL list, and analogously  
**\@lopR**    for \@lopR. Both are defined in reledmac, but they are empty. They are really defined  
 only in reledpar.

```

619 \renewcommand*{\@lopL}[1]{%
620   \xright@appenditem{#1}\to\linesonpage@listL}
621 \renewcommand*{\@lopR}[1]{%
622   \xright@appenditem{#1}\to\linesonpage@listR}
623
624 %

```

## IV.10 Writing to the line-list file

We have now defined all the counters, lists, and commands involved in reading the line-list file at the start of a section. Now we will cover the commands that `reledmac` uses within the text of a section to write commands out to the line-list.

`\linenum@outR` The file for right texts will be opened on output stream `\linenum@outR`.

```
625 \newwrite\linenum@outR
626 %
```

`\iffirst@linenum@out@R` Once any file is opened on this stream, we keep it open forever, or else switch to another file that we keep open.

```
\first@linenum@out@Rtrue
\first@linenum@out@Rfalse
627 \newif\iffirst@linenum@out@R
628 \first@linenum@out@Rtrue
629 %
```

`\line@list@stuffR` This is the right text version of the `\line@list@stuff{<file>}` macro. It is called by `\beginnumberingR` and performs all the line-list operations needed at the start of a section. Its argument is the name of the line-list file.

```
630 \newcommand*{\line@list@stuffR}[1]{%
631   \read@linelist{#1}%
632   \iffirst@linenum@out@R
633     \immediate\closeout\linenum@outR
634     \global\first@linenum@out@Rfalse
635     \immediate\openout\linenum@outR=#1
636     \immediate\write\linenum@outR{\string\line@list@version{\
this@line@list@version}}}%
637     \ifl@dpaging%
638       \immediate\write\linenum@outR{\string\@par@sync@option{\
@par@this@sync@option}}}%
639     \fi%
640   \else
641     \if@minipage%
642       \leavevmode%
643     \fi%
644     \closeout\linenum@outR%
645     \openout\linenum@outR=#1%
646   \fi}
647
648 %
```

`\new@lineL` The `\new@lineL` macro sends the `\@nl` command to the left text line-list file, to mark the start of a new text line.

```
649 \newcommand*{\new@lineL}{%
650   \write\linenum@out{\string\@nl[\the\c@page][\thepage]]}
651 %
```

`\new@lineR` The `\new@lineR` macro sends the `\@nl` command to the right text line-list file, to mark the start of a new text line.

```

652 \newcommand*{\new@lineR}{\%
653   \write\linenum@outR{\string\@nl[\the\c@page][\thepage]}}
654 \%

```

`\flag@start` We enclose a lemma marked by `\edtext` in `\flag@start` and `\flag@end`: these send the `\@ref` command to the line-list file. They are both defined in `reledmac`.

`\startsub` `\endsub` `\startsub` and `\endsub` turn sub-lineation on and off, by writing appropriate instructions to the line-list file. There are both defined in `reledmac`.

`\advanceline` You can use `\advanceline{<num>}` in running text to advance the current visible line-number by a specified value, positive or negative. It is defined in `reledmac`.

`\setline` You can use `\setline{<num>}` in running text (i.e., within `\pstart... \pend`) to set the current visible line-number to a specified positive value. It is defined in `reledmac`.

`\setlinenum` You can use `\setlinenum{<num>}` before a `\pstart` to set the visible line-number to a specified positive value. It writes a `\l@d@set` command to the line-list file. It is defined in `reledmac`.

`\startlock` `\endlock` You can use `\startlock` or `\endlock` in running text to start or end line number locking at the current line. They decide whether line numbers or sub-line numbers are affected, depending on the current state of the sub-lineation flags. They are defined in `reledmac`.

`\skipnumbering`

## V Marking text for notes

The `\edtext` macro is used to create all footnotes and endnotes, as well as to print the portion of the main text to which a given note or notes is keyed. The idea is to have that lemma appear only once in the `.tex` file: all instances of it in the main text and in the notes are copied from that one appearance.

`\critext`  
`\edtext`  
`\set@line` The `\set@line` macro is called by `\edtext` to put the line-reference field and font specifier for the current block of text into `\l@d@nums`. It is defined in `reledmac`.

### V.1 Specific hooks and commands for notes

The `reledmac \newseries@` initializes commands which are linked to notes series. However, to keep `reledmac` as light as possible, it does not define commands which are specific to `reledpar`. This is what does `\newseries@par`. The specific hooks are also defined here.

```
\newseries@par 655 \newcommand{\newseries@par}[1]{%
656 %
```

### V.1.1 Notes to be printed on one side only

`reledpar` allows notes to be printed on one side only. We need to declare these options. We also need boolean flags, and to set them to true when a note series is not printed on one side. We check the `nofamiliar` and `nocritical` `Eledmac` options.

```
657 \unless\ifnofamiliar@%
658 \csgdef{onlysideX@#1}{}%
659 \global\newbool{keepforsideX@#1}%
660 \fi%
661 \unless\ifnocritical@%
662 \global\newbool{keepforXside@#1}%
663 \csgdef{Xonlyside@#1}{}%
664 \fi%
665 %
```

## V.2 Tools specific to familiar footnotes

```
666 \unless\ifnofamiliar@%
667 %
```

### V.2.1 Managing correct number

One problem with using familiar footnotes in parallel typesetting is the fact that the order of reading notes is not the same as the order they are typeset, because  $\LaTeX$  reads first all the notes on one side, then all the notes on the other side. Then, however,  $\LaTeX$  alternates between typesetting left-side note and right-side notes. Consequently, if we do nothing special, the note numbers are sorted in the reading order, not in the typesetting order. So we could obtain something like 1,3,2,5,4.

To prevent this problem, we use a two new counters by series. Every note, in parallel typesetting, has three associated counters.

1. A  $\LaTeX$  counter `footnoteX`. This the only one manipulated by user, and the only one finally printed.
2. A  $\TeX$  counter `footnoteX@reading`. Its value is incremented when reading the `\footnoteX` command in left or right side environments. It is used to get the correct footnote number from the `.aux` file to be typeset in the main text. This counter is already defined in `reledmac`, as it is also used for hyperlink.
3. A  $\LaTeX$  counter `footnoteX@typeset`. Its value is increased when inserting footnotes. Its files to be used on the next run for the main text.

So here, we only defined the new counter.

```
668 \newcounter{footnote#1@typeset}%
669 %
```

### V.2.2 Familiar footnotes without marks

The `\footnoteXnomk` commands are for notes which are printed on the left side, while they are called in the right side. Basically, they set first toggle `\nomark@` to true, then call the `\footnoteX`. and finally add the footnote counter in the footnote counter list.

First, check the `nofamiliar` option of `reledmac`.

So declare the list.

```
670 \expandafter\list@create\csname footnote#1@mk\endcsname%
671 %
```

Then, declare the `\footnoteXnomk` command.

```
672 \expandafter\newcommand\csname footnote#1nomk\endcsname[1]{%
673 %
```

First step: just call the normal `\footnoteX`, saying that we do not want to print the mark.

```
674 \toggletrue{nomk@}%
675 \csuse{footnote#1}{##1}%
676 \togglefalse{nomk@}%
677 %
```

Second, and last, step: store the footnote counter in the footnote counters list. We use some `\let`, because `\xright@appenditem` is difficult to use with `\expandafter`.

```
678 \letcs{\@tmp}{footnote#1@mk}%
679 \numdef\@tmpa{\csuse{c@footnote#1}}%
680 \global\xright@appenditem{\@tmpa}\to\@tmp%
681 \global\cslet{footnote#1@mk}{\@tmp}%
682 }%
683 %
```

Then, declare the command which inserts the footnotemark in the right side.

```
684 \expandafter\newcommand\csname footnote#1mk\endcsname{%
685 %
```

Get the first element of the footnote mark list. As `\gl@p` is difficult to use with dynamic name macro, we use `\let` commands.

```
686 \letcs{\@tmp}{footnote#1@mk}%
687 \gl@p\@tmp\to\@tmpa%
688 \global\cslet{footnote#1@mk}{\@tmp}%
689 %
```

Set the `footnotecounter` with it. For the sake of security, we make a backup of the previous value.

```
690 \letcs{\old@footnote}{c@footnote#1}%
691 \setcounter{footnote#1}{\@tmpa}%
692 %
```

Define the footnote mark and print it

```

693 \protected@csxdef{@thefnmark#1}{\csuse{thefootnote#1}}%
694 \csuse{@footnotemark#1}%
695 %

```

Restore previous footnote counter and finally add space.

```

696 \setcounter{footnote#1}{\old@footnote}%
697 \xspace%
698 }%
699 %

```

End of tools specific to familiar notes.

```

700 \fi
701 %

```

End of \newseries@par.

```

702 }%
703 %

```

### V.2.3 Get correct footnote number

`\get@familiarfootnote@number`  
`\save@familiarfootnote@number`

As users can insert footnotes between two \Pairs or \Pages commands, we have to set the \+footnoteX@typeset+ counter to the last value of the footnoteX counter at the beginning of these two commands.

```

704 \newcommand{\save@familiarfootnote@number}{%
705 \unless\ifnofamiliar@%
706 \def\do##1{\csxdef{saved@footnote##1}{\the\csname c@footnote##1\endcsname}}%
707 \dolistloop{\@series}%
708 \fi%
709 \xdef\saved@footnote{\the\c@footnote}%
710 }
711 \newcommand{\get@familiarfootnote@number}{%
712 \unless\ifnofamiliar@%
713 \def\do##1{\setcounter{footnote##1@typeset}{\csuse{saved@footnote##1}}}
714 %
715 \dolistloop{\@series}%
716 \fi%
717 \setcounter{footnote@typeset}{\saved@footnote}%
718 }
719 %

```

## V.3 Create hooks

Read the reledmac code handbook about \newhookcommand@series. Here, we create hooks which are specific to reledpar.

```

719 \unless\ifnocritical@%
720   \newhookcommand@series{Xonlyside}%
721 \fi%
722 \unless\ifnofamiliar@%
723   \newhookcommand@series{onlysideX}%
724 \fi
725
726
727 %

```

## V.4 Init standards series (A,B,C,D,E,Z)

`\init@series@par` `\newseries@par` is called by `\newseries`. However, this last command is called before `reledpar` is loaded. Thus, we need to initiate a specific series hook for `reledpar`.

```

728 \newcommand{\init@series@par}{%
729   \def\do##1{\newseries@par{##1}}%
730   \dolistloop{\@series}%
731 }%
732 \init@series@par%
733 %

```

## V.5 Tools specific to $\text{\LaTeX}$ 's classical footnotes

As users can use classical footnotes of  $\text{\LaTeX}$  (`\footnote`) in parallel texts, we must integrate the same tools to get correct number as for `reledmac`' footnotes (V.2.1 p. 44).

```

\footnote@reading34 \newcount\footnote@reading%
\footnote@typeset35 \newcounter{footnote@typeset}%
736 %

```

## VI Pstart numbers dumping and restoration

While in `reledmac` the footnotes are inserted at the same time as the `\pstart... \pend` are read, in `reledpar` they are inserted when the `\Columns` or `\Pages` commands are called. Consequently, if we do nothing, the value of the `PstartL` and `PstartR` counters are not the same in the main text and in the notes. To solve this problem, we dump the values in two list (one by side) when processing `\pstart` and restore these at each `\pstart` when calling `\Columns` or `\Pages`. We also dump and restore the value of the boolean `\ifnumberpstart`.

So, first step, creating the lists. Here, “pc” means “public counters”.

```

\list@pstartL@pc37 \list@create{\list@pstartL@pc}%
\list@pstartR@pc38 \list@create{\list@pstartR@pc}%
739 %

```

Two commands to dump current pstarts. We prefer two commands to one with argument indicating the side, because the commands are short, and so we save one test (or a \csname construction).

```

\dump@pstartL@pc 40 \def\dump@pstartL@pc{%
\dump@pstartR@pc 41 \xright@appenditem{\the\c@pstartL}\to\list@pstartL@pc%
742 \global\cslet{numberpstart@L\the\l@dumpstartsL}{\ifnumberpstart}%
743 }%
744
745 \def\dump@pstartR@pc{%
746 \xright@appenditem{\the\c@pstartR}\to\list@pstartR@pc%
747 \global\cslet{numberpstart@R\the\l@dumpstartsR}{\ifnumberpstart}%
748 }%
749
750 %

```

\restore@pstartL@pc And so, the commands to restore them.

```

\restore@pstartR@pc 751 \def\restore@pstartL@pc{%
752 \ifx\list@pstartL@pc\empty\else%
753 \gl@p\list@pstartL@pc\to\@temp%
754 \global\c@pstartL=\@temp%
755 \fi%
756 }%
757 \def\restore@pstartR@pc{%
758 \ifx\list@pstartR@pc\empty\else%
759 \gl@p\list@pstartR@pc\to\@temp%
760 \global\c@pstartR=\@temp%
761 \fi%
762 }%
763 %

```

## VII Parallel environments

The initial set up for parallel processing is deceptively simple.  
pairs pages

chapterinpages The pairs environment is for parallel columns and the pages environment for parallel pages.

```

764 \newenvironment{pairs}{%}
765 \l@dpairingtrue
766 \l@dpagingfalse
767 \initnumbering@quote
768 \save@familiarfootnote@number%
769 \if@ledgroup%
770 \get@familiarfootnote@number%
771 \fi%

```



```

772 \save@section@number%
773 \at@begin@pairs%
774 }{%
775 \l@dpairingfalse
776 }
777
778 %

```

**\AtBeginPairs** The `\AtBeginPairs` macro just define a `\at@begin@pairs` macro, called at the beginning of each pairs environments.

```

779 \newcommand{\AtBeginPairs}[1]{\xdef\at@begin@pairs{#1}}%
780 \def\at@begin@pairs{}%
781
782 %

```

The `pages` environment additionally sets the ‘column’ widths to the `\textwidth` (as known at the time the package is called). In this environment, there are two text in parallel on 2 pages.

```

783 \newenvironment{pages}{%
784 \l@dpairingtrue
785 \l@dpagingtrue
786 \initnumbering@quote
787 \save@familiarfootnote@number%
788 \if@ledgroup%
789 \get@familiarfootnote@number%
790 \fi%
791 \save@section@number%
792 \setlength{\Lcolwidth}{\textwidth}%
793 \setlength{\Rcolwidth}{\textwidth}%
794 }{%
795 \l@dpairingfalse
796 \l@dpagingfalse
797 }
798
799 %

```

**ifinstanzaL** These boolean tests are switched by the `\stanza` command, using either the left or right side.

```

800 \newif\ifinstanzaL
801 \newif\ifinstanzaR
802 %

```

**Leftside** Within the `pairs` and `pages` environments the left and right hand texts are within `Leftside` and `Rightside` environments, respectively. The `Leftside` environment is simple, indicating that right text is not within its purview and using some particular macros.

```

803 \newenvironment{Leftside}{%
804   \expandafter\ifvoid\csname l@dLcolrawbox1\endcsname\else%
805   \led@err@Leftside@PreviousNotPrinted%
806   \fi%
807   \ledRcolfalse
808   \setcounter{pstartL}{1}
809   \let\pstart\pstartL
810   \let\thepstart\thepstartL
811   \let\pend\pendL
812   \let\memorydump\memorydumpL
813   \Leftsidehook
814   \let\old@startstanza\@startstanza
815   \def\@startstanza[##1]{\global\instanzaLtrue\old@startstanza[##1]}
816 }{
817   \Leftsidehookend}
818 %

```

`\Leftsidehook` Hooks into the start and end of the Leftside and Rightside environments. These are initially empty.

```

\Leftsidehookend
\Rightsidehook
\Rightsidehookend
819 \newcommand*{\Leftsidehook}{}
820 \newcommand*{\Leftsidehookend}{}
821 \newcommand*{\Rightsidehook}{}
822 \newcommand*{\Rightsidehookend}{}
823
824 %

```

**Rightside** The Rightside environment is only slightly more complicated than the Leftside. Apart from indicating that right text is being provided it ensures that the right right text code will be used.

```

825 \newenvironment{Rightside}{%
826   \expandafter\ifvoid\csname l@dRcolrawbox1\endcsname\else%
827   \led@err@Rightside@PreviousNotPrinted%
828   \fi%
829   \ledRcoltrue
830   \let\beginnumbering\beginnumberingR
831   \let\endnumbering\endnumberingR
832   \let\pausenumbering\pausenumberingR
833   \let\resumenumbering\resumenumberingR
834   \let\memorydump\memorydumpR
835   \let\thepstart\thepstartR
836   \let\pstart\pstartR
837   \let\pend\pendR
838   \let\ledpb\ledpbR
839   \let\lednopb\lednopbR
840   \let\lineation\lineationR
841   \Rightsidehook
842   \let\old@startstanza\@startstanza
843   \def\@startstanza[##1]{\global\instanzaRtrue\old@startstanza[##1]}

```

```

844 }{ %
845   \ledRcolfalse
846   \Rightsidehookend
847 }
848
849 %

```

## VIII Paragraph decomposition and reassembly

In order to be able to count the lines of text and affix line numbers, we add an extra stage of processing for each paragraph. We send the paragraph into a box register, rather than straight onto the vertical list, and when the paragraph ends we slice the paragraph into its component lines; to each line we add any notes or line numbers, add a command to write to the line-list, and then at last send the line to the vertical list. This section contains all the code for this processing.

### VIII.1 Boxes, counters, \pstart and \pend

**\num@linesR** Here are numbers and flags that are used internally in the course of the paragraph decomposition.

**\one@lineR** When we first form the paragraph, it goes into a box register, \l@dLcolrawbox or \l@dRcolrawbox for right text, instead of onto the current vertical list. The \ifnumberedpar@ flag will be true while a paragraph is being processed in that way. **\par@lineR** \num@lines(R) will store the number of lines in the paragraph when it is complete. When we chop it up into lines, each line in turn goes into the \one@line or \one@lineR register, and \par@line(R) will be the number of that line within the paragraph.

```

850 \newcount\num@linesR
851 \newbox\one@lineR
852 \newcount\par@lineR
853 %

```

**\pstartL** \pstart starts the paragraph by clearing the \inserts@list list and other relevant variables, and then arranges for the subsequent text to go into the appropriate box. **\pstartR** \pstart needs to appear at the start of every paragraph that is to be numbered.

Beware: everything that occurs between \pstart and \pend is happening within a group; definitions must be global if you want them to survive past the end of the paragraph.

We have to have specific left and right \pstart when parallel processing; among other things because of potential changes in the linewidth.

```

854
855 \newcounter{pstartL}
856 \renewcommand{\thepstartL}{\bfseries\@arabic{c@pstartL}. }
857 \newcounter{pstartR}
858 \renewcommand{\thepstartR}{\bfseries\@arabic{c@pstartR}. }
859

```

```

860 \newcommandx*{\pstartL}[1][1]{%
861   \if@nbreak%
862     \let\@oldnbreak\@nbreaktrue%
863   \else%
864     \let\@oldnbreak\@nbreakfalse%
865   \fi%
866   \@nbreaktrue%
867   \ifluatex%
868     \xdef\l@luatextextdir@L{\the\textdir}%
869     \xdef\l@luatexpardir@L{\the\pardir}%
870     \xdef\l@luatexbodydir@L{\the\bodydir}%
871   \fi%
872   \ifnumbering \else%
873     \led@err@PstartNotNumbered%
874     \beginnumbering%
875   \fi%
876   \ifnumberedpar@%
877     \led@err@PstartInPstart%
878     \pend%
879   \fi%
880 %

```

If this is the first `\pstart` in a numbered section, clear any inserts and set `\ifpst@rtedL` to FALSE.

```

881   \ifpst@rtedL\else%
882     \list@clear{\inserts@list}%
883     \global\let\next@insert=\empty%
884     \global\pst@rtedLtrue%
885   \fi%
886   \begingroup\normal@pars%
887 %

```

When parallel processing we check that we have not exceeded the maximum number of chunks. In any event we grab a box for the forthcoming text.

```

888   \global\advance\l@dnumpstartsL \@ne%
889   \ifnum\l@dnumpstartsL>\l@dc@maxchunks%
890     \led@err@TooManyPstarts%
891     \global\l@dnumpstartsL=\l@dc@maxchunks%
892   \fi%
893   \global\setnamebox{\l@dLcolrawbox\the\l@dnumpstartsL}=\vbox\bgroup%
894 %

```

We set all the usual interline penalties to zero; this ensures that there will be no large interline penalties to prevent us from slicing the paragraph into pieces. These penalties revert to the values that you set when the group for the `\vbox` ends.

```

895   \l@dzeropenalties%
896   \ifautopar\else%
897     \ifnumberpstart%
898       \ifsidepstartnum%

```

```

899     \else%
900     \thepstartL%
901     \fi%
902     \fi%
903     \fi%
904     \hsize=\Lcolwidth%
905     \numberedpar@true%
906     \iflabelpstart\protected@edef\@currentlabel%
907         {\p@pstartL\thepstartL}\fi%
908 %

```

Dump the optional arguments

```

909 \ifstrempy{#1}%
910 {\csgdef{before@pstartL@the\l@dnumpstartsL}{\at@every@pstart}}%
911 {\csgdef{before@pstartL@the\l@dnumpstartsL}{\noindent#1}}%
912 \at@every@pstart@call%
913 %

```

Gobble following space (automatically done if there is no optional argument)

```

914 \ignorespaces%
915 %

```

```

916 }
917 %

```

The same for right side.

```

918 \newcommandx*{\pstartR}[1][1]{%
919     \if@nobreak%
920         \let\@oldnobreak\@nobreaktrue%
921     \else%
922         \let\@oldnobreak\@nobreakfalse%
923     \fi%
924     \@nobreaktrue%
925     \ifluatex%
926         \xdef\l@luatextextdir@R{\the\textdir}%
927         \xdef\l@luatexpardir@R{\the\pardir}%
928         \xdef\l@luatexbodydir@R{\the\bodydir}%
929     \fi%
930     \ifnumberingR \else%
931         \led@err@PstartNotNumbered%
932         \beginnumberingR%
933     \fi%
934     \ifnumberedpar@%
935         \led@err@PstartInPstart%
936         \pendR%
937     \fi%
938     \ifpst@rtedR\else%
939         \list@clear{\inserts@listR}%
940     \global\let\next@insertR=\empty%

```

```

941 \global\pst@rtedRtrue%
942 \fi%
943 \begingroup\normal@pars%
944 \global\advance\l@dnumpstartsR \@ne%
945 \ifnum\l@dnumpstartsR>\l@dc@maxchunks%
946 \led@err@TooManyPstarts%
947 \global\l@dnumpstartsR=\l@dc@maxchunks%
948 \fi%
949 \global\setnamebox{\l@dRcolrawbox\the\l@dnumpstartsR}=\vbox\bgroup%
950 \l@dzeropenalties%
951 \ifautopar\else%
952 \ifnumberpstart%
953 \ifsidepstartnum\else%
954 \thepstartR%
955 \fi%
956 \fi%
957 \fi%
958 \hsize=\Rcolwidth%
959 \numberedpar@true%
960 \iflabelpstart\protected@edef\@currentlabel%
961 {\p@pstartR\thepstartR}\fi%
962 \ifstrempy{#1}%
963 {\csgdef{before@pstartR@\the\l@dnumpstartsR}{\at@every@pstart}}%
964 {\csgdef{before@pstartR@\the\l@dnumpstartsR}{\noindent#1}}%
965 \at@every@pstart@call%
966 \ignorespaces%
967 }
968 %

```

**\pendL** \pend must be used to end a numbered paragraph. Again we need a version that knows about left parallel texts.

```

969 \newcommand*{\pendL}[1][1]{%
970 \ifnumbering \else%
971 \led@err@PendNotNumbered%
972 \fi%
973 \ifnumberedpar@ \else%
974 \led@err@PendNoPstart%
975 \fi%
976 %

```

We immediately call \endgraf to end the paragraph; this ensures that there will be no large interline penalties to prevent us from slicing the paragraph into pieces.

```

977 \endgraf\global\num@lines=\prevgraf\egroup%
978 \global\par@line=0%
979 %

```

End the group that was begun in the \pstart.

```

980 \endgroup%
981 \ignorespaces%

```

```

982 \oldnobreak%
983 \dump@pstartL@pc%
984 \ifnumberpstart%
985   \addtocounter{pstartL}{1}%
986 \fi
987 \parledgroup@beforenotes@save{L}%
988 %

Dump content of the optional argument.

989 \ifstrepty{#1}%
990   {\csgdef{after@pendL@the\l@dnumpstartsL}{\at@every@pend}}%
991   {\csgdef{after@pendL@the\l@dnumpstartsL}{\noindent#1}}%
992 }
993 %

```

**\pendR** The version of \pend needed for right texts.

```

994 \newcommand*{\pendR}[1][1]{%
995   \ifnumberingR \else%
996     \led@err@PendNotNumbered%
997   \fi%
998   \ifnumberedpar@ \else%
999     \led@err@PendNoPstart%
1000   \fi%
1001   \endgraf\global\num@linesR=\prevgraf\egroup%
1002   \global\par@lineR=0%
1003   \endgroup%
1004   \ignorespaces%
1005   \oldnobreak%
1006   \dump@pstartR@pc%
1007   \ifnumberpstart%
1008     \addtocounter{pstartR}{1}%
1009   \fi%
1010   \parledgroup@beforenotes@save{R}%
1011   \ifstrepty{#1}%
1012     {\csgdef{after@pendR@the\l@dnumpstartsR}{\at@every@pend}}%
1013     {\csgdef{after@pendR@the\l@dnumpstartsR}{\noindent#1}}%
1014   }
1015 %
1016 %

```

**\AtEveryPstartCall** The \AtEveryPstartCall argument is called when the \pstartL or \pstartR is called. That is different of \AtEveryPstart the argument of which is called when the \pstarts are printed.

```

1017 \newcommand{\AtEveryPstartCall}[1]{\gdef\at@every@pstart@call{#1}}%
1018 \gdef\at@every@pstart@call{}%
1019 %

```

`\ifprint@last@after@pendL` Two booleans set to true, when the time is to print the last optional argument of a `\pend`.  
`\ifprint@last@after@pendR`

```
1020 \newif\ifprint@last@after@pendL%
1021 \newif\ifprint@last@after@pendR%
1022 %
```

## VIII.2 Processing one line

For parallel texts we have to be able to process left and right lines independently. For sequential text we happily use the original `\do@line`. Otherwise ...

`\l@dleftbox` A line of left text will be put in the box `\l@dleftbox`, and analogously for a line of right  
`\l@drightbox` text.

```
1023 \newbox\l@dleftbox
1024 \newbox\l@drightbox
1025
1026 %
```

`\countLline` We need to know the number of lines processed.

```
\countRline
1027 \newcount\countLline
1028 \countLline \z@
1029 \newcount\countRline
1030 \countRline \z@
1031
1032 %
```

`\@donereallinesL` We need to know the number of ‘real’ lines output (i.e., those that have been input by  
`\@donetotallinesL` the user), and the total lines output (which includes any blank lines output for synchro-  
`\@donereallinesR` nisation).  
`\@donetotallinesR`

```
1033 \newcount\@donereallinesL
1034 \newcount\@donetotallinesL
1035 \newcount\@donereallinesR
1036 \newcount\@donetotallinesR
1037
1038 %
```

`\do@lineL` The `\do@lineL` macro is called to do all the processing for a single line of left text.

```
1039 \newcommand*{\do@lineL}{%
1040 \letcs{\ifnumberpstart}{numberpstart@L\the\l@dpscl}%
1041 \advance\countLline \one%
1042 \ifvbox\namebox{\l@dLcolrawbox\the\l@dpscl}%
1043 {\vbadness=10000%
1044 \splittopskip=\z@%
1045 \do@lineLhook%
1046 \l@demptyd@ta%
```



```

1047 \global\setbox\one@line=\vsplit\namebox{l@dLcolrawbox\the\l@dpscL}%
1048 to\baselineskip}%
1049 \IfStrEq{\splitfirstmarks\parledgroup@}{begin}{\
parledgroup@notes@startL}{}%
1050 \unvbox\one@line \global\setbox\one@line=\lastbox%
1051 \@writepageofparL%
1052 \getline@numL%
1053 \ifnum\@lock>\@ne%
1054 \inserthangingsymboltrue%
1055 \else%
1056 \inserthangingsymbolfalse%
1057 \fi%
1058 \setbox\l@dleftbox%
1059 \hb@xt@ \Lcolwidth{%
1060 \ifl@dhiddenumber%
1061 \global\l@dhiddenumberfalse%
1062 \f@x@l@cks%
1063 \else%
1064 \affixline@num%
1065 \fi%
1066 \xifinlist{\the\l@dpscL}{\eled@sections@@}%
1067 {\add@inserts\affixside@note}%
1068 {\print@lineL}%
1069 }%
1070 \add@penaltiesL%
1071 \global\advance\@donereallinesL\@ne%
1072 \global\advance\@donetotallinesL\@ne%
1073 \else%
1074 \setbox\l@dleftbox \hb@xt@ \Lcolwidth{\hspace*{\Lcolwidth}}%
1075 \global\advance\@donetotallinesL\@ne%
1076 \fi%
1077 }%
1078
1079
1080 %

```

`\print@lineL` `\print@lineL` is for lines without a sectioning command. See `reledmac` definition of `\print@line` for handbook.

```

1081 \def\print@lineL{%
1082 \affixpstart@numL%
1083 \l@dld@ta %space kept for backward compatibility
1084 \add@inserts\affixside@note%
1085 \l@dlsn@te %space kept for backward compatibility
1086 \hb@xt@ \Lcolwidth{\ledllfill\hb@xt@ \wd\one@line{%
1087 \do@insidelineLhook%
1088 \ifluatex%
1089 \textdir\l@luatextextdir@L%
1090 \fi%
1091 \new@lineL%

```

```

1092 \inserthangingsymbolL%
1093 \l@dunhbox@line{\one@line}}\ledrlfill\l@drd@ta%
1094 \l@drsn@te}}
1095
1096 %

```

`\print@eledsectionL` `\print@eledsectionL` is for line with macro code.

```

1097 \def\print@eledsectionL{%%
1098 \addtocounter{pstartL}{-1}%
1099 \ifdefstring{\@eledsectnotoc}{L}{\ledsectnotoc}{%
1100 \ifdefstring{\@eledsectmark}{L}{\ledsectnomark}%
1101 \numdef{\temp@}{\l@dpscL-1}%
1102 \xifinlist{\temp@}{\eled@sections@@}{\@nbreaktrue}{\@nbreakfalse}%
1103 \@eled@sectioningtrue%
1104 \bgroup%
1105 \ifluatex%
1106 \texdir\l@luatextextdir@L%
1107 \pardir\l@luatexpardir@L%
1108 \bodydir\l@luatexbodydir@L%
1109 \ifdefstring{\l@luatextextdir@L}{TRT}{\@RTLtrue}{}%
1110 \fi%
1111 \csuse{eled@sectioning@the\l@dpscL}%
1112 \egroup%
1113 \@eled@sectioningfalse%
1114 \global\csundef{eled@sectioning@the\l@dpscL}%
1115 \if@RTL%
1116 \hspace{-3\paperwidth}%
1117 {\hbox{\l@dunhbox@line{\one@line}} \new@line}%
1118 \else%
1119 \hspace{3\paperwidth}%
1120 {\new@line \hbox{\l@dunhbox@line{\one@line}}}%
1121 \fi%
1122 \vskip\eledsection@correcting@skip%
1123 }
1124
1125 %

```

`\dolineLhook` `\dolineRhook` These high-level commands just redefine the low-level commands. They have to be used be user, without `\makeatletter`.

```

\doinlinedlineLhook
\doinlinedlineRhook
1126 \newcommand*{\dolineLhook}[1]{\gdef\do@lineLhook{#1}}%
1127 \newcommand*{\dolineRhook}[1]{\gdef\do@lineRhook{#1}}%
1128 \newcommand*{\doinlinedlineLhook}[1]{\gdef\do@insidelineLhook{#1}}%
1129 \newcommand*{\doinlinedlineRhook}[1]{\gdef\do@insidelineRhook{#1}}%
1130
1131 %

```

`\do@lineLhook` `\do@lineRhook` Hooks, initially empty, into the respective `\do@line(L/R)` macros.  
`\do@insidelineLhook`  
`\do@insidelineRhook`

```

1132 \newcommand*{\do@lineLhook}{%
1133 \newcommand*{\do@lineRhook}{%
1134 \newcommand*{\do@insidelinelhook}{%
1135 \newcommand*{\do@insidelinerhook}{%
1136
1137 %

```

`\do@lineR` The `\do@lineR` macro is called to do all the processing for a single line of right text.

```

1138 \newcommand*{\do@lineR}{%
1139 \let\linenumrep\linenumrepR%
1140 \let\sublinenumrep\sublinenumrepR%
1141 \letcs{ifnumberpstart}{numberpstart@R\the\l@dpscr}%
1142 \ledRcol@true%
1143 \advance\countRline \@ne%
1144 \ifvbox\namebox{1@dRcolrawbox\the\l@dpscr}%
1145   {\vbadness=10000%
1146    \splittopskip=\z@%
1147    \do@lineRhook%
1148    \l@emptyd@ta%
1149    \global\setbox\one@lineR=\vsplit\namebox{1@dRcolrawbox\the\l@dpscr}%
1150     to\baselineskip}%
1151   \IfStrEq{\splitfirstmarks\parledgroup@}{begin}{\
parledgroup@notes@startR}{}%
1152   \unvbox\one@lineR \global\setbox\one@lineR=\lastbox%
1153   \@writepageofparR%
1154   \getline@numR%
1155   \ifnum\@lockR>\@ne%
1156     \inserthangingsymbolRtrue%
1157   \else%
1158     \inserthangingsymbolRfalse%
1159   \fi%
1160   \setbox\l@drightbox%
1161   \hb@xt@ \Rcolwidth{%
1162     \ifl@dhiddenumber%
1163       \global\l@dhiddenumberfalse%
1164       \f@x@l@cksR%
1165     \else%
1166       \affixline@numR%
1167     \fi%
1168     \xifinlist{\the\l@dpscr}{\eled@sectionsR@@}%
1169     {\add@insertsR\affixside@noteR}%
1170     {\print@lineR}%
1171   }%
1172   \add@penaltiesR%
1173   \global\advance\@donereallinesR\@ne%
1174   \global\advance\@donetotallinesR\@ne%
1175 \else%
1176   \setbox\l@drightbox \hb@xt@ \Rcolwidth{\hspace*{\Rcolwidth}}%
1177   \global\advance\@donetotallinesR\@ne%

```

```

1178 \fi%
1179 \ledRcol@false%
1180 }
1181
1182 %
1183 %

```

```

\print@lineR
\print@eledsectionR

```

### VIII.3 Line and page number computation

`\getline@numR` The `\getline@numR` macro determines the page and line numbers for the right text line we are about to send to the vertical list. The `\getline@numL` is the same for left text.

```

1184 \newcommand*\getline@numR{%
1185   \global\advance\absline@numR \@ne
1186   \do@actionsR
1187   \do@ballastR
1188   \ifledgroupnotesR@else
1189     \ifnumberline
1190       \ifsublines@
1191         \ifnum\sub@lockR<\tw@
1192           \global\advance\subline@numR \@ne
1193         \fi
1194       \else
1195         \ifnum\@lockR<\tw@
1196           \global\advance\line@numR \@ne
1197           \global\subline@numR \z@
1198         \fi
1199       \fi
1200     \fi
1201   \fi
1202 }
1203 \newcommand*\getline@numL{%
1204   \global\advance\absline@num \@ne
1205   \do@actions
1206   \do@ballast
1207   \ifledgroupnotesL@else
1208     \ifnumberline
1209       \ifsublines@
1210         \ifnum\sub@lock<\tw@
1211           \global\advance\subline@num \@ne
1212         \fi
1213       \else
1214         \ifnum\@lock<\tw@
1215           \global\advance\line@num \@ne
1216           \global\subline@num \z@
1217         \fi
1218       \fi
1219     \fi

```

```

1220 \fi
1221 }
1222
1223
1224 %

```

`\do@ballastR` The real work in the line macros above is done in `\do@actions`, but before we plunge into that, let us get `\do@ballastR` out of the way.

```

1225 \newcommand*{\do@ballastR}{\global\ballast@count=\z@
1226 \begingroup
1227 \advance\absline@numR \@ne
1228 \ifnum\next@actionlineR=\absline@numR
1229 \ifnum\next@actionR>-1001
1230 \global\advance\ballast@count by -\c@ballast
1231 \fi
1232 \fi
1233 \endgroup}
1234 %

```

`\l@dskipversenumberR` The `\do@actionsR` macro looks at the list of actions to take at particular right text absolute line numbers, and does everything that is specified for the current line.

`\do@actionsR` It may call itself recursively and we use tail recursion, via `\do@actions@nextR` for this.

```

1235 \newif\ifl@dskipversenumberR
1236 \newcommand*{\do@actions@fixedcodeR}{%
1237 \ifcase\@l@dttempcnta%
1238 \or% % 1001
1239 \global\sublines@true
1240 \or% % 1002
1241 \global\sublines@false
1242 \or% % 1003
1243 \global\@lockR=\@ne
1244 \or% % 1004%
1245 \ifnum\@lockR=\tw@
1246 \global\@lockR=\thr@@
1247 \else
1248 \global\@lockR=\z@
1249 \fi
1250 \or% % 1005
1251 \global\sub@lockR=\@ne
1252 \or% % 1006
1253 \ifnum\sub@lockR=\tw@
1254 \global\sub@lockR=\thr@@
1255 \else
1256 \global\sub@lockR=\z@
1257 \fi
1258 \or% % 1007
1259

```

```

1260 \l@dskipnumbertrue
1261 \or% % 1008
1262 \l@dskipversenumberRtrue%
1263 \or% % 1009
1264 \l@dhidenumbertrue%
1265 \else%
1266 \led@warn@BadAction
1267 \fi%
1268 }
1269
1270
1271 \newcommand*{\do@actionsR}{%
1272 \global\let\do@actions@nextR=\relax
1273 \@l@dttempcntb=\absline@numR
1274 \ifnum\@l@dttempcntb<\next@actionlineR\else
1275 \ifnum\next@actionR>-1001\relax
1276 \global\page@numR=\next@actionR
1277 \ifbypage@R
1278 \global\line@numR \z@ \global\subline@numR \z@
1279 \fi
1280 \else
1281 \ifnum\next@actionR<-4999\relax % 9/05 added relax here
1282 \@l@dttempcnta=-\next@actionR
1283 \advance\@l@dttempcnta by -5001\relax
1284 \ifsublines@
1285 \global\subline@numR=\@l@dttempcnta
1286 \else
1287 \global\line@numR=\@l@dttempcnta
1288 \fi
1289 \else
1290 \@l@dttempcnta=-\next@actionR
1291 \advance\@l@dttempcnta by -1000\relax
1292 \do@actions@fixedcodeR
1293 \fi
1294 \fi
1295 \ifx\actionlines@listR\empty
1296 \gdef\next@actionlineR{1000000}%
1297 \else
1298 \gl@p\actionlines@listR\to\next@actionlineR
1299 \gl@p\actions@listR\to\next@actionR
1300 \global\let\do@actions@nextR=\do@actionsR
1301 \fi
1302 \fi
1303 \do@actions@nextR}
1304
1305 %

```

## VIII.4 Line number printing

`\l@dcalcn` `\affixline@numR` is the right text version of the `\affixline@num` macro.

```

1306 \ch@cksub@l@ckR
1307 \ch@ck@l@ckR
1308 \f@x@l@ckR
1309 \affixline@numR
1310
1311 \newcommand*{\l@dcalcn}[3]{%
1312   \ifnum #1 > #2\relax
1313     \@l@tempcnta = #1\relax
1314     \advance\@l@tempcnta by -#2\relax
1315     \divide\@l@tempcnta by #3\relax
1316     \multiply\@l@tempcnta by #3\relax
1317     \advance\@l@tempcnta by #2\relax
1318   \else
1319     \@l@tempcnta=#2\relax
1320   \fi}
1321
1322 \newcommand*{\ch@cksub@l@ckR}{%
1323   \ifcase\sub@lockR
1324   \or
1325     \ifnum\sublock@disp=\@ne
1326       \@l@tempcntb \z@ \@l@tempcnta \@ne
1327     \fi
1328   \or
1329     \ifnum\sublock@disp=\tw@
1330     \else
1331       \@l@tempcntb \z@ \@l@tempcnta \@ne
1332     \fi
1333   \or
1334     \ifnum\sublock@disp=\z@
1335       \@l@tempcntb \z@ \@l@tempcnta \@ne
1336     \fi
1337   \fi}
1338
1339 \newcommand*{\ch@ck@l@ckR}{%
1340   \ifcase\@lockR
1341   \or
1342     \ifnum\lock@disp=\@ne
1343       \@l@tempcntb \z@ \@l@tempcnta \@ne
1344     \fi
1345   \or
1346     \ifnum\lock@disp=\tw@
1347     \else
1348       \@l@tempcntb \z@ \@l@tempcnta \@ne
1349     \fi
1350   \or
1351     \ifnum\lock@disp=\z@
1352       \@l@tempcntb \z@ \@l@tempcnta \@ne
1353     \fi
1354   \fi}

```

```

1352 \newcommand*{\f@x@l@cksR}{%
1353   \ifcase\@lockR
1354   \or
1355     \global\@lockR \tw@
1356   \or \or
1357     \global\@lockR \z@
1358   \fi
1359   \ifcase\sub@lockR
1360   \or
1361     \global\sub@lockR \tw@
1362   \or \or
1363     \global\sub@lockR \z@
1364   \fi}
1365
1366
1367 \newcommand*{\affixline@numR}{%
1368   \ifledgroupnotesR\else\ifnumberline
1369   \ifl@dskipnumber
1370     \global\l@dskipnumberfalse
1371   \else
1372     \ifsublines@
1373       \@l@dttempcntb=\subline@numR
1374       \l@dcalcnnum{\subline@numR}{\c@firstsublinenumR}{\c@sublinenumincrementR
1375     }%
1376     \ch@cksub@lockR
1377   \else
1378     \@l@dttempcntb=\line@numR
1379     \ifx\linenumberlist\empty
1380       \l@dcalcnnum{\line@numR}{\c@firstlinenumR}{\c@linenumincrementR}%
1381     \else
1382       \@l@dttempcnta=\line@numR
1383       \edef\rem@inder{\linenumberlist,\number\line@numR,%
1384       \edef\sc@n@list{\def\noexpand\sc@n@list
1385       ###1,\number\@l@dttempcnta,###2|\def\noexpand\rem@inder{###2}}}%
1386       \sc@n@list\expandafter\sc@n@list\rem@inder|%
1387       \ifx\rem@inder\empty\advance\@l@dttempcnta\@ne\fi
1388     \fi
1389     \ch@ck@l@ckR
1390   \fi
1391   \ifnum\@l@dttempcnta=\@l@dttempcntb
1392   \ifl@dskipversenumberR\else
1393     \iftwocolumn
1394     \if@firstcolumn
1395       \gdef\l@dld@ta{\llap{\leftlinenumR}}}%
1396     \else
1397       \gdef\l@drd@ta{\rlap{\rightlinenumR}}}%
1398     \fi
1399   \else
1400     \@l@dttempcntb=\line@marginR
1401     \ifnum\@l@dttempcntb>\@ne

```



```

1401     \advance\@l@dttempcntb by\page@numR
1402     \fi
1403     \ifodd\@l@dttempcntb
1404       \gdef\l@drd@ta{\rlap{\rightlinenumR}}}%
1405     \else
1406       \gdef\l@dld@ta{\llap{\leftlinenumR}}}%
1407     \fi
1408   \fi
1409 \fi
1410 \fi
1411 \f@x@l@cksR
1412 \fi
1413 \fi
1414 \fi}
1415 %

```

## VIII.5 Pstart number printing in side

The printing of the pstart number is like in reledmac, with two differences :

- Some commands have versions suffixed by R or L.
- The `\affixpstart@num` and `\affixpstart@numR` commands are called in the `\Pages` command. Consequently, the `pstartL` and `pstartR` counters must be reset at the beginning of this command.

```

\affixpstart@numL16
\affixpstart@numR17 \newcommand*{\affixpstart@numL}{%
  \leftpstartnumR18 \ifsidepstartnum
  \rightpstartnumR19 \if@twocolumn
    \leftpstartnumL20 \if@firstcolumn
      \rightpstartnumL21 \gdef\l@dld@ta{\llap{\leftpstartnumL}}}%
    \ifpstartnumR22 \else
      \rightpstartnumR23 \gdef\l@drd@ta{\rlap{\rightpstartnumL}}}%
    \fi
  \else
    \l@dttempcntb=\line@margin
    \ifnum\@l@dttempcntb>\@ne
      \advance\@l@dttempcntb \page@num
    \fi
    \ifodd\@l@dttempcntb
      \gdef\l@drd@ta{\rlap{\rightpstartnumL}}}%
    \else
      \gdef\l@dld@ta{\llap{\leftpstartnumL}}}%
    \fi
  \fi
\fi
}
\newcommand*{\affixpstart@numR}{%

```

```

1439 \ifsidepstartnum
1440 \if@twocolumn
1441   \if@firstcolumn
1442     \gdef\l@dld@ta{\llap{\leftpstartnumR}}}%
1443   \else
1444     \gdef\l@drd@ta{\rlap{\rightpstartnumR}}}%
1445   \fi
1446 \else
1447   \l@dttempcntb=\line@marginR
1448   \ifnum\l@dttempcntb>\@ne
1449     \advance\l@dttempcntb \page@numR
1450   \fi
1451   \ifodd\l@dttempcntb
1452     \gdef\l@drd@ta{\rlap{\rightpstartnumR}}}%
1453   \else
1454     \gdef\l@dld@ta{\llap{\leftpstartnumR}}}%
1455   \fi
1456 \fi
1457 \fi
1458 }
1459
1460 \newcommand*\leftpstartnumL){
1461 \ifpstartnum
1462 \thepstartL
1463 \kern\linenumsep\global\pstartnumfalse\fi
1464 }
1465 \newcommand*\rightpstartnumL){
1466 \ifpstartnum\kern\linenumsep
1467 \thepstartL
1468 \global\pstartnumfalse\fi
1469 }
1470 \newif\ifpstartnumR
1471 \pstartnumRtrue
1472 \newcommand*\leftpstartnumR){
1473 \ifpstartnumR
1474 \thepstartR
1475 \kern\linenumsep\global\pstartnumRfalse\fi
1476 }
1477 \newcommand*\rightpstartnumR){
1478 \ifpstartnumR\kern\linenumsep
1479 \thepstartR
1480 \global\pstartnumRfalse\fi
1481 }
1482 %

```

### VIII.6 Add insertions to the vertical list

`\inserts@listR` `\inserts@listR` is the list macro that contains the inserts that we save up for one right text paragraph.

```

1483 \list@create{\inserts@listR}
1484 %

\add@insertsR The right text version.
\add@inserts@nextR
1485 \newcommand*{\add@insertsR}{%
1486 \global\let\add@inserts@nextR=\relax
1487 \ifx\inserts@listR\empty \else
1488 \ifx\next@insertR\empty
1489 \ifx\insertlines@listR\empty
1490 \global\noteschanged@true
1491 \gdef\next@insertR{100000}%
1492 \else
1493 \gl@p\insertlines@listR\to\next@insertR
1494 \fi
1495 \fi
1496 \ifnum\next@insertR=\absline@numR
1497 \gl@p\inserts@listR\to\@insertR
1498 \@insertR
1499 \global\let\@insertR=\undefined
1500 \global\let\next@insertR=\empty
1501 \global\let\add@inserts@nextR=\add@insertsR
1502 \fi
1503 \fi
1504 \add@inserts@nextR}
1505 %
1506 %

```

## VIII.7 Penalties

`\add@penaltiesL` `\add@penaltiesR` `\add@penaltiesL` is the last macro used by `\do@lineL`. It adds up the club, widow, and interline penalties, and puts a single penalty of the appropriate size back into the paragraph; these penalties get removed by the `\vsplit` operation. `\displaywidowpenalty` and `\brokenpenalty` are not restored, since we have no easy way to find out where we should insert them.

In the code below, which is a virtual copy of the original `\add@penalties`, `\num@lines` is the number of lines in the whole paragraph, and `\par@line` is the line we are working on at the moment. The count `\@l@dttempcnta` is used to calculate and accumulate the penalty; it is initially set to the value of `\ballast@count`, which has been worked out in `\do@ballast`. Finally, the penalty is checked to see that it does not go below  $-10000$ .

```

\newcommand*{\add@penaltiesR}{\@l@dttempcnta=\ballast@count
\ifnum\num@linesR>\@ne
\global\advance\par@lineR \@ne
\ifnum\par@lineR=\@ne
\advance\@l@dttempcnta by \clubpenalty
\fi
\@l@dttempcntb=\par@lineR \advance\@l@dttempcntb \@ne

```

```

\ifnum\@l@dttempcntb=\num@linesR
  \advance\@l@dttempcnta by \widowpenalty
\fi
\ifnum\par@lineR<\num@linesR
  \advance\@l@dttempcnta by \interlinepenalty
\fi
\fi
\ifnum\@l@dttempcnta=\z@
  \relax
\else
  \ifnum\@l@dttempcnta>-10000
    \penalty\@l@dttempcnta
  \else
    \penalty -10000
  \fi
\fi}

```

This is for a single chunk. However, as we are probably dealing with several chunks at a time, the above is not really relevant. Peter Wilson thinks that it is likely with parallel text that there is no real need to add back any penalties; even if there was, they would have to match across the left and right lines. So, Peter Wilson ends up with the following.

```

1507 \newcommand*\add@penaltiesL}{%
1508 \newcommand*\add@penaltiesR}{%
1509
1510 %

```

## VIII.8 Printing leftover notes

**\flush@notesR** The `\flush@notesR` macro is called after the entire right text has been sliced up and sent on to the vertical list.

```

1511 \newcommand*\flush@notesR}{%
1512   \@xloop
1513   \ifx\inserts@listR\empty \else
1514     \gl@p\inserts@listR\to\@insertR
1515     \@insertR
1516     \global\let\@insertR=\undefined
1517   \repeat}
1518
1519 %

```

## IX Footnotes

### IX.1 Footnotes output specific to \Pages

```
\print@Xnotes@forpages
\correct@Xfootins@box
\print@notesX@forpages
\correct@footinsX@box
```

The `\Xonlyside` and `\onlysideX` hooks for `\Pages` allow notes to be printed either in left or right pages only. The implementation of such features is delegated to `\print@Xnotes@forpages`, which replaces `\print@Xnotes` inside `\Pages`. Here is how we proceed<sup>6</sup>:

- If notes are to be printed in both sides, we just proceed the usual way: print the foot starts for the series, then the foot group.
- If notes are to be printed in the left side, we do these prints only for even pages ; if notes are to be printed in the right side, we do these prints only for odd pages.
- However, that is not enough. Because the problem does not only consists in printing notes in any particular page. It is also not to put aside room for notes in the pages where we do not want to print them. To take an example: if some note in the left side is too long by 160pt to be printed in full in the left page, we do not want to put aside 160pt a space for it in the following right page.
- To solve this problem, we change the magnification factor associated with notes before going to the next page. If we start a page where no notes are supposed to be printed, the magnification counter is set to 0. We also set the note skip to 0pt. Before starting a new page where these notes are supposed to be printed, we reset these counter and skip to their default values. (About these counter and skip, read *The TeXbook* p. 122-125).
- There still remains a last problem. This problem is quite complex to understand, so an example will speak for itself. Suppose we allow 10 lines of notes by page. Suppose a long note, be it 25 lines, which needs three pages to be printed. Suppose it must be printed only on left pages, namely odd pages.

On p. 2, the first 10 lines of the notes are printed. On p. 3, the box associated to the notes contains 10 lines. However, as we are in a right page, we do not void this box. So `TeX` will keep its content for the pages to come. However, on p. 4 it will also add one line in the footnote box, because in any case, `TeX` adds some content in the box when preparing the output routines, even if there is some content left in this box from the previous pages. So the lines in the note box at p. 4 will be  $10 + 1 = 11$ . There is one line which should not be there. Furthermore, as the box size is for 10 lines and not for 11 lines, this last line will be glued to the previous one.

To fix this double issue:

- For the pages where notes must be NOT printed, we allow to every note box one line less than it ought to be. In our example, that means that we allow `TeX` to add only  $10 - 1 = 9$  line in the note box on p. 3. Before shifting to

<sup>6</sup>See <http://tex.stackexchange.com/a/230332/7712>.

the pages where notes must be printed, we allow to every notes the expected number of lines. In our example, that means that we allow  $\TeX$  to add 10 lines in the note box on p. 4. As on p. 3 only 9 lines were allowed, that means note box of p. 4 will contain  $9 + 1 = 10$  lines. So the “one line too many” problem is solved.

- Still remains the “glue” problem. We solve it by recreating a clean note box. We split the one which is created by  $\TeX$  to get the next line printed. Then, we create the new box, by bringing together the first part and the last part of the split box, adding some skip between them. That is achieved by `\correct@Xfootins@box` (or `\correct@footinsX@box` for familiar notes).

The code to print critical notes, when processing `\Pages`.

```
1520 \newcommand\print@Xnotes@forpages[1]{%
1521 %
```

First case: notes are for both sides. Just print the note start and the note group

```
1522 \ifcseempty{Xonlyside@#1}{%
1523 \csuse{#1footstart}{#1}%
1524 \csuse{#1footgroup}{#1}%
1525 }%
1526 %
```

Second case: notes are for one side only. First test if we are in a page where they must be printed.

```
1527 {%
1528 \ifboolexpr{%
1529 ((test {\ifcsstring{Xonlyside@#1}{L}} and not test{\ifnumodd{\c@page
1530 }})}%
1531 or%
1532 (test {\ifcsstring{Xonlyside@#1}{R}} and test{\ifnumodd{\c@page}}))%
1533 }%
1534 %
```

If we are in a page where notes must be printed, print the notes, after having made the corrections which are needed for boxes.

```
1534 {%
1535 \correct@Xfootins@box{#1}%
1536 \csuse{#1footstart}{#1}%
1537 \csuse{#1footgroup}{#1}%
1538 %
```

Then, say not to keep room for notes in the next page.

```
1539 \global\count\csuse{#1footins}=0%
1540 \global\skip\csuse{#1footins}=0pt%
1541 %
```

And also, allow one line less for notes in the next page.

```

1542 \csuse{Xnotefontsize@#1}%
1543 \global\advance\dimen\csuse{#1footins} by -\baselineskip%
1544 %

```

Now we have printed the notes. So we put aside this fact.

```

1545 \global\boolfalse{keepforXside@#1}%
1546 }%
1547 %

```

In case we are on a page where notes must NOT be printed. First, memorize that we have not printed the notes, despite having some to print.

```

1548 {%
1549 \global\booltrue{keepforXside@#1}%
1550 %

```

Then restore expected rooms for notes on the next page.

```

1551 \global\count\csuse{#1footins}=\csuse{default@#1footins}%
1552 \global\skip\csuse{#1footins}=\csuse{Xbeforenotes@#1}%
1553 %

```

Last but not least, restore the normal line number allowed to notes for the following page.

```

1554 \bgroup%
1555 \csuse{Xnotefontsize@#1}%
1556 \global\advance\dimen\csuse{#1footins} by \baselineskip%
1557 \egroup%
1558 %

```

```

1559 % End of \protect\cs{print@Xnotes@forpages}.
1560 }%
1561 }%
1562 }%
1563 %

```

Now, \correct@Xfootins@box, to fix problem of last line being glued to the previous one.

```

1564 \newcommand{\correct@Xfootins@box}[1]{%
1565 %

```

We need to make correction only in case we have not printed any note in the previous page, although there was to be “normally” printed.

```

1566 \ifbool{keepforXside@#1}{%
1567 %

```

Some setting needed to do the right splitting.

```

1568 \csuse{Xnotefontsize@#1}%
1569 \splittopskip=0pt%
1570 %

```

And now, split the last line, and push in the right place.

```

1571     \global\setbox\csuse{#1footins}=\vbox{%
1572         \vsplit\csuse{#1footins} to \dimexpr\ht\csuse{#1footins}-1pt\relax%
1573         \vskip \dimexpr-0.5\baselineskip-0.5\lineskip-0.5pt\relax%
1574         \unvbox\csuse{#1footins}%
1575     }%
1576 %

```

End of the macro.

```

1577 }{}%
1578 }%
1579 %

```

And now, the same for familiar footnotes.

```

1580 \newcommand\print@notesX@forpages[1]{%
1581     \ifcempty{onlysideX@#1}{%
1582         \csuse{footstart#1}{#1}%
1583         \csuse{footgroup#1}{#1}%
1584     }%
1585     {%
1586         \ifboolexpr{%
1587             ((test {\ifcsstring{onlysideX@#1}{L}} and not test{\ifnumodd{\c@page
1588             }%
1589             (test {\ifcsstring{onlysideX@#1}{R}} and test{\ifnumodd{\c@page}})))%
1590             }%
1591             {%
1592                 \correct@footinsX@box{#1}%
1593                 \csuse{footstart#1}{#1}%
1594                 \csuse{footgroup#1}{#1}%
1595                 \global\count\csuse{footins#1}=0%
1596                 \global\skip\csuse{footins#1}=0pt%
1597                 \csuse{notefontsizeX@#1}%
1598                 \global\advance\dimen\csuse{footins#1} by -\baselineskip%
1599                 \global\boolfalse{keepforsideX@#1}%
1600             }%
1601             {%
1602                 \global\booltrue{keepforsideX@#1}%
1603                 \global\count\csuse{footins#1}=\csuse{default@footins#1}%
1604                 \global\skip\csuse{footins#1}=\csuse{beforenotesX@#1}%
1605                 \bgroup%
1606                     \csuse{notefontsizeX@#1}%
1607                     \global\advance\dimen\csuse{footins#1} by \baselineskip%
1608                 \egroup%
1609             }%
1610         }%
1611     }%
1612 \newcommand{\correct@footinsX@box}[1]{%
1613     \ifbool{keepforsideX@#1}{%

```



```

1614 \csuse{notefontsizeX@#1}%
1615 \splittopskip=0pt%
1616 \global\setbox\csuse{footins#1}=\vbox{%
1617 \vsplit\csuse{footins#1} to \dimexpr\ht\csuse{footins#1}-1pt\relax%
1618 \vskip \dimexpr-0.5\baselineskip-0.5\lineskip-0.5pt\relax%
1619 \unvbox\csuse{footins#1}%
1620 }%
1621 }{}%
1622 }%
1623 %

```

## X Cross referencing

**\labelref@listR** Set up a new list, `\labelref@listR`, to hold the page, line and sub-line numbers for each label in right text.

```

1624 \list@create{\labelref@listR}
1625
1626 %

```

**\edlabel** This command is defined only one time in `reledmac`, including features for `reledpar`.

**\l@dmake@labelsR** This is the right text version of `\l@dmake@labels`, taking account of `\@Rlineflag`.

```

1627 \def\l@dmake@labelsR#1|#2|#3|#4|#5{%
1628 \expandafter\ifx\csname the@label#5\endcsname \relax\else
1629 \led@warn@DuplicateLabel{#5}%
1630 \fi
1631 \expandafter\gdef\csname the@label#5\endcsname{#1|#2|#3|#4|\@Rlineflag}%
1632 \ignorespaces}
1633 \AtBeginDocument{%
1634 \def\l@dmake@labelsR#1|#2|#3|#4|#5{%
1635 }
1636
1637 %

```

**\@lab** The `\@lab` command, which appears in the `\linenum@out` file, appends the current values of page, line and sub-line to the `\labelref@list`. These values are defined by the earlier `\@page`, `\@nl`, and the `\sub@on` and `\sub@off` commands appearing in the `\linenum@out` file.

It is defined on `reledmac`.

## XI Side notes

Regular `\marginpars` do not work inside numbered text — they do not produce any note but do put an extra unnumbered blank line into the text.

`\sidenote@marginR` Specifies which margin sidenotes can be in.

`\sidenotemargin*`

```
1638 \WithSuffix\newcommand\sidenotemargin*[1]{%
1639   \l@dgetsidenote@margin{#1}
1640   \global\sidenote@marginR=\@l@tempcntb
1641   \global\sidenote@margin=\@l@tempcntb
1642 }
1643 \newcount\sidenote@marginR
1644 \global\sidenote@margin=\@ne
1645
1646 %
```

`\affixside@noteR` The right text version of `\affixside@note`.

```
1647 \newcommand*\affixside@noteR{%
1648   \def\sidenotecontent@{%
1649     \numgdef{\itemcount@}{0}%
1650     \def\do##1{%
1651       \ifnumequal{\itemcount@}{0}%
1652         {%
1653           \appto\sidenotecontent@{##1}}% Not print not separator before
the 1st note
1654         {\appto\sidenotecontent@{\sidenotesep ##1}%
1655         }%
1656         \numgdef{\itemcount@}{\itemcount@+1}%
1657       }%
1658       \dolistloop{\l@dcsnotetext}%
1659       \ifnumgreater{\itemcount@}{1}{\led@err@ManySidenotes}{}%
1660       \gdef\@templ@d{%
1661         \gdef\@templ@n{\l@dcsnotetext\l@dcsnotetext@1\l@dcsnotetext@r}%
1662         \ifx\@templ@d\@templ@n \else%
1663           \if@twocolumn%
1664             \if@firstcolumn%
1665               \setl@dlp@rbox{##1}{\sidenotecontent@}%
1666             \else%
1667               \setl@drp@rbox{\sidenotecontent@}%
1668             \fi%
1669           \else%
1670             \l@tempcntb=\sidenote@marginR%
1671             \ifnum\l@tempcntb>\@ne%
1672               \advance\l@tempcntb by\page@numR%
1673             \fi%
1674             \ifodd\l@tempcntb%
1675               \setl@drp@rbox{\sidenotecontent@}%
1676             \gdef\sidenotecontent@{%
1677               \numdef{\itemcount@}{0}%
1678               \dolistloop{\l@dcsnotetext@1}%
1679               \ifnumgreater{\itemcount@}{1}{\led@err@ManyLeftnotes}{}%
1680               \setl@dlp@rbox{\sidenotecontent@}%
1681             \else%
```

```

1682 \setl@dlp@rbox{\sidenotecontent@}%
1683 \gdef\sidenotecontent@{%
1684 \numdef{\itemcount@}{0}%
1685 \dolistloop{\l@dcstotetext@r}%
1686 \ifnumgreater{\itemcount@}{1}{\led@err@ManyRightnotes}{}%
1687 \setl@drp@rbox{\sidenotecontent@}%
1688 \fi%
1689 \fi%
1690 \fi%
1691 }
1692
1693 %

```

## XII Familiar footnotes

`\l@dbfnote` `\l@dbfnote` adds the footnote to the insert list, and `\vl@dbfnote` calls the original `\@footnotetext`. There are both defined in `reledmac`.

`\normalbfnoteX`

## XIII Verse

Like in `reledmac`, the insertion of `hangingsymbol` is base on `\ifinserthangingsymbol`, and, for the right side, on `\ifinserthangingsymbolR`. Both commands also include the hanging space, to be sure the `\one@line` of hanging lines has the same width that the `\one@line` of normal lines and to prevent the column separator from shifting.

```

\inserthangingsymbolL94 \newif\ifinserthangingsymbolR
\inserthangingsymbolR95 \newcommand{\inserthangingsymbolL}{%
1696 \ifinserthangingsymbol%
1697 \ifinstanzaL%
1698 \hskip \@ifundefined{sza@00}{0}{\expandafter%
1699 \noexpand\cname sza@00\endcsname}\stanzaindentbase%
1700 \@hangingsymbol%
1701 \fi%
1702 \fi%
1703 }%
1704 \newcommand{\inserthangingsymbolR}{%
1705 \ifinserthangingsymbolR%
1706 \ifinstanzaR%
1707 \hskip \@ifundefined{sza@00}{0}{\expandafter%
1708 \noexpand\cname sza@00\endcsname}\stanzaindentbase%
1709 \@hangingsymbol%
1710 \fi%
1711 \fi%
1712 }%
1713 %

```

Before we can define the main stanza macros we need to be able to save and reset the category code for &. To save the current value we use `\next` from the `\loop` macro.

```

1714 \chardef\next=\catcode`\&
1715 \catcode`\&=\active
1716
1717 %
      astanza This is roughly an environmental form of \stanza, which treats its
      stanza-like contents as a single chunk.
1718 \newenvironment{astanza}[1][\{]{%
1719 \catcode`\&\active
1720 \global\stanza@count\@ne\stanza@modulo\@ne
1721 \ifnum\usernamecount{sza@00}=\z@
1722 \let\stanza@hang\relax
1723 \let\endlock\relax
1724 \else
1725 \rightskip\z@ plus 1fil\relax
1726 \fi
1727 \ifnum\usernamecount{szp@00}=\z@
1728 \let\sza@penalty\relax
1729 \fi
1730 \def&{%
1731 \endlock\mbox{}%
1732 \sza@penalty
1733 \global\advance\stanza@count\@ne
1734 \@astanza@line}%
1735 \def\&{\@stopastanza}%
1736 \pstart[#1]%
1737 \@astanza@line
1738 \let\par\relax\ignorespaces%No paragraph in verses
1739 }{}
1740
1741 %

```

`\@stopastanza` This command is called by `\&` in `astanza` environment. It allows optional arguments.

```

1742 \newcommandx{\@stopastanza}[1][1,usedefault]{%
1743 \endlock\mbox{}%
1744 \pend[#1]%
1745 }%
1746 %

```

`\@astanza@line` This gets put at the start of each line in the environment. It sets up the paragraph style — each line is treated as a paragraph.

```

1747 \newcommand*{\@astanza@line}{%
1748 \ifnum\value{stanzaindentrepetition}=0
1749 \parindent=\csname sza@number\stanza@count
1750 @\endcsname\stanzaindentbase

```

```

1751 \else
1752     \parindent=\csname sza@\number\stanza@modulo
1753         @\endcsname\stanzaindentbase
1754     \managestanza@modulo
1755 \fi
1756 \endgraf
1757 \stanza@hang%
1758 \ignorespaces}
1759
1760 %

```

Lastly reset the modified category codes.

```

1761 \catcode`\&=\next
1762
1763 %

```

`\thestanzaL` And now, the left and right stanza counter.

```

\thestanzaR
1764 \newcounter{stanzaL}
1765 \newcounter{stanzaR}
1766 \renewcommand{\thestanzaL}{%
1767     \textbf{\arabic{stanzaL}}%
1768 }
1769 \renewcommand{\thestanzaR}{%
1770     \textbf{\arabic{stanzaR}}%
1771 }
1772 %
1773 %

```

## XIV Naming macros

The  $\TeX$  kernel provides `\@namedef` and `\@namuse` for defining and using macros that may have non-letters in their names. We need something similar here as we are going to need and use some numbered boxes and counters.

`\newnamebox` A set of macros for creating and using ‘named’ boxes; the macros are called after the regular box macros, but including the string ‘name’.

```

\setnamebox
\unhnamebox
\unvnamebox
\namebox
1774 \providecommand*\newnamebox}[1]{%
1775     \expandafter\newbox\csname #1\endcsname}
1776 \providecommand*\setnamebox}[1]{%
1777     \expandafter\setbox\csname #1\endcsname}
1778 \providecommand*\unhnamebox}[1]{%
1779     \expandafter\unhbox\csname #1\endcsname}
1780 \providecommand*\unvnamebox}[1]{%
1781     \expandafter\unvbox\csname #1\endcsname}
1782 \providecommand*\namebox}[1]{%
1783     \csname #1\endcsname}

```

```

1784
1785 %

\newnamecount Macros for creating and using 'named' counts.
\usernamecount
1786 \providecommand*\newnamecount}[1]{%
1787   \expandafter\newcount\csname #1\endcsname}
1788 \providecommand*\usernamecount}[1]{%
1789   \csname #1\endcsname}
1790
1791 %

```

## XV Fixing babel and polyglossia

With parallel texts there is the possibility that the two sides might use different languages via `babel`. On the other hand, nor `babel` nor `polyglossia` might not be called at all (even though it might be already built into the format).

With the normal sequential text each line is initially typeset in the current language environment, and then it is output at which time its attachments are typeset (in the same language environment. In the parallel case lines are typeset in their current language but an attachment might be typeset outside the language environment of its line if the left and right side languages are different. To counter this, we have to make sure that the correct language is used at the proper times.

```

\ifl@dusedbabel A flag for checking if babel has been used as a package.
\l@dusedbabelfalse
1792 \newif\ifl@dusedbabel
\l@dusedbabeltrue
1793 %

```

```
\l@dchecklang
```

`\bbl@set@language` In `babel` the macro `\bbl@set@language{<lang>}` does the work when the language `<lang>` is changed via `\selectlanguage`. Unfortunately for us, if it is given an argument in the form of a control sequence it strips off the `\` character rather than expanding the command. We need a version that accepts an argument in the form `\lang` without it stripping the `\`.

```

1794 \patchcmd{\bbl@set@language}%
1795   {\select@language{\language}}%
1796   {\edef\language{#1}\select@language{\language}}%
1797   {}%
1798   {}%
1799
1800 %

```

The rest of the setup has to be postponed until the end of the preamble when we know if `babel` or `polyglossia` have been used or not. However, for now assume that it has not been used.

`\selectlanguage` `\selectlanguage` is a babel command. `\theledlanguageL` and `\theledlanguageR` are the names of the languages of the left and right texts. `\l@duselanguage` is similar to `\selectlanguage`.

```

\theledlanguageL
\theledlanguageR
1801 \newcommand*{\l@duselanguage}[1]{%
1802 \gdef\theledlanguageL{%
1803 \gdef\theledlanguageR{%
1804
1805 %

```

Now do the babel or polyglossia fix or, if necessary.

```

1806 \AtBeginDocument{%
1807 \ifundefined{xpg@main@language}{%
1808 \ifundefined{bbl@main@language}{%
1809 %

```

Either babel has not been used or it has been used with no specified language.

```

1810 \l@dusedbabelfalse
1811 }{%
1812 %

```

Here we deal with the case where babel has been used. `\selectlanguage` has to be redefined to use our version of `\bbl@set@language` and to store the left or right language.

```

1813 \l@dusedbabeltrue
1814 \let\l@doldselectlanguage\selectlanguage
1815 \let\l@doldbbl@set@language\bbl@set@language
1816 \renewcommand{\selectlanguage}[1]{%
1817 \l@doldselectlanguage{#1}%
1818 \ifledRcol \gdef\theledlanguageR{#1}%
1819 \else \gdef\theledlanguageL{#1}%
1820 \fi}
1821 %

```

`\l@duselanguage` simply calls the original `\selectlanguage` so that `\theledlanguageL` and `\theledlanguageR` are unaltered.

```

1822 \renewcommand*{\l@duselanguage}[1]{%
1823 \expandafter\l@doldselectlanguage\expandafter{#1}}
1824 %

```

Lastly, initialise the left and right languages to the current babel one.

```

1825 \gdef\theledlanguageL{\bbl@main@language}%
1826 \gdef\theledlanguageR{\bbl@main@language}%
1827 }%
1828 }
1829 %

```

If use polyglossia

```

1830 { \let\old@otherlanguage\otherlanguage%
1831 \renewcommand{\otherlanguage}[2][]{%
1832 \selectlanguage[#1]{#2}%
1833 \ifledRcol \gdef\theledlanguageR{#2}%
1834 \else \gdef\theledlanguageL{#2}%
1835 \fi}%
1836 \renewcommand{\l@duselanguage}[1]{%
1837 \csuse{no\language@name @numbers}\select@language{#1}%
1838 }%
1839 \gdef\theledlanguageL{\xpg@main@language}%
1840 \gdef\theledlanguageR{\xpg@main@language}%
1841 %
    That is it.
1842 }}
1843 %

```

## XVI Counts and boxes for parallel texts

In sequential text, each chunk (that enclosed by `\pstart ...\pend`) is put into a box called `\raw@text` and then immediately printed, resulting in the box being emptied and ready for the next chunk. For parallel processing multiple boxes are needed as printing is delayed. We also need extra counters for various things.

`\maxchunks` The maximum number of chunk pairs before printing has to be called for. The default is 5120 chunk pairs.

```

1844 \newcount\l@dc@maxchunks
1845 \newcommand{\maxchunks}[1]{\l@dc@maxchunks=#1}
1846 \maxchunks{5120}
1847
1848 %

```

`\l@dnumpstartsL` The numbers of left and right chunks. `\l@dnumpstartsL` is defined in `eledmac`.

`\l@dnumpstartsR`

```

1849 \newcount\l@dnumpstartsR
1850
1851 %

```

`\l@pscL` A couple of scratch counts for use in left and right texts, respectively.

`\l@pscR`

```

1852 \newcount\l@dpscL
1853 \newcount\l@dpscR
1854
1855 %

```

`\l@dsetuprawboxes` This macro creates `\maxchunks` pairs of boxes for left and right chunks. The boxes are called `\l@dLcolrawbox1`, `\l@dLcolrawbox2`, etc.



```

1856 \newcommand*{\l@dssetuprawboxes}{%
1857   \l@l@tempcntb=\l@dc@maxchunks
1858   \loop\ifnum\l@l@tempcntb>\z@
1859     \newnamebox{\l@dLcolrawbox\the\l@l@tempcntb}
1860     \newnamebox{\l@dRcolrawbox\the\l@l@tempcntb}
1861     \advance\l@l@tempcntb \m@ne
1862   \repeat}
1863
1864 %

```

`\l@dssetupmaxlinecounts` To be able to synchronise left and right texts we need to know the maximum number of text lines there are in each pair of chunks. `\l@dssetupmaxlinecounts` creates `\maxchunks` new counts called `\l@dmaxlinesinpar1`, etc., and `\l@dzeromaxlinecounts` zeroes all of them.

```

1865 \newcommand*{\l@dssetupmaxlinecounts}{%
1866   \l@l@tempcntb=\l@dc@maxchunks
1867   \loop\ifnum\l@l@tempcntb>\z@
1868     \newnamecount{\l@dmaxlinesinpar\the\l@l@tempcntb}
1869     \advance\l@l@tempcntb \m@ne
1870   \repeat}
1871 \newcommand*{\l@dzeromaxlinecounts}{%
1872   \begingroup
1873   \l@l@tempcntb=\l@dc@maxchunks
1874   \loop\ifnum\l@l@tempcntb>\z@
1875     \global\usenamecount{\l@dmaxlinesinpar\the\l@l@tempcntb}=\z@
1876     \advance\l@l@tempcntb \m@ne
1877   \repeat
1878   \endgroup}
1879
1880 %

```

Make sure that all these are set up. This has to be done after the user has had an opportunity to change `\maxchunks`.

```

1881 \AtBeginDocument{%
1882   \l@dssetuprawboxes
1883   \l@dssetupmaxlinecounts
1884   \l@dzeromaxlinecounts
1885   \l@dnumpstartsL=\z@
1886   \l@dnumpstartsR=\z@
1887   \l@dpscL=\z@
1888   \l@dpscR=\z@}
1889
1890 %

```

## XVII Checking text to be processed

`\if@pstarts` `\check@pstarts` returns `\@pstartstrue` if there are any unprocessed chunks.  
`\@pstartstrue`  
`\@pstartsfalse`  
`\check@pstarts`

```

1891 \newif\if@pstarts
1892 \newcommand*{\check@pstarts}{%
1893   \@pstartsfalse
1894   \ifnum\l@dnumpstartsL>\l@dpscL
1895     \@pstartstrue
1896   \else
1897     \ifnum\l@dnumpstartsR>\l@dpscR
1898       \@pstartstrue
1899     \fi
1900   \fi
1901 }
1902
1903 %

```

`\ifaraw@text` `\checkraw@text` checks whether the current Left or Right box is void or not. If one or other is not void it sets `\araw@texttrue`, otherwise both are void and it sets `\araw@textfalse`.

```

\checkraw@text
1904 \newif\ifaraw@text
1905 \newcommand*{\checkraw@text}{%
1906   \araw@textfalse
1907   \ifvbox\namebox{1@dLcolrawbox\the\l@dpscL}
1908     \araw@texttrue
1909   \else
1910     \ifvbox\namebox{1@dRcolrawbox\the\l@dpscR}
1911       \araw@texttrue
1912     \fi
1913   \fi
1914 }
1915
1916 %

```

`\@writelinesinparL` These write the number of text lines in a chunk to the section files, and then afterwards `\@writelinesinparR` zero the counter.

```

1917 \newcommand*{\@writelinesinparL}{%
1918   \edef\next{%
1919     \write\linenum@out{\string\@pend[\the\@donereallinesL]}}%
1920   \next
1921   \global\@donereallinesL \z@}
1922 \newcommand*{\@writelinesinparR}{%
1923   \edef\next{%
1924     \write\linenum@outR{\string\@pendR[\the\@donereallinesR]}}%
1925   \next
1926   \global\@donereallinesR \z@}
1927
1928 %

```

`\@writepageofparL` These write the pages where start the first line of a chunk.  
`\@writepageofparR`

```

1929 \newcommand*{\@writepageofparL}[0]{%
1930   \ifnum\@donereallinesL=\z@%
1931     \edef\next{%
1932       \write\linenum@out{\string\@pstart{\the\l@dpscl}{\the\c@page}{\the\
numpagelinesL}}%
1933     }%
1934     \next%
1935   \fi%
1936 }%
1937 \newcommand*{\@writepageofparR}[0]{%
1938   \ifnum\@donereallinesR=\z@%
1939     \edef\next{%
1940       \write\linenum@outR{\string\@pstartR{\the\l@dpscl}{\the\c@page}{\the\
numpagelinesR}}%
1941     }%
1942     \next%
1943   \fi%
1944 }%
1945 %

```

## XVIII Parallel columns

`\@eledsectionL` The parbox `\@eledsectionL` and `\@eledsectionR` will keep the sections' title.

```

\@eledsectionR
1946 \newsavebox{\@eledsectionL}%
1947 \newsavebox{\@eledsectionR}%
1948 %

```

`\Columns` The `\Columns` command results in the previous Left and Right texts being typeset in matching columns. There should be equal numbers of chunks in the left and right texts.

```

1949 \newcommand*{\Columns}{%
1950   \ifl@dpairing%
1951     \led@err@Columns@InsideEnv%
1952   \fi%
1953   \expandafter\ifvoid\csname l@dRcolrawbox1\endcsname%
1954     \led@err@Columns@WithoutEnv%
1955   \else%
1956     \global\l@dprintingcolumnstrue%
1957     \eledsection@correcting@skip=-\baselineskip% Correction for sections'
titles
1958     \ifnum\l@dnumpstartsL=\l@dnumpstartsR\else
1959       \led@err@BadLeftRightPstarts{\the\l@dnumpstartsL}{\the\l@dnumpstartsR}%
1960     \fi
1961   %

```

Start a group and zero counters, etc.

```

1962 \begingroup
1963 \l@dzeropenalties

```

```

1964 \endgraf\global\num@lines=\prevgraf
1965 \global\num@linesR=\prevgraf
1966 \global\par@line=\z@
1967 \global\par@lineR=\z@
1968 \global\l@dpscL=\z@
1969 \global\l@dpscR=\z@
1970 \get@familiarfootnote@number%
1971 %

```

Check if there are chunks to be processed, and process them two by two (left and right pairs).

```

1972 \check@pstarts
1973 \loop\if@pstarts
1974 \global\pstartnumtrue
1975 \global\pstartnumRtrue
1976 %

```

Increment `\l@dpscL` and `\l@dpscR` which here count the numbers of left and right chunks. Also restore the value of the public `pstart` counters.

```

1977 \global\advance\l@dpscL \@ne
1978 \global\advance\l@dpscR \@ne
1979 \restore@pstartL@pc%
1980 \restore@pstartR@pc%
1981 %

```

We print the optional argument of `\pstart` or the argument of `\AtEveryPstart`.

```

1982 \Columns@print@before@pstart%
1983 %

```

Check if there is text yet to be processed in at least one of the two current chunks, and also whether the left and right languages are the same

```

1984 \checkraw@text
1985 { \loop\ifaraw@text
1986 %

```

Grab the next pair of left and right text lines and output them, swapping languages if they differ, adding section title if needed.

```

1987 \l@duselanguage{\theledlanguageL}%
1988 \do@lineL
1989 \xifinlist{\the\l@dpscL}{\eled@sections@@}
1990 {%
1991 \ifdefstring{\@eledsectmark}{L}%
1992 {\csuse{eled@sectmark@\the\l@dpscL}%
1993 }}%
1994 \global\csundef{eled@sectmark@\the\l@dpscL}%
1995 \savebox{\@eledsectionL}{\parbox[t][t]{\Lcolwidth}{\vbox
{\print@eledsectionL}}}%\vbox{}-> prevent alignment troubles with RTL
language
1996 }%

```

```

1997         {}%
1998         \l@duselanguage{\theledlanguageR}%
1999         \do@lineR
2000         \xifinlist{\the\l@dpscR}{\eled@sectionsR@@}
2001         {%
2002         \ifdefstring{\@eledsectmark}{R}%
2003         {\csuse{eled@sectmark@the\l@dpscR R}%
2004         }{}%
2005         \global\csundef{eled@sectmark@the\l@dpscR R}%
2006         \savebox{\@eledsectionR}{\parbox[t]{}[t]{\Rcolwidth}{\vbox
\print@eledsectionR}}}%\vbox{}-> prevent alignment troubles with RTL
language
2007         {}%
2008         \hb@xt@ \hsize{%
2009         \ifdefstring{\columns@position}{L}{\hfill }%
2010         \unhbox\l@leftbox%
2011         \ifhbox\@eledsectionL%
2012         \usebox{\@eledsectionL}%
2013         \fi%
2014         \print@columnseparator%
2015         \unhbox\l@drighthbox%
2016         \ifhbox\@eledsectionR%
2017         \usebox{\@eledsectionR}%
2018         \fi%
2019         \ifdefstring{\columns@position}{R}{\hfill}%
2020         }%
2021         \checkraw@text
2022         \checkverseL
2023         \checkverseR
2024         \checkpb@columns
2025         \repeat}
2026 %

```

Having completed a pair of chunks, write the number of lines in each chunk to the respective section files. Increment pstart counters and reset line numbering if it is by pstart.

```

2027         \@writelinesinparL
2028         \@writelinesinparR
2029         \check@pstarts
2030         \ifbypstart@%
2031         \write\linenum@out{\string\@set[1]}
2032         \resetprevline@
2033         \fi
2034         \ifbypstart@R
2035         \write\linenum@outR{\string\@set[1]}
2036         \resetprevline@
2037         \fi
2038         \Columns@print@after@pend%
2039         \repeat
2040 %

```

Having output all chunks, make sure all notes have been output, then zero counts ready for the next set of texts. The boolean tests for stanza are switched to false.

```

2041 \flush@notes
2042 \flush@notesR
2043 \endgroup
2044 %

2045 \global\l@dpscL=\z@
2046 \global\l@dpscR=\z@
2047 \global\l@dnpstartsL=\z@
2048 \global\l@dnpstartsR=\z@
2049 \global\l@dprintingcolumnsfalse%
2050 \ignorespaces
2051 \global\instanzaLfalse%
2052 \global\instanzaRfalse%
2053 \fi}
2054
2055 %

```

**\print@columnseparator** `\print@columnseparator` prints the column separator, with surrounding spaces (as the user has set them). We use the  $\TeX$  `\ifdim` instead of `etoolbox` to avoid having `\hfill` in a `{}`, which deletes some space (but not much).

```

2056 \def\print@columnseparator{%
2057 \ifdim\beforecolumnseparator<0pt%
2058 \hfill%
2059 \else%
2060 \hspace{\beforecolumnseparator}%
2061 \fi%
2062 \columnseparator%
2063 \ifdim\aftercolumnseparator<0pt%
2064 \hfill%
2065 \else%
2066 \hspace{\aftercolumnseparator}%
2067 \fi%
2068 }%
2069 %

```

**\checkpb@columns** `\checkpb@columns` prevent or make pagebreaking in columns, depending of the use of `\ledpb` or `\lednopb`.

```

2070
2071 \newcommand{\checkpb@columns}{%
2072 \newif\if@pb
2073 \newif\if@nopb
2074 \IfStrEq{\led@pb@setting}{before}{
2075 \numdef{\next@absline}{\the\absline@num+1}%
2076 \numdef{\next@abslineR}{\the\absline@numR+1}%
2077 \xifinlists{\next@absline}{\l@prev@pb}{\@pbtrue}{}%

```

```

2078 \xifinlistcs{\next@abslineR}{l@prev@pbR}{\@pbtrue}{%
2079 \xifinlistcs{\next@absline}{l@prev@nopb}{\@nopbtrue}{}%
2080 \xifinlistcs{\next@abslineR}{l@prev@nopbR}{\@nopbtrue}{%
2081 }{}
2082 \IfStrEq{\led@pb@setting}{after}{
2083 \xifinlistcs{\the\absline@num}{l@prev@pb}{\@pbtrue}{}%
2084 \xifinlistcs{\the\absline@numR}{l@prev@pbR}{\@pbtrue}{%
2085 \xifinlistcs{\the\absline@num}{l@prev@nopb}{\@nopbtrue}{}%
2086 \xifinlistcs{\the\absline@numR}{l@prev@nopbR}{\@nopbtrue}{%
2087 }{}
2088 \if@nopb\nopagebreak[4]\enlargethispage{\baselineskip}\fi
2089 \if@pb\pagebreak[4]\fi
2090 }
2091 %

```

**\columnseparator** The separator between line pairs in parallel columns is in the form of a vertical rule extending a little below the baseline and with a height slightly greater than the `\baselineskip`. The width of the rule is `\columnrulewidth` (initially 0pt so the rule is invisible).

```

2092 \newcommand*{\columnseparator}{%
2093 \smash{\rule[-0.2\baselineskip]{\columnrulewidth}{1.05\baselineskip}}}
2094 \newdimen\columnrulewidth
2095 \columnrulewidth=\z@
2096
2097 %

```

**\columnspan** The position of the `\Columns` in a page. Default value is R. Stored in `\columns@position`.

```

\columns@position
2098 \newcommand*{\columnspan}[1]{%
2099 \xdef\columns@position{#1}%
2100 }%
2101 \xdef\columns@position{R}%
2102 %

```

**\beforecolumnseparator** `\beforecolumnseparator` and `\aftercolumnseparator` lengths are defined to -1pt. If user changes them to a positive length, the lengths are used to define blank spaces before / after the column separator, instead of `\hfill`.

```

2103 \newlength{\beforecolumnseparator}%
2104 \setlength{\beforecolumnseparator}{-2pt}%
2105
2106 \newlength{\aftercolumnseparator}%
2107 \setlength{\aftercolumnseparator}{-2pt}%
2108
2109 %

```

**setwidthliketwocolumns@L** The `\setwidth...` macros are called in `\beginnumbing` in a **non-parallel** typesetting context, to fix the width of the lines to be vertically aligned with parallel columns. They

```

setwidthliketwocolumns@L
tpositionliketwocolumns@L
epositionliketwocolumns@L
setwidthliketwocolumns@C
tpositionliketwocolumns@C
epositionliketwocolumns@C
setwidthliketwocolumns@R
tpositionliketwocolumns@R
epositionliketwocolumns@R

```

are also called at the beginning of a note's group, if some options are enabled. The `\setposition...` macros are called in `\beginnumbering` in a **non-parallel** typesetting context to fix the position of the lines. The `\setnoteposition...` macros are called in `\xxxfootstart` in a **non-parallel** typesetting context to fix the position of notes block.

```
2110 \newcommand{\setwidthliketwocolumns@L}{%
2111 % Temporary dimension, initially equal to the standard hsize, i.e. text
    width
2112 %   \begin{macrocode}
2113   \newdimen\temp%
2114   \temp=\hsize%
2115 %
```

Hsize : Left + Right width

```
2116   \hsize=\Lcolwidth%
2117   \advance\hsize\Rcolwidth%
2118 %
```

Now, calculating the remaining space

```
2119   \advance\temp-\hsize%
2120 %
```

And multiply the hsize by 2/3 of this space

```
2121   \multiply\temp by 2%
2122   \divide\temp by 3%
2123   \advance\hsize\temp%
2124 }%
2125
2126 \newcommand{\setpositionliketwocolumns@L}{%
2127   \renewcommand{\ledrlfill}{\hfill}%
2128 }%
2129
2130 \newcommand{\setnotespositionliketwocolumns@L}{%
2131 }%
2132
2133
2134 %
```

```
2135 \newcommand{\setwidthliketwocolumns@C}{%
2136 % Temporary dimension, initially equal to the standard hsize, i.e. text
    width
2137 %
```

```
2138   \newdimen\temp%
2139   \temp=\hsize%
2140 % Hsize : Left + Right width
2141 %
```



```

2142 \hsize=\Lcolwidth%
2143 \advance\hsize\Rcolwidth%
2144 % Now, calculating the remaining space
2145 %

```

```

2146 \advance\temp-\hsize%
2147 %

```

And multiply the hsize by 1/2 of this space

```

2148 \divide\temp by 2%
2149 \advance\hsize\temp%
2150 }%
2151
2152 \newcommand{\setpositionliketwocolumns@C}{%
2153 \doinsidelinehook{\hfill}%
2154 \renewcommand{\ledrlfill}{\hfill}%
2155 }%
2156
2157 \newcommand{\setnotespositionliketwocolumns@C}{%
2158 \newdimen\temp%
2159 \newdimen\tempa%
2160 \temp=\hsize%
2161 \tempa=\Lcolwidth%
2162 \advance\tempa\Rcolwidth%
2163 \advance\temp-\tempa%
2164 \divide\temp by 2%
2165 \leftskip=\temp%
2166 \rightskip=-\temp%
2167 }%
2168
2169 \newcommand{\setwidthliketwocolumns@R}{%
2170 %

```

Temporary dimension, initially equal to the standard hsize, i.e. text width

```

2171 \newdimen\temp%
2172 \temp=\hsize%
2173 %

```

Hsize : Left + Right width

```

2174 \hsize=\Lcolwidth%
2175 \advance\hsize\Rcolwidth%
2176 %

```

Now, calculating the remaining space

```

2177 \advance\temp-\hsize%
2178 %

```

And multiply the hsize by 2/3 of this space

```

2179 \multiply\temp by 2%
2180 \divide\temp by 3%
2181 \advance\hsize\temp%
2182 }%
2183
2184 \newcommand{\setpositionliketwocolumns@R}{%
2185 \doinsidelinehook{\hfill}%
2186 }%
2187
2188 \newcommand{\setnotespositionliketwocolumns@R}{%
2189 \newdimen\temp%
2190 \newdimen\tempa%
2191 \temp=\hsize%
2192 \tempa=\Lcolwidth%
2193 \advance\tempa\Rcolwidth%
2194 \advance\temp-\tempa%
2195 \divide\temp by 2%
2196 \leftskip=\temp%
2197 \rightskip=-\temp%
2198 }%
2199
2200 %

```

`\Columns@print@before@pstart`    The `\Columns@print@before@pstart` and `\Columns@print@after@pend` print the content of the optional argument of `\pstart` / `\pend`. If this content is not empty, it also print the separator.

`\Columns@print@after@pend`

```

2201 \newcommand{\Columns@print@before@pstart}{%
2202 \ifboolexpr{%
2203 test{\ifcsstring{before@pstartL@the\l@dpscl}{\at@every@pstart}}%
2204 and test {\ifcsstring{before@pstartR@the\l@dpscl}{\at@every@pstart}}%
2205 and test {\ifdefempty{\at@every@pstart}}}%
2206 {}%
2207 {%
2208 \hb@xt@ \hsize{%
2209 \ifdefstring{\columns@position}{L}{\hfill }%
2210 \par\parbox[t] [] [t]{\Lcolwidth}{%
2211 \csuse{before@pstartL@the\l@dpscl}%
2212 }%
2213 \print@columnseparator%
2214 \parbox[t] [] [t]{\Rcolwidth}{%
2215 \set@sectcountR%
2216 \csuse{before@pstartR@the\l@dpscl}%
2217 }%
2218 \ifdefstring{\columns@position}{R}{\hfill}%
2219 }%
2220 }%
2221 \global\csundef{before@pstartL@the\l@dpscl}%
2222 \global\csundef{before@pstartR@the\l@dpscl}%
2223 }%

```

```

2224 \newcommand{\Columns@print@after@pend}{%
2225   \ifboolexpr{%
2226     test{\ifcsstring{after@pendL@the\l@dpscl}{\at@every@pend}}%
2227     and test {\ifcsstring{after@pendR@the\l@dpscR}{\at@every@pend}}%
2228     and test {\ifdefempty{\at@every@pend}}}%
2229     {%
2230     {%
2231       \hb@xt@ \hsize{%
2232         \ifdefstring{\columns@position}{L}{\hfill }%
2233         \parbox[t] [] [t]{\Lcolwidth}{%
2234           \csuse{after@pendL@the\l@dpscl}%
2235         }%
2236         \print@columnseparator%
2237         \parbox[t] [] [t]{\Rcolwidth}{%
2238           \set@sectcountR%
2239           \csuse{after@pendR@the\l@dpscR}%
2240         }%
2241         \ifdefstring{\columns@position}{R}{\hfill}%
2242       }%
2243     }%
2244     \global\csundef{after@pendL@the\l@dpscl}%
2245     \global\csundef{after@pendR@the\l@dpscR}%
2246   }%
2247   %

```

## XIX Parallel pages

This is considerably more complicated than parallel columns.

### XIX.1 Specific counters

`\numpagelinesL` Counts for the number of lines on a left or right page, and the smaller of the number of lines on a pair of facing pages.  
`\numpagelinesR`  
`\l@dminpagelines`

```

2248 \newcount\numpagelinesL
2249 \newcount\numpagelinesR
2250 \newcount\l@dminpagelines
2251
2252 %

```

### XIX.2 Main macro

`\Pages` The `\Pages` command results in the previous Left and Right texts being typeset on matching facing pages. There should be equal numbers of chunks in the left and right texts.

```

2253 \newcommandx*{\Pages}[1][1,usedefault]{%
2254   \ifl@dpairing%

```

```

2255 \led@err@Pages@InsideEnv%
2256 \fi%
2257 \expandafter\ifvoid\csname l@dRcolrawbox1\endcsname%
2258 \led@err@Pages@WithoutEnv%
2259 \else%
2260 \ifstrequal{#1}{mainmatter}{\Pages@mainmattertrue}{\Pages@mainmatterfalse
}%
2261 \eledsection@correcting@skip=-2\baselineskip% line correcting for section
titles.
2262 \parledgroup@notespacing@set@correction%
2263 \typeout{}%
2264 \typeout{***** PAGES *****}%
2265 \ifnum\l@dnumpstartsL=\l@dnumpstartsR\else%
2266 \led@err@BadLeftRightPstarts{\the\l@dnumpstartsL}{\the\l@dnumpstartsR}%
2267 \fi%
2268 %

```

Get onto an empty even (left) page, then initialise counters, etc.

```

2269 \cleartol@devenpage%
2270 \global\l@dprintingpagetrue%
2271 \begingroup%
2272 %

```

As \Pages must be called outside of the pages environment, we have to redefine the \Lcolwidth and \Rcolwidth lengths, to prevent false overfull hboxes.

```

2273 \setlength{\Lcolwidth}{\textwidth}%
2274 \setlength{\Rcolwidth}{\textwidth}%
2275 %

```

```

2276 \l@dzeropenalties%
2277 \endgraf\global\num@lines=\prevgraf%
2278 \global\num@linesR=\prevgraf%
2279 \global\par@line=\z@%
2280 \global\par@lineR=\z@%
2281 \global\l@dpscL=\z@%
2282 \global\l@dpscR=\z@%
2283 \writtenlinesLfalse%
2284 \writtenlinesRfalse%
2285 \get@familiarfootnote@number%
2286 %

```

The footnotes are printed in a different way from expected in reledmac, as we may want to print the notes on one side only.

```

2287 \let\print@Xnotes\print@Xnotes@forpages%
2288 \let\print@notesX\print@notesX@forpages%
2289 %

```

Check if there are chunks to be processed.

```

2290 \check@pstarts%

```

```

2291 \loop\if@pstarts%
2292 %

```

Loop over the number of chunks, incrementing the chunk counts (\l@dpscL and \l@dpscR are chunk (box) counts.)

```

2293 \global\advance\l@dpscL \@ne%
2294 \global\advance\l@dpscR \@ne%
2295 %

```

Calculate the maximum number of real text lines in the chunk pair, storing the result in the relevant \l@dmaxlinesinpar.

```

2296 \getlinesfromparlistL%
2297 \getlinesfromparlistR%
2298 \l@dcalc@maxoftwo{\@cs@linesinparL}{\@cs@linesinparR}%
2299 {\usernamecount{\l@dmaxlinesinpar\the\l@dpscL}}%
2300 \check@pstarts%
2301 \repeat%
2302 %

```

Zero the counts again, ready for the next bit.

```

2303 \global\l@dpscL=\z@%
2304 \global\l@dpscR=\z@%
2305 %

```

Get the number of lines on the first pair of pages and store the minimum in \l@dminpagelines.

```

2306 \getlinesfrompagelistL%
2307 \getlinesfrompagelistR%
2308 \l@dcalc@minoftwo{\@cs@linesonpageL}{\@cs@linesonpageR}%
2309 {\l@dminpagelines}%
2310 %

```

Now we start processing the left and right chunks (\l@dpscL and \l@dpscR count the left and right chunks), starting with the first pair.

```

2311 \check@pstarts%
2312 \if@pstarts%
2313 %

```

Increment the chunk counts to get the first pair. Restore also the value of public pstart counters.

```

2314 \global\advance\l@dpscL \@ne%
2315 \global\advance\l@dpscR \@ne%
2316 \restore@pstartL@pc%
2317 \restore@pstartR@pc%
2318 %

```

We have not processed any lines from these chunks yet, so zero the respective line counts.

```

2319 \global\@donereallinesL=\z@%
2320 \global\@donetotallinesL=\z@%
2321 \global\@donereallinesR=\z@%
2322 \global\@donetotallinesR=\z@%
2323 %

```

Start a loop over the boxes (chunks).

```

2324 \checkraw@text%
2325 %
2326 % \begingroup
2327 { \loop\ifaraw@text%
2328 %

```

See if there is more that can be done for the left page and set up the left language.

```

2329 \checkpageL%
2330 \l@duselanguage{\theledlanguageL}%
2331 { \loop\ifl@dsamepage%
2332 %

```

Process the next (left) text line, adding it to the page. Eventually, adds the optional argument of pstart.

```

2333 \ifdefstring{\@eledsectnotoc}{L}{\ledsectnotoc}{}%
2334 \csuse{before@pstartL@the\l@dpscl}%
2335 \global\csundef{before@pstartL@the\l@dpscl}%
2336 \do@lineL%
2337 \xifinlist{\the\l@dpscl}{\eled@sections@@}
2338 {\print@eledsectionL}%
2339 {}%
2340 \advance\numpagelinesL \@ne%
2341 %

```

When using shiftedpstarts option, a `\l@dleftbox` with a null height is not printed. That means we do not insert blank lines at the end of a left chunk lower than the corresponding right chunk. However, a `\l@dleftbox` with a null height will advance the `\pagetotal` in any case. Because if we do not do this, the `\checkpageL` could let `\ifl@pagefull` to false, and consequently a `\@lopL` equal to 1000 could be written in the numbered file, even if all the lines actually needed for the current page have been printed. `l@dleftbox`

```

2342 \ifshiftedpstarts%
2343 \ifdim\ht\l@dleftbox>0pt%
2344 \parledgroup@correction@notespacing{L}%
2345 \hb@xt@ \hsize{\ledstrutL\unhbox\l@dleftbox}%
2346 \else%
2347 \unless\ifadvancedshiftedpstarts%
2348 \dimen0=\pagetotal%
2349 \advance\dimen0 by \baselineskip%
2350 \global\pagetotal=\dimen0%
2351 \else%

```

```

2352         \ifnomaxlines%
2353             \numdef{\@tmp}{\the\l@dpscL+1}%
2354             \ifcsdef{minpage@pstart@\@tmp}{%
2355                 \ifnumless{\the\c@page}{\csuse{
minpage@pstart@\@tmp}}}%
2356                 {\dimen0=\pagetotal%
2357                  \advance\dimen0 by \baselineskip%
2358                  \global\pagetotal=\dimen0%
2359                  }%
2360                 {}%
2361             }{}%
2362         \fi%
2363     \fi%
2364 \fi%
2365 \else%
2366     \parledgroup@correction@notespacing{L}%
2367     \hb@xt@ \hsize{\ledstrutL\unhbox\l@dleftbox}%
2368 \fi%
2369 %

```

Perhaps we have to move to the next (left) box. Check if we have got all we can onto the page. If not, repeat for the next line. Check if we have to print the optional argument of the last pend. Check if the page is full. Check if the verse is split in two subsequent pages. Check there is any forced page breaks. Reset the verse skipnumber boolean

```

2370         \get@nextboxL%
2371         \global\l@dskipversenumberfalse%
2372         \ifprint@last@after@pendL%
2373             \csuse{after@pendL@\the\l@dpscL}%
2374             \global\csundef{after@pendL@\the\l@dpscL}%
2375         \fi%
2376         \checkpageL%
2377         \checkverseL%
2378         \checkpbL%
2379         \repeat%
2380 %

```

That (left) page has been filled. Output the number of real lines on the page — if the page break is because the page has been filled with lines, use the actual number, otherwise the page has been ended early in order to synchronise with the facing page so use an impossibly large number.

```

2381         \ifl@dpagefull%
2382             \@writelinesonpageL{\the\numpagelinesL}%
2383         \else%
2384             \@writelinesonpageL{1000}%
2385         \fi%
2386 %

```

Reset to zero the left-page line count, clear the page to get onto the facing (odd, right) page, and reinitialize the accumulated dimension of interline correction for notes in parallel ledgroup.

```

2387 \numpagelinesL \z%
2388 \parledgroup@correction@notespacing@init%
2389 \clearl@dleftpage }%
2390 %

```

Now do the same for the right text.

```

2391 \checkpageR%
2392 \l@duselanguage{\theledlanguageR}%
2393 {
2394   \loop\ifl@dsamepage%
2395     \set@sectcountR%
2396     \ifdefstring{\@eledsectnotoc}{R}{\ledsectnotoc}{}%
2397     \csuse{before@pstartR@the\l@dpscR}%
2398     \global\csundef{before@pstartR@the\l@dpscR}%
2399     \do@lineR%
2400     \xifinlist{the\l@dpscR}{\eled@sectionsR@@}%
2401     {\print@eledsectionR}%
2402     {}%
2403   \advance\numpagelinesR \@ne%
2404   \ifshiftedpstarts%
2405     \ifdim\ht\l@drightbox>0pt%
2406       \parledgroup@correction@notespacing{R}%
2407       \hb@xt@ \hsize{\ledstrutR\unhbox\l@drightbox}%
2408     \else%
2409       \unless\ifadvancedshiftedpstarts%
2410         \dimen0=\pagetotal%
2411         \advance\dimen0 by \baselineskip%
2412         \global\pagetotal=\dimen0%
2413       \else%
2414         \ifnomaxlines%
2415           \numdef{\@tmp}{\the\l@dpscR+1}%
2416           \ifcsdef{minpage@pstart@\@tmp}{%
2417             \ifnumless{the\c@page}{\csuse{
minpage@pstart@\@tmp}}%
2418               {\dimen0=\pagetotal%
2419                 \advance\dimen0 by \baselineskip%
2420                 \global\pagetotal=\dimen0%
2421                 }%
2422               {}%
2423             }\fi%
2424             \fi%
2425             \fi%
2426           \else%
2427             \parledgroup@correction@notespacing{R}%
2428             \hb@xt@ \hsize{\ledstrutR\unhbox\l@drightbox}%
2429             \fi%
2430             \get@nextboxR%
2431             \global\l@dskipversenumberRfalse%
2432             \ifprint@last@after@pendR%
2433               \csuse{after@pendR@the\l@dpscR}%

```



```

2434         \global\csundef{after@pendR@the\l@dpscR}%
2435         \fi%
2436         \checkpageR%
2437         \checkverseR%
2438         \checkpbR%
2439         \repeat%
2440         \ifl@pagefull%
2441         \@writelinesonpageR{\the\numpagelinesR}%
2442         \else%
2443         \@writelinesonpageR{1000}%
2444         \fi%
2445         \numpagelinesR=\z@%
2446         \parledgroup@correction@notespacing@init%
2447 %

```

The page is full, so move onto the next (left, odd) page and repeat left text processing.

```

2448         \clearl@drighthpage}%
2449 %

```

More to do? If there is we have to get the number of lines for the next pair of pages before starting to output them.

```

2450         \checkraw@text%
2451         \ifaraw@text%
2452         \getlinesfrompagelistL%
2453         \getlinesfrompagelistR%
2454         \l@dcalcm@minoftwo{\@cs@linesonpageL}{\@cs@linesonpageR}%
2455         {\l@dminpagelines}%
2456         \fi%
2457         \repeat}%
2458 %

```

We have now output the text from all the chunks.

```

2459         \fi%
2460 %

```

Make sure that there are no inserts hanging around.

```

2461         \flush@notes%
2462         \flush@notesR%
2463         \endgroup%
2464 %

```

Zero counts ready for the next set of left/right text chunks. The boolean tests for stanza are switched to false.

```

2465         \global\l@dpscL=\z@%
2466         \global\l@dpscR=\z@%
2467         \global\l@dnumpstasL=\z@%
2468         \global\l@dnumpstasR=\z@%
2469         \global\instanzaLfalse%
2470         \global\instanzaRfalse%

```

```

2471 \global\l@dprintingpagesfalse%
2472 \finish@Pages@notes%Needed to prevent final notes overlap line number
2473 \ignorespaces\fi}
2474
2475
2476 %

```

### XIX.3 Ensure all notes be printed at the end of parallel pages

**\finish@Pages@notes** This macro ensures that all long notes are printed at the end of \Pages typesetting, and that there is no more long notes left for the next pages.

```

2477 \newcommand{\finish@Pages@notes}{%
2478 \def\do##1{%
2479 %

```

First, declare footnote box if there was no previous declared. E.g. if familiar or critical notes were disabled by reledmac's options.

```

2480 \ifnocritical@%
2481 \global\newnamebox{##1footins}
2482 \fi
2483 \ifnofamiliar@%
2484 \global\newnamebox{footins##1}
2485 \fi
2486 %

```

And now, add a \newpage if there is no more footnote to print.

```

2487 \ifvoid\csuse{##1footins}%
2488 \ifvoid\csuse{footins##1}\else%
2489 \newpage\null%
2490 \listbreak%
2491 \fi%
2492 \else%
2493 \newpage\null%
2494 \listbreak%
2495 \fi%
2496 }%
2497 \dolistloop{@series}%
2498 }%
2499 %

```

### XIX.4 Struts

**\ledstrutL** Struts inserted into leftand right text lines.

```

\ledstrutR
2500 \newcommand*{\ledstrutL}{}
2501 \newcommand*{\ledstrutR}{}
2502
2503 %

```

## XIX.5 Page clearing

`\cleartoevenpage` `\cleartoevenpage`, which is defined in the memoir class, is like `\clear(double)page` except that we end up on an even page. `\cleartol@devenpage` is similar except that it first checks to see if it is already on an empty page.

```

2504 \providecommand{\cleartoevenpage}[1][\@empty]{%
2505     \clearpage
2506     \ifodd\c@page\hbox{#1}\clearpage\fi}
2507
2508 \newcommand*{\cleartol@devenpage}{%
2509     \ifdim\pagetotal<\topskip% on an empty page
2510     \else
2511         \clearpage
2512         \Pages@mainmatter%
2513     \fi
2514     \ifodd\c@page%
2515         \ifprevpgnotnumbered%
2516             \addtocounter{par@page}{-1}%
2517             \ifdef\prevpgstyle{\thispagestyle{\prevpgstyle}}}%
2518         \fi%
2519         \hbox{}\clearpage%
2520     \fi%
2521 }%
2522 %

```

`\clearl@dleftpage` `\clearl@dleftpage` and `\clearl@drightpage` get us onto an odd and even page, respectively, checking that we end up on the subsequent page. Both commands use `\newpage` and not `\clearpage`. Because `\clearpage` prints all footnotes before the next page, even if it has to add new empty pages, while `\newpage` does not. And as we want notes started in the left page continue in the right page and *vice-versa*, we must use `\newpage` and not `\clearpage`.

```

2523 \newcommand*{\clearl@dleftpage}{%
2524     \ifdim\pagetotal=0pt\hbox{}\fi%
2525     \newpage%
2526     \ifodd\c@page\else
2527         \led@err@LeftOnRightPage
2528         \hbox{}\fi%
2529     \cleardoublepage
2530 \fi}
2531
2532 \newcommand*{\clearl@drightpage}{%
2533     \ifdim\pagetotal=0pt\hbox{}\fi%
2534     \newpage%
2535     \ifodd\c@page
2536         \led@err@RightOnLeftPage
2537         \hbox{}\fi%
2538     \cleartoevenpage
2539 \fi}

```

2540  
2541 %

## XIX.6 Lines managing

`\getlinesfromparlistL` `\getlinesfromparlistL` gets the next entry from the `\linesinpar@listL` and puts it into `\@cs@linesinparL`; if the list is empty, it sets `\@cs@linesinparL` to 0. Similarly `\getlinesfromparlistR` for `\getlinesfromparlistR`.

```
\@cs@linesinparL
2542 \newcommand*\getlinesfromparlistL{%
2543   \ifx\linesinpar@listL\empty
2544     \gdef\@cs@linesinparL{0}%
2545   \else
2546     \gl@p\linesinpar@listL\to\@cs@linesinparL
2547   \fi}
2548 \newcommand*\getlinesfromparlistR{%
2549   \ifx\linesinpar@listR\empty
2550     \gdef\@cs@linesinparR{0}%
2551   \else
2552     \gl@p\linesinpar@listR\to\@cs@linesinparR
2553   \fi}
2554
2555 %
```

`\getlinesfrompagelistL` `\getlinesfrompagelistL` gets the next entry from the `\linesonpage@listL` and puts it into `\@cs@linesonpageL`; if the list is empty, it sets `\@cs@linesonpageL` to 1000. Similarly for `\getlinesfrompagelistR`.

```
\@cs@linesonpageL
2556 \newcommand*\getlinesfrompagelistL{%
2557   \ifx\linesonpage@listL\empty
2558     \gdef\@cs@linesonpageL{1000}%
2559   \else
2560     \gl@p\linesonpage@listL\to\@cs@linesonpageL
2561   \fi}
2562 \newcommand*\getlinesfrompagelistR{%
2563   \ifx\linesonpage@listR\empty
2564     \gdef\@cs@linesonpageR{1000}%
2565   \else
2566     \gl@p\linesonpage@listR\to\@cs@linesonpageR
2567   \fi}
2568
2569 %
```

`\@writelinesonpageL` These macros output the number of lines on a page to the section file in the form of `\@lopL` or `\@lopR` macros.

```
\@writelinesonpageR
2570 \newcommand*\@writelinesonpageL}[1]{%
2571   \edef\next{\write\linenum@out{\string\@lopL{#1}}}%
2572   \next}
```

```

2573 \newcommand*{\@writelinesonpageR}[1]{%
2574   \edef\next{\write\linenum@outR{\string\@lopR{#1}}}%
2575   \next}
2576
2577 %

```

`\l@dcalc@maxoftwo` `\l@dcalc@maxoftwo{⟨num⟩}{⟨num⟩}{⟨count⟩}` sets `⟨count⟩` to the maximum of the two `⟨num⟩`.

Similarly `\l@dcalc@minoftwo{⟨num⟩}{⟨num⟩}{⟨count⟩}` sets `⟨count⟩` to the minimum of the two `⟨num⟩`.

```

2578 \newcommand*{\l@dcalc@maxoftwo}[3]{%
2579   \ifnum #2>#1\relax
2580     #3=#2\relax
2581   \else
2582     #3=#1\relax
2583   \fi}
2584 \newcommand*{\l@dcalc@minoftwo}[3]{%
2585   \ifnum #2<#1\relax
2586     #3=#2\relax
2587   \else
2588     #3=#1\relax
2589   \fi}
2590
2591 %

```

## XIX.7 Page break managing

`\ifl@dsamepage` `\checkpageL` tests if the space and lines already taken on the page by text and footnotes is less than the constraints. If so, then `\ifl@dpagfull` is set FALSE and `\l@dsamepagetrue` is set TRUE. If the page is spatially full then `\ifl@dpagfull` is set TRUE and `\ifl@dsamepage` is set FALSE. If it is not spatially full but the maximum number of lines have been output then both `\ifl@dpagfull` and `\ifl@dsamepage` are set FALSE.

```

\checkpageL
\checkpageR
2592 \newif\ifl@dsamepage
2593 \l@dsamepagetrue
2594 \newif\ifl@dpagfull
2595
2596 \newcommand*{\checkpageL}{%
2597   \l@dpagfulltrue
2598   \l@dsamepagetrue
2599   \check@goal
2600   \ifdim\pagetotal<\ledthegoal
2601     \ifnum\numpagelinesL<\l@minpagelines
2602     \else
2603       \ifnomaxlines%
2604       \else%
2605         \l@dsamepagefalse%

```

```

2606         \l@dpagfullfalse%
2607         \fi%
2608     \fi
2609 \else
2610     \l@dsamepagefalse
2611     \l@dpagfulltrue
2612 \fi%
2613 \ifprint@last@after@pendL%
2614     \l@dpagfullfalse%
2615     \l@dsamepagefalse%
2616     \print@last@after@pendLfalse%
2617 \fi%
2618 }%
2619
2620 \newcommand*{\checkpageR}{%
2621     \l@dpagfulltrue
2622     \l@dsamepagetrue
2623     \check@goal
2624     \ifdim\pagetotal<\ledthegoal
2625         \ifnum\numpagelinesR<\l@dminpagelines
2626         \else
2627             \ifnomaxlines%
2628             \else%
2629                 \l@dsamepagefalse%
2630                 \l@dpagfullfalse%
2631             \fi%
2632         \fi
2633     \else
2634         \l@dsamepagefalse
2635         \l@dpagfulltrue
2636     \fi%
2637     \ifprint@last@after@pendR%
2638         \l@dpagfullfalse%
2639         \l@dsamepagefalse%
2640         \print@last@after@pendRfalse%
2641     \fi%
2642 }%
2643
2644 %

```

`\checkpbL` `\checkpbL` and `\checkpbR` are called after each line is printed, and after the page is checked. These commands correct page breaks depending on `\ledpb` and `\lednopb`.

```

2645 \newcommand{\checkpbL}{
2646     \IfStrEq{\led@pb@setting}{after}{
2647         \xifinlistcs{\the\absline@num}{l@prev@pb}{\l@dpagfulltrue\
l@dsamepagefalse}{
2648         \xifinlistcs{\the\absline@num}{l@prev@nopb}{\l@dpagfullfalse\
l@dsamepagetrue}{
2649     }{}

```

```

2650 \IfStrEq{\led@pb@setting}{before}{
2651   \numdef{\next@absline}{\the\absline@num+1}
2652   \xifinlistcs{\next@absline}{l@prev@pb}{\l@dpagetrue\
l@dsamepagefalse}{
2653     \xifinlistcs{\next@absline}{l@prev@nopb}{\l@dpagetrue\
l@dsamepagetrue}{
2654   }}
2655 }
2656
2657 \newcommand{\checkpbR}{
2658   \IfStrEq{\led@pb@setting}{after}{
2659     \xifinlistcs{\the\absline@numR}{l@prev@pbR}{\l@dpagetrue\
l@dsamepagefalse}{
2660       \xifinlistcs{\the\absline@numR}{l@prev@nopbR}{\l@dpagetrue\
l@dsamepagetrue}{
2661     }}
2662   \IfStrEq{\led@pb@setting}{before}{
2663     \numdef{\next@abslineR}{\the\absline@numR+1}
2664     \xifinlistcs{\next@abslineR}{l@prev@pbR}{\l@dpagetrue\
l@dsamepagefalse}{
2665       \xifinlistcs{\next@abslineR}{l@prev@nopbR}{\l@dpagetrue\
l@dsamepagetrue}{
2666     }}
2667   }
2668   %

```

**\checkverseL** \checkverseL and \checkverseR are called after each line is printed. They prevent page break inside line of verse.

```

2669 \newcommand{\checkverseL}{
2670   \ifinstanzaL
2671     \iflednopbinverse
2672       \ifinserthangingsymbol
2673         \numdef{\prev@abslineverse}{\the\absline@num-1}
2674         \IfStrEq{\led@pb@setting}{after}{\lednopbnum{\prev@abslineverse}}{
2675           \IfStrEq{\led@pb@setting}{before}{\ifnum\numpagelinesL<3\ledpbnum{\
prev@abslineverse}\fi}{
2676         \fi
2677       \fi
2678     \fi
2679   }
2680   \newcommand{\checkverseR}{
2681     \ifinstanzaR
2682       \iflednopbinverse
2683         \ifinserthangingsymbolR
2684           \numdef{\prev@abslineverse}{\the\absline@numR-1}
2685           \IfStrEq{\led@pb@setting}{after}{\lednopbnumR{\prev@abslineverse}}{
2686             \IfStrEq{\led@pb@setting}{before}{\ifnum\numpagelinesR<3\ledpbnumR{\
prev@abslineverse}\fi}{
2687           \fi

```

```

2688 \fi
2689 \fi
2690 }
2691 %

```

`\setgoalfraction` `\ledthegoal` is the amount of space allowed to taken by text and footnotes on a page before a forced pagebreak. This can be controlled via `\@goalfraction`. `\ledthegoal` is calculated via `\check@goal`.

```

\check@goal
2692 \newdimen\ledthegoal
2693 \ifshiftedpstarts
2694     \newcommand*{\@goalfraction}{0.95}
2695 \else
2696     \newcommand*{\@goalfraction}{0.9}
2697 \fi
2698
2699 \newcommand*{\check@goal}{%
2700     \ledthegoal=\@goalfraction\pagegoal}
2701 \newcommand{\setgoalfraction}[1]{%
2702     \xdef\@goalfraction{#1}%
2703 }
2704 %

```

`\ifwrittenlinesL` Booleans for whether line data has been written to the section file.

```

\ifwrittenlinesL
2705 \newif\ifwrittenlinesL
2706 \newif\ifwrittenlinesR
2707
2708 %

```

## XIX.8 Getting boxes content

`\if@getnextbox` The `\if@getnextbox` boolean is switched to true if we can get the next chunk in a page after finished previous chunk. That is:

- If we use the `nosyncpstarts` option, in any case
- If we do not use it, only when the number or real or blank line of the current chunk is equal or greater to the maximum number of line in the current pair of chunks.

```

2709 \newif\if@getnextbox%
2710 %

```

`\get@nextboxL` If the current box is not empty (i.e., still contains some lines) nothing is done. Otherwise  
`\get@nextboxR` if and only if a synchronisation point is reached the next box is started.

```

2711 \newcommand*{\get@nextboxL}{%
2712     \ifvbox\namebox{1@dLcolrawbox\the\1@dpscl}% box is not empty
2713 %

```



The current box is not empty; do nothing.

```
2714 \else%                                box is empty
2715 %
```

The box is empty. By default, we can get the next box

```
2716 \@getnextboxtrue%Should be local, but be cautious
2717 %
```

But not when sufficient lines for this page have been generated (except when we don't do any synchronization whatsoever). output.

```
2718 \ifnum\usernamecount{1@dmaxlinesinpar\the\l@dpscl}>\@donetotallinesL
2719 \parledgroup@notes@endL%
2720 \unless\ifnosyncpstarts%
2721 \getnextboxfalse%
2722 %
```

If we use the nomaxlines option, we will start at new page, but we take count of the lines to be typeset for the actual right chunk on the right page, before starting new chunk on the left page.

```
2723 \ifnomaxlines%
2724 \ifdim\pagetotal<\ledthegoal%
2725 \numdef{\@tmp}{\l@dpscl+1}%
2726 \ifcsdef{afterlines@pstart@\@tmp R}{%
2727 \ifnumless{\numpagelinesL}{\csuse{afterlines@pstart@\@tmp R}}
2728 %
2729 {}%
2730 {\ifcsdef{minpage@pstart@\@tmp}%
2731 {\ifnumless{\the\c@page}{\csuse{minpage@pstart@\@tmp}}%
2732 {\ifnum\numpagelinesL=\l@dminpagelines%
2733 \getnextboxtrue%
2734 \fi%
2735 }%
2736 {\@getnextboxtrue}}%
2737 {\@getnextboxtrue}}%
2738 }%
2739 {}%
2740 \fi%
2741 \fi%
2742 \fi%
2743 \else%
2744 \ifnomaxlines%
2745 \numdef{\@tmp}{\the\l@dpscl+1}%
2746 \ifcsdef{minpage@pstart@\@tmp}%
2747 \ifnumless{\the\c@page}{\csuse{minpage@pstart@\@tmp}}%
2748 {\ifdimgreater{\pagetotal}{\ledthegoal}%
2749 {\@getnextboxtrue}%
2750 {\@getnextboxfalse}%
2751 }%
2752 }
```

```

2752         {\@getnextboxtrue}%
2753     }{}%
2754     \fi%
2755 \fi%
2756 %

```

Sufficient lines have been output.

```

2757 \if@getnextbox%
2758     \ifnum\usernamecount{1@dmaxlinesinpar\the\1@dpscl}=\@donetotallinesL
2759         \parledgroup@notes@endL
2760     \fi
2761     \ifwrittenlinesL\else
2762 %

```

Write out the number of lines done, and set the boolean so this is only done once.

```

2763     \@writelinesinparL
2764     \writtenlinesLtrue
2765 \fi
2766 \ifnum\1@dnumstartsL>\1@dpscl
2767 %

```

There are still unprocessed boxes. Recalculate the maximum number of lines needed, and move onto the next box (by incrementing \1@dpscl). If needed, restart the line numbering.

```

2768     \writtenlinesLfalse
2769     \ifbypstart@
2770         \global\line@num=0%
2771         \resetprevline@%
2772     \fi
2773 % Add the content of the optional argument of the previous \protect\cs{pend
2774 % \begin{macrocode}
2775     \csuse{after@pendL@the\1@dpscl}%
2776     \global\csundef{after@pendL@the\1@dpscl}%
2777 %

```

Check the number of lines

```

2778     \1@dcalc@maxoftwo{\the\usernamecount{1@dmaxlinesinpar\the\1@dpscl}}%
2779         {\the\@donetotallinesL}%
2780         {\usernamecount{1@dmaxlinesinpar\the\1@dpscl}}%
2781     \global\@donetotallinesL \z@
2782 %

```

Go to the next pstart

```

2783     \global\advance\1@dpscl \@ne
2784     \global\pstartnumtrue%
2785     \restore@pstartL@pc%
2786 %

```

Add notes of parallel ledgroup.

```

2787 \parledgroup@notes@endL
2788 \parledgroup@correction@notes@spacing@final{L}
2789 \else
2790 %

2791 \print@last@after@pendLtrue%
2792 \fi
2793 \fi
2794 \fi}
2795 %

2796 \newcommand*{\get@nextboxR}{%
2797 \ifvbox\namebox{1@dRcolrawbox\the\l@dpscR}% box is not empty
2798 \else% box is empty
2799 \@getnextboxtrue%
2800 \ifnum\usenamecount{1@dmaxlinesinpar\the\l@dpscR}>\donetotallinesR
2801 \parledgroup@notes@endR
2802 \unless\ifnosyncpstarts%
2803 \@getnextboxfalse%
2804 \ifnomaxlines%
2805 \ifdim\pagetotal<\ledthegoal%
2806 \numdef{\@tmp}{\l@dpscR+1}%
2807 \ifcsdef{afterlines@pstart@\@tmp L}{%
2808 \ifnumless{\numpagelinesL}{\csuse{afterlines@pstart@\@tmp L}}
2809 %
2810 {}}%
2811 {\ifcsdef{minpage@pstart@\@tmp}%
2812 {\ifnumless{\the\c@page}{\csuse{minpage@pstart@\@tmp}}}%
2813 {\ifnum\numpagelinesR=1@dminpagelines%
2814 \@getnextboxtrue%
2815 \fi%
2816 }%
2817 {\@getnextboxtrue}}}%
2818 {\@getnextboxtrue}}}%
2819 }%
2820 {}}%
2821 \fi%
2822 \fi%
2823 \fi%
2824 \else%
2825 \ifnomaxlines%
2826 \numdef{\@tmp}{\the\l@dpscR+1}%
2827 \ifcsdef{minpage@pstart@\@tmp}{%
2828 \ifnumless{\the\c@page}{\csuse{minpage@pstart@\@tmp}}}%
2829 {\ifdimgreater{\pagetotal}{\ledthegoal}%
2830 {\@getnextboxtrue}%
2831 {\@getnextboxfalse}%
2832 }%
2833 {\@getnextboxtrue}%

```

```

2834     }{}
2835     \fi%
2836 \fi%
2837 \if@getnextbox%
2838     \ifnum\usernamecount{1@dmaxlinesinpar\the\l@dpscR}=\@donetotallinesR
2839     \parledgroup@notes@endR
2840     \fi
2841     \ifwrittenlinesR\else
2842     \@writelinesinparR
2843     \writtenlinesRtrue
2844     \fi
2845     \ifnum\l@dnumpstartsR>\l@dpscR
2846     \writtenlinesRfalse
2847     \ifbypstart@R
2848         \global\line@numR=0%
2849         \resetprevline@%
2850     \fi
2851     \csuse{after@pendR@\the\l@dpscR}%
2852     \global\csundef{after@pendR@\the\l@dpscR}%
2853     \l@dcalc@maxoftwo{\the\usernamecount{1@dmaxlinesinpar\the\l@dpscR}}%
2854         {\the\@donetotallinesR}%
2855         {\usernamecount{1@dmaxlinesinpar\the\l@dpscR}}%
2856     \global\@donetotallinesR \z@
2857     \global\advance\l@dpscR \@ne
2858     \global\pstartnumRtrue%
2859     \restore@pstartR@pc%
2860     \parledgroup@notes@endR
2861     \parledgroup@correction@notes@spacing@final{R}
2862 \else
2863     \print@last@after@pendRtrue%
2864 \fi
2865 \fi
2866 \fi}
2867
2868 %

```

## XX Page numbering

### XX.1 Global options

The `sameparallelpag number` option allows the same page number on both left and right side. The `prevpnotnumbered` option allows an empty (not numbered) right-side page before `\Pages`.

We cannot implement these two options by changing the value of the page counter, since its value is used by many  $\TeX$  features to determine whether a page is left (even-numbered) or right (odd-numbered). Consequently, we have to do it by patching `\thepage`, in order to use the value of the `par@page` counter instead of value of page counter.

This counter will be increased in a patched version of the  $\LaTeX$ 's `\@outputpage` macro, as is the page counter in this macro. However, this increase will take account of the options.

`\par@patch@thepage` `\par@patch@thepage` patches `\thepage` in order to use the value of `par@page` counter and not the value of `par@page`. It must be called after any redefinition of `\thepage`. That why we insert it at the end of the  $\LaTeX$  macro `\pagenumbering`, which is called by some `\xxxmatter` commands. In the case of memoir class using, we insert it at the end of `\@mempnum`. When using `\pagenumbering`, we also need to restart `par@page` counter. Consequently, we have wrapped `\par@patch@thepage` and counter restart in `\par@patch@pagenumbering`. We also call `\par@patch@thepage` it at the beginning of the document.

```

2869 \newcommand{\par@patch@thepage}{%
2870   \ifboolexpr{%
2871     bool{sameparallelnumber}%
2872     or bool{prevpgnotnumbered}%
2873   }%
2874   {%
2875     \patchcmd{\thepage}%
2876       {page}{par@page}%
2877       {}%
2878       {\led@error@fail@patch@thepage}%
2879   }{}%
2880 }%
2881
2882 \newcommand{\par@patch@pagenumbering}{%
2883   \ifboolexpr{%
2884     bool{sameparallelnumber}%
2885     or bool{prevpgnotnumbered}%
2886   }%
2887   {%
2888     \setcounter{par@page}{1}%
2889   }%
2890   {}%
2891   \par@patch@thepage%
2892 }%
2893
2894 \ifl@dmemoir%
2895   \apptocmd{\@mempnum}%
2896     {\par@patch@pagenumbering}%
2897     {}%
2898     {\led@error@fail@patch@mempnum}%
2899
2900 \else%
2901   \apptocmd{\pagenumbering}%
2902     {\par@patch@pagenumbering}%
2903     {}%
2904     {\led@error@fail@patch@pagenumbering}%
2905

```

```

2906 \fi%
2907
2908 \AtBeginDocument{\par@patch@thepage}%
2909 %

```

**\@outputpage** As its name says, \@outputpage is a L<sup>A</sup>T<sub>E</sub>X's macro called in the output routine. It is this macro which increases the page counter.. We patch it in order to increase, conditionally, the par@page counter.

```

2910 \AtBeginDocument{%
2911   \apptocmd{\@outputpage}{%
2912     \ifsameparallelnumber%
2913       \ifl@printingpages%
2914         \ifodd\c@page\else%
2915           \stepcounter{par@page}%
2916         \fi%
2917       \else%
2918         \stepcounter{par@page}%
2919       \fi%
2920     \else%
2921       \stepcounter{par@page}%
2922     \fi%
2923   }%
2924   {}%
2925   {\led@error@fail@patch@@@outputpage}%
2926 }
2927 %

```

**\thepar@page** And now, initialize par@page counter.

```

2928 \newcounter{par@page}%
2929 \setcounter{par@page}{1}%
2930 %

```

## XX.2 mainmatter option of \Pages

The optional argument of \Pages could be equal to mainmatter. In this case the boolean \ifPages@mainmatter is set to true, and some special things are done in \Pages@mainmatter, called by \cleartol@devenpage.

```

\ifPages@mainmatter 2931 \newif\ifPages@mainmatter
\Pages@mainmatter 2932 \newcommand{\Pages@mainmatter}{%
2933   \ifPages@mainmatter%
2934     \pagenumbering{arabic}%
2935     \addtocounter{page}{1}%
2936     \addtocounter{par@page}{-1}%
2937     \patchcmd{\thepage}{page}{par@page}{}{}%
2938   \fi%
2939 }
2940 %

```

## XXI Sections' titles' commands

As switching from left to right pages does not clear the page since v1.13.0, but only creates new pages, no `\vbox{}` is inserted, and consequently parallel chapters are misaligned.

So we patch the `\chapter` command in order to prevent this problem.

```
\chapter 2941 \pretocmd{\chapter}{%
2942   \ifl@dprintingpages%
2943   \vbox{}%
2944   \fi%
2945 }%
2946 {}%
2947 {}%
2948 %
```

`\eledsectnotoc` `\eledsectnotoc` just saves its content `\@eledsectnotoc`, which will be tested where sectioning commands will be printed.

```
2949 \newcommand{\eledsectnotoc}[1]{\xdef\@eledsectnotoc{#1}}
2950 \eledsectnotoc{R}
2951 %
```

`\eledsectmark` `\eledsectmark` just saves its content `\@eledsectmark`, which will be tested where sectioning commands will be printed.

```
2952 \newcommand{\eledsectmark}[1]{\xdef\@eledsectmark{#1}}
2953 \eledsectmark{L}
2954 %
```

`\eledsection@correcting@skip` Because the vertical correction needed after inserting a title in parallel depends whether we are in parallel columns or parallel pages, we stock its length in `\eledsection@correcting@skip`.

```
2955 \newskip\eledsection@correcting@skip
2956 %
```

`\eled@sectioningR@out` We save the sectioning commands of the right side in the `\eled@sectioningR@out` file.

```
2957 \newwrite\eled@sectioningR@out
2958 %
```

## XXII Page break/no page break, depending on the specific line

We need to adapt the macro of the homonym section of `eledmac` to `eledpar`.

`\prev@pbR` The `\l@prev@pbR` macro is a `etoolbox`'s list, which contains the lines in which page breaks occur (before or after). The `\l@prev@nopbR` macro is a `etoolbox` list, which contains the lines in which NO page breaks occur (before or after).

```
2959 \def\l@prev@pbR{}
2960 \def\l@prev@nopbR{}
2961 %
```

`\ledpbR` The `\ledpbR` macro writes the call to `\led@pbR` in line-list file. The `\ledpbnR` macro writes the call to `\led@pbnR` in line-list file. The `\lednopbR` macro writes the call to `\led@nopbR` in line-list file. The `\lednopbnR` macro writes the call to `\led@nopbnR` in line-list file.

```
2962 \newcommand{\ledpbR}{\write\linenum@outR{\string\led@pbR}}
2963 \newcommand{\ledpbnR}[1]{\write\linenum@outR{\string\led@pbnR{#1}}}
2964 \newcommand{\lednopbR}{\write\linenum@outR{\string\led@nopbR}}
2965 \newcommand{\lednopbnR}[1]{\write\linenum@outR{\string\led@nopbnR{#1}}}
2966 %
```

`\led@pbR` The `\led@pbR` add the absolute line number in the `\prev@pbR` list. The `\led@pbnR` add the argument in the `\prev@pbR` list. The `\led@nopbR` add the absolute line number in the `\prev@nopbR` list. The `\led@nopbnR` add the argument in the `\prev@nopbR` list.

```
2967 \newcommand{\led@pbR}{\listxadd{\l@prev@pbR}{\the\absline@numR}}
2968 \newcommand{\led@pbnR}[1]{\listxadd{\l@prev@pbR}{#1}}
2969 \newcommand{\led@nopbR}{\listxadd{\l@prev@nopbR}{\the\absline@numR}}
2970 \newcommand{\led@nopbnR}[1]{\listxadd{\l@prev@nopbR}{#1}}
2971 %
```

## XXIII Parallel ledgroup

`\parledgroup@` The marks `\parledgroup@` contains information about the beginnings and endings of notes in a parallel ledgroup. `\parledgroup@series` contains the footnote series. `\parledgroup@type` contains the type of the footnote: critical (Xfootnote) or familiar (footnoteX).

```
2972 \newmarks\parledgroup@
2973 \newmarks\parledgroup@series
2974 \newmarks\parledgroup@type
2975 %
```

`\parledgroup@notes@startL` `\parledgroup@notes@startL` and `\parledgroup@notes@startR` are used to mark the beginning of a note series in a parallel ledgroup.

```
2976 \newcommand{\parledgroup@notes@startL}{%
2977 \ifnum\usernamecount{1dmaxlinesinpar\the\l@dpscL}>0%
2978 \IfStrEq{\splitfirstmarks\parledgroup@type}{footnoteX}{\csuse{
bhooknoteX@\splitfirstmarks\parledgroup@series}}{}%
```



```

2979 \IfStrEq{\splitfirstmarks\parledgroup@type}{Xfootnote}{\csuse{
bhookXnote@\splitfirstmarks\parledgroup@series}}{}%
2980 \fi%
2981 \global\ledgroupnotesL@true%
2982 \insert@noterule@ledgroup{L}%
2983 }
2984 \newcommand{\parledgroup@notes@startR}{%
2985 \ifnum\usernamecount{1@dmaxlinesinpar\the\l@dpscR}>0%
2986 \IfStrEq{\splitfirstmarks\parledgroup@type}{footnoteX}{\csuse{
bhookXnoteX@\splitfirstmarks\parledgroup@series}}{}%
2987 \IfStrEq{\splitfirstmarks\parledgroup@type}{Xfootnote}{\csuse{
bhookXnote@\splitfirstmarks\parledgroup@series}}{}%
2988 \fi%
2989 \global\ledgroupnotesR@true%
2990 \insert@noterule@ledgroup{R}%
2991 }
2992 %

```

`\parledgroup@notes@startL` `\parledgroup@notes@endL` and `\parledgroup@notes@endR` are used to mark the end of a note series in a parallel ledgroup.

```

2993 \newcommand{\parledgroup@notes@endL}{%
2994 \global\ledgroupnotesL@false%
2995 }
2996 \newcommand{\parledgroup@notes@endR}{%
2997 \global\ledgroupnotesR@false%
2998 }
2999 %

```

`\insert@noterule@ledgroup` A `\vskip` is not used when the boxes are constructed. So we insert it before ledgroup note series when parallel lines are constructed. This is the goal of `\insert@noterule@ledgroup`

```

3000 \newcommand{\insert@noterule@ledgroup}[1]{
3001 \IfStrEq{\splitbotmarks\parledgroup@}{begin}{%
3002 \IfStrEq{\splitbotmarks\parledgroup@type}{Xfootnote}{
3003 \csuse{ifledgroupnotes#1@}
3004 \vskip\skip\csuse{mp\splitbotmarks\parledgroup@series footins}
3005 \csuse{\splitbotmarks\parledgroup@series footnoterule}
3006 \fi
3007 }
3008 {}
3009 \IfStrEq{\splitbotmarks\parledgroup@type}{footnoteX}{
3010 \csuse{ifledgroupnotes#1@}
3011 \vskip\skip\csuse{mpfootins\splitbotmarks\parledgroup@series}
3012 \csuse{footnoterule\splitbotmarks\parledgroup@series}
3013 \fi
3014 }{}
3015 }
3016 {}
3017 }

```

3018 %

`\@parledgroupnotespacing` `\@parledgroupnotespacing` can be redefined by the user to change the interline spacing of ledgroup notes.

```
3019 \newcommand{\setparledgroupnotespacing}[1]{\gdef\@parledgroupnotespacing
      {#1}}
3020 \newcommand{\@parledgroupnotespacing}{}
3021 %
```

`\parledgroup@notespacing@correction` `\parledgroup@notespacing@correction` is the difference between a normal line skip and a line skip in a note. It is set by `\parledgroup@notespacing@set@correction`, called at the beginning of `\Pages`.

```
3022 \dimdef{\parledgroup@notespacing@correction}{0pt}
3023 \newcommand{\parledgroup@notespacing@set@correction}{%
3024   {\@getfirstseries\csuse{Xnotefontsize@{\@firstseries}}%We suppose all the
      series has the same footnote size setup
3025   \@parledgroupnotespacing\dimgdef{\temp@spacing}{\baselineskip}}%
3026   \dimgdef{\parledgroup@notespacing@correction}{\baselineskip-\temp@spacing
      }%
3027 }
3028 %
```

`\parledgroup@correction@notespacing@init` `\parledgroup@correction@notespacing@init` sets the value of accumulated corrections of note spacing to 0 pt. It is called at the beginning of each pages AND at the end of each ledgroup.

```
3029 \newcommand{\parledgroup@correction@notespacing@init}{
3030   \dimdef{\parledgroup@notespacing@correction@accumulated}{0pt}
3031   \dimdef{\parledgroup@notespacing@correction@modulo}{0pt}
3032 }
3033 \parledgroup@correction@notespacing@init
3034 %
```

`\parledgroup@correction@notespacing@final` `\parledgroup@correction@notespacing@final` adds the total space deleted because of correction for notes, in a parallel ledgroup. It also adds the space needed by the other side spaces between note rules and notes. It is called after the print of each `pstart/pend`.

```
3035 \newcommand{\parledgroup@correction@notespacing@final}[1]{
3036   \ifparledgroup
3037   \vspace{\parledgroup@notespacing@correction@accumulated}
3038   \parledgroup@correction@notespacing@init%
3039   \ifstrequal{#1}{L}{
3040     \numdef{\@checking}{\the\l@dpscl-1}
3041   }{
3042     \numdef{\@checking}{\the\l@dpscl-1}
3043   }
```

```

3044 \dimdef{\@beforenotes@current@diff}{\csuse{@parledgroup@beforenotes@
@checking L}-\csuse{@parledgroup@beforenotes@}@checking R}}%
3045 \ifstrequal{#1}{L}%
3046 {% Left
3047 \ifdimgreater{\@beforenotes@current@diff}{0pt}{\vspace{-\
@beforenotes@current@diff}}%
3048 }%
3049 {% Right
3050 \ifdimgreater{\@beforenotes@current@diff}{0pt}{\vspace{\
@beforenotes@current@diff}}{}
3051 }%
3052 \fi
3053 }
3054 %

```

`\parledgroup@correction@notespacing` is used before each printed line. If it is a line of notes in parallel ledgroup, the space `\parledgroup@notespacing@correction` is decreased, to make interline space correct. The decreased space is added to `\parledgroup@notespacing@correction` and `\parledgroup@notespacing@correction@modulo`. If `\parledgroup@notespacing@correction@modulo` is equal or greater than `\baselineskip`:

- It is decreased by `\baselineskip`.
- The total of line number in the current page is decreased by one.

For example, suppose an normal interline of 24 pt and interline for note of 12 pt. That means that the two lines of notes take the place of one normal line. For every two lines of notes, the line total for the current place is decreased by one.

```

3055 \newcommand{\parledgroup@correction@notespacing}[1]{%
3056 \csuse{ifledgroupnotes#1@}%
3057 \vspace{-\parledgroup@notespacing@correction}%
3058 \dimdef{\parledgroup@notespacing@correction@accumulated}{\
parledgroup@notespacing@correction@accumulated+\
parledgroup@notespacing@correction}%
3059 \dimdef{\parledgroup@notespacing@correction@modulo}{\
parledgroup@notespacing@correction@modulo+\
parledgroup@notespacing@correction}%
3060 \ifdimless{\parledgroup@notespacing@correction@modulo}{\baselineskip
}{\advance\numpagelinesL -\@ne%
3061 \dimdef{\parledgroup@notespacing@correction@modulo}{\
parledgroup@notespacing@correction@modulo-\baselineskip}%
3062 }% mean greater than equal
3063 \fi%
3064 }
3065 %

```

`\parledgroup@beforenotesL` and `\parledgroup@beforenotesR` store the total of space before notes in the current parallel ledgroup.

```

3066 \dimdef\parledgroup@beforenotesL{0pt}
3067 \dimdef\parledgroup@beforenotesR{0pt}
3068 %

```

**\parledgroup@beforenotes@save** The macro `\parledgroup@beforenotes@save` dumps the space before notes of the current parallel ledgroup in a macro named with the current pstart number.

```

3069 \newcommand{\parledgroup@beforenotes@save}[1]{
3070   \ifparledgroup
3071     \csdimgdef{@parledgroup@beforenotes@the\csuse{1@dnumstarts#1}#1}{\
3072     csuse{parledgroup@beforenotes#1}}
3073     \csdimgdef{parledgroup@beforenotes#1}{0pt}
3074   \fi
3075 }
3076 %

```

## XXIV Compatibility with eledmac

Here, we define some command for the `eledmac-compat` option.

```

3076 \ifeledmaccompat%
3077
3078
3079   \unless\ifnocritical@
3080     \let\onlyXside\Xonlyside
3081   \fi
3082 \fi
3083 %

```

## XXV The End

</code>

## Appendix A Some things to do when changing version

### Appendix A.1 Migration to eledpar 1.4.3

Version 1.4.3 corrects a bug added in version 0.12, which made hanging verse always flush right, despite the value of the first element in the `\setstanzaindent` command.

However, if you want to return to automatic flushright margins for verses with hanging indents, you have to redefine the `\hangingsymbol` command.

```
\renewcommand{\hangingsymbol}{\protect\hfill}
```

See the following two examples:

With standard `\hangingsymbol`:

A very long verse should sometimes be hanging. The position of the hanging verse is fixed.

With the modification of the `hangingsymbol`:

A very long verse should sometimes be hanging. And we can see that a hanging verse is flush right.

### Appendix A.2 Migration from eledpar to reledpar

As for migration from eledmac to reledmac:

- One option has been removed because it is deprecated.
- Some of the customizations previously made by `\renewcommand` have been replaced with commands.
- Some command names have been changed in order to have a more logical and uniform pattern.

#### Appendix A.2.1 Deprecated options

The `shiftedverses` option has been removed. Use the general `shiftedpstart` option instead.

#### Appendix A.2.2 `\renewcommand` replaced with command

Many uses of `\renewcommand` have been replaced with uses of specific commands. Please read the handbook about these particular commands.

<i>Deprecated <code>\renewcommand</code></i>	<i>Replaced with</i>
<code>\goalfraction</code>	<code>\setgoalfraction</code>
<code>\parledgroupnotespacing</code>	<code>\setparledgroupnotespacing</code>
<code>\Rlineflag</code>	<code>\setRlineflag</code>

### Appendix A.2.3 Commands the names of which have changed

In order to ease the migration from `eledpar` to `reledpar`, you may load `reledmac` with `eledmac-compat` option. However, it is advised to change the command names.

<i>Old command</i>	<i>New command</i>
<code>\onlyXside</code>	<code>\Xonlyside</code>

## Appendix A.3 Migration to `reledpar` 2.2.0

The `astanza` can take now an option argument. Consequently, if the first line of verse in a `astanza` environment starts with brackets `[]`, you must precede them with a `\relax`. If you do not do it, the content of the brackets will be considered as an optional argument of the `astanza` environment.

## Appendix A.4 Migration to `reledpar` 2.3.0

The line number style (alphabetic, numeric, etc.) for the notes of the right side are now defined by the value you set to `\linenumberstyleR` or `\linenumberstyle*`, and not by the value you set to `\linenumberstyle` which is kept for left side.

The same is true for sub-line number styles and `\sublinenumberstyleR` or `\sublinenumberstyle*`, which are distinct from `\sublinenumberstyle`.

Consequently, if you have changed line number representation in footnotes with `\linenumberstyle` and `\sublinenumberstyle`, check your settings for these control sequences.

## Appendix A.5 Migration to `reledpar` 2.4.0

We have fixed a bug which which misaligned left and right sides when a line contained a dotted letter.

We have tested and saw no problem with this correction, but if you see a difference in alignment between version 2.3.0 and 2.4.0, please contact us.

## Appendix A.6 Migration to `reledpar` 2.5.0

If you use either `\stanza` or `astanza` environment, please read Appendix A.12 p. 317.

## Appendix A.7 Migration to `reledpar` 2.6.0

`\printlinenumR` was deleted. Use `\Xlineflag` instead.

## Appendix A.8 Migration to `reledpar` 2.6.1

If you use `perpage` package to control footnote numbering, please read the handbook on 5.3.3 p. 13.

## References

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- [Wil04] Peter Wilson and Maïeul Rouquette. *eledmac A presumptuous attempt to port EDMAC, TABMAC and EDSTANZA to LaTeX*. December 2004. (Available from CTAN in macros/latex/contrib/eledmac)

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<code>\get@familiarfootnote@number</code> .....	1
<code>\get@nextboxL</code> .....	1
<code>\get@nextboxR</code> .....	1
<code>\getline@numR</code> .....	1
<code>\getlinesfrompagelistL</code> .....	1
<code>\getlinesfrompagelistR</code> .....	1
<code>\getlinesfromparlistL</code> .....	1
<code>\getlinesfromparlistR</code> .....	1
<code>\goalfraction</code> .....	1

## H

<code>\hidenumbering</code> .....	16
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## I

<code>\if@getnextbox</code> .....	1
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<code>\if@pstarts</code>	1
<code>\ifaraw@text</code>	1
<code>\iffirst@linenum@out@R</code>	1
<code>\ifinstanzaL</code>	1
<code>\ifinstanzaR</code>	1
<code>\ifl@dpagfull</code>	1
<code>\ifl@dpaging</code>	1
<code>\ifl@dpairing</code>	1
<code>\ifl@dsamepage</code>	1
<code>\ifl@dusedbabel</code>	1
<code>\ifledRcol</code>	1
<code>\ifnomaxlines</code>	1
<code>\ifnosyncpstarts</code>	1
<code>\ifPages@mainmatter</code>	1
<code>\ifprevpgnotnumbered</code>	1
<code>\ifprint@last@after@pendL</code>	1
<code>\ifprint@last@after@pendR</code>	1
<code>\ifpst@rtedL</code>	1
<code>\ifpst@rtedR</code>	1
<code>\ifpstartnumR</code>	1
<code>\ifsameparallelpagenunder</code>	1
<code>\ifshiftedpstarts</code>	1
<code>\ifwidthliketwocolumns</code>	1
<code>\ifwrittenlinesL</code>	1
<code>\init@series@par</code>	1
<code>\initnumbering@sectcountR</code>	1
<code>\insert@countR</code>	1
<code>\insert@noterule@ledgroup</code>	1
<code>\inserthangingsymbolL</code>	1
<code>\inserthangingsymbolR</code>	1
<code>\insertlines@listR</code>	1
<code>\inserts@listR</code>	1

## L

<code>\l@d@set</code>	1
<code>\l@dbfnote</code>	1
<code>\l@dc@maxchunks</code>	1
<code>\l@dcalc@maxoftwo</code>	1
<code>\l@dcalc@minoftwo</code>	1
<code>\l@dcalcnum</code>	1
<code>\l@dchecklang</code>	1
<code>\l@dleftbox</code>	1
<code>\l@dlinenumR</code>	1
<code>\l@dmake@labelsR</code>	1
<code>\l@dminpagelines</code>	1
<code>\l@dnumpstartsL</code>	1
<code>\l@dnumpstartsR</code>	1
<code>\l@dpagfullfalse</code>	1
<code>\l@dpagfulltrue</code>	1
<code>\l@drightbox</code>	1

<code>\l@dsamepagefalse</code> .....	1
<code>\l@dsamepagetrue</code> .....	1
<code>\l@dsetupmaxlinecounts</code> .....	1
<code>\l@dsetuprawboxes</code> .....	1
<code>\l@dskipversenumberR</code> .....	1
<code>\l@dusedbabelfalse</code> .....	1
<code>\l@dusedbabeltrue</code> .....	1
<code>\l@duselanguage</code> .....	1
<code>\l@dzeromaxlinecounts</code> .....	1
<code>\l@pscL</code> .....	1
<code>\l@pscR</code> .....	1
<code>\labelref@listR</code> .....	1
<code>\last@page@numR</code> .....	1
<code>\Lcolwidth</code> .....	1, 8, 10
<code>\led@err@BadLeftRightPstarts</code> .....	1
<code>\led@err@Columns@InsideEnv</code> .....	1
<code>\led@err@Columns@WithoutEnv</code> .....	1
<code>\led@err@LeftOnRightPage</code> .....	1
<code>\led@err@Leftside@PreviousNotPrinted</code> .....	1
<code>\led@err@Pages@InsideEnv</code> .....	1
<code>\led@err@Pages@WithoutEnv</code> .....	1
<code>\led@err@RightOnLeftPage</code> .....	1
<code>\led@err@Rightside@PreviousNotPrinted</code> .....	1
<code>\led@err@TooManyPstarts</code> .....	1
<code>\led@error@fail@patch@memnum</code> .....	1
<code>\led@error@fail@patch@outputpage</code> .....	1
<code>\led@error@fail@patch@pagenumbering</code> .....	1
<code>\led@error@fail@patch@thepage</code> .....	1
<code>\led@nopbnumR</code> .....	1
<code>\led@nopbR</code> .....	1
<code>\led@pbnumR</code> .....	1
<code>\led@pbR</code> .....	1
<code>\led@warn@ChangeSyncOption</code> .....	1
<code>\led@warn@setting@in@rightside</code> .....	1
<code>\lednopbnum</code> .....	1
<code>\lednopbnumR</code> .....	1
<code>\ledpbnumR</code> .....	1
<code>\ledpbR</code> .....	1
<code>\ledstrutL</code> .....	1
<code>\ledstrutR</code> .....	1
<code>\ledthegoal</code> .....	1
<code>\leftlinenumR</code> .....	1
<code>\leftstartnumL</code> .....	1
<code>\leftstartnumR</code> .....	1
<code>Leftside (environment)</code> .....	15
<code>\Leftsidehook</code> .....	1
<code>\Leftsidehookend</code> .....	1
<code>\line@list@stuffR</code> .....	1
<code>\line@listR</code> .....	1
<code>\line@marginR</code> .....	1

<code>\line@numR</code> .....	1
<code>\lineation*</code> .....	1, 16
<code>\lineationR</code> .....	1, 16
<code>\linenum@outR</code> .....	1
<code>\linenumberstyle*</code> .....	1, 16
<code>\linenumberstyleR</code> .....	1, 16
<code>\linenumincrement</code> .....	1, 16
<code>\linenumincrement*</code> .....	1, 16
<code>\linenumincrementR</code> .....	1, 16
<code>\linenummargin</code> .....	1
<code>\linenummargin*</code> .....	1, 16
<code>\linenummarginR</code> .....	1, 16
<code>\linenumrepR</code> .....	1
<code>\linesinpar@listL</code> .....	1
<code>\linesinpar@listR</code> .....	1
<code>\list@clearing@regR</code> .....	1
<code>\list@pstartL@pc</code> .....	1
<code>\list@pstartR@pc</code> .....	1
<code>\lock@off</code> .....	1

## M

<code>\maxchunks</code> .....	1, 7
<code>\maxlinesinpar@list</code> .....	1
<code>\memorydump</code> .....	15
<code>\memorydumpL</code> .....	1
<code>\memorydumpR</code> .....	1

## N

<code>\n@num</code> .....	1
<code>\namebox</code> .....	1
<code>\new@lineL</code> .....	1
<code>\new@lineR</code> .....	1
<code>\newnamebox</code> .....	1
<code>\newnamecount</code> .....	1
<code>\newseries@par</code> .....	1
<code>\normalbfnoteX</code> .....	1
<code>\notesXwidthliketwocolumns</code> .....	9
<code>\num@linesR</code> .....	1
<code>\numberpstartfalse</code> .....	16
<code>\numberpstarttrue</code> .....	16
<code>\numpagelinesL</code> .....	1
<code>\numpagelinesR</code> .....	1

## O

<code>\one@lineR</code> .....	1
<code>\onlysideX</code> .....	14
<code>optionadvancedshiftedpstarts</code> .....	10, 11
<code>optionnomaxlines</code> .....	10, 11, 22
<code>optionnosyncpstarts</code> .....	12, 22, 104
<code>optionshiftedpstarts</code> .....	6, 11, 22

## P

<code>\page@action</code> .....	1
<code>\page@numR</code> .....	1
<code>\Pages</code> .....	1, 10
<code>pages</code> (environment) .....	9
<code>\Pages@mainmatter</code> .....	1
<code>pairs</code> (environment) .....	8
<code>\par@lineR</code> .....	1
<code>\par@patch@pagenumbering</code> .....	1
<code>\par@patch@thepage</code> .....	1
<code>\parledgroup@</code> .....	1
<code>\parledgroup@beforenotes@save</code> .....	1
<code>\parledgroup@beforenotesL</code> .....	1
<code>\parledgroup@beforenotesR</code> .....	1
<code>\parledgroup@correction@notespacing</code> .....	1
<code>\parledgroup@correction@notespacing@final</code> .....	1
<code>\parledgroup@correction@notespacing@init</code> .....	1
<code>\parledgroup@notes@startL</code> .....	1
<code>\parledgroup@notes@startR</code> .....	1
<code>\parledgroup@notespacing@correction</code> .....	1
<code>\parledgroup@notespacing@set@correction</code> .....	1
<code>\parledgroupseries@</code> .....	1
<code>\parledgrouptype@</code> .....	1
<code>\pausenumberingR</code> .....	1
<code>\pend</code> .....	17
<code>\pendL</code> .....	1
<code>\pendR</code> .....	1
<code>\prev@nopbR</code> .....	1
<code>\prev@pbR</code> .....	1
<code>\prevpgstyle</code> .....	1
<code>\print@columnseparator</code> .....	1
<code>\print@eledsectionL</code> .....	1
<code>\print@eledsectionR</code> .....	1
<code>\print@lineL</code> .....	1
<code>\print@lineR</code> .....	1
<code>\print@notesX@forpages</code> .....	1
<code>\print@Xnotes@forpages</code> .....	1
<code>\pstart</code> .....	17
<code>\pstartL</code> .....	1
<code>\pstartR</code> .....	1

## R

<code>\Rcolwidth</code> .....	1, 8, 10
<code>\read@linelist</code> .....	1
<code>\reledpar@error</code> .....	1
<code>\reledpar@warning</code> .....	1
<code>\restore@pstartL@pc</code> .....	1
<code>\restore@pstartR@pc</code> .....	1
<code>\resumenumberingR</code> .....	1
<code>\rightlinenumR</code> .....	1

<code>\rightpstartnumL</code> .....	1
<code>\rightpstartnumR</code> .....	1
<code>Rightside</code> (environment) .....	15
<code>\Rightsidehook</code> .....	1
<code>\Rightsidehookend</code> .....	1
<code>\Rlineflag</code> .....	1

## S

<code>\save@familiarfootnote@number</code> .....	1
<code>\save@section@number</code> .....	1
<code>\section@numR</code> .....	1
<code>\selectlanguage</code> .....	1
<code>\set@line</code> .....	1
<code>\set@line@action</code> .....	1
<code>\set@sectcountR</code> .....	1
<code>\setgoalfraction</code> .....	1, 12
<code>\sethangingsymbol</code> .....	18
<code>\setline</code> .....	1
<code>\setlinenum</code> .....	1
<code>\setnamebox</code> .....	1
<code>\setnotepositionliketwocolumns@C</code> .....	1
<code>\setnotepositionliketwocolumns@L</code> .....	1
<code>\setnotepositionliketwocolumns@R</code> .....	1
<code>\setpositionliketwocolumns@C</code> .....	1
<code>\setpositionliketwocolumns@L</code> .....	1
<code>\setpositionliketwocolumns@R</code> .....	1
<code>\setRlineflag</code> .....	16
<code>\setwidthliketwocolumns@C</code> .....	1
<code>\setwidthliketwocolumns@L</code> .....	1
<code>\setwidthliketwocolumns@R</code> .....	1
<code>\sidenote@marginR</code> .....	1
<code>\sidenotemargin*</code> .....	1
<code>\skip@lockoff</code> .....	1
<code>\skipnumbering</code> .....	1, 16
<code>\startlock</code> .....	1
<code>\startsub</code> .....	1
<code>\sub@action</code> .....	1
<code>\subline@numR</code> .....	1
<code>\sublinenumberstyle*</code> .....	1, 16
<code>\sublinenumberstyleR</code> .....	1, 16
<code>\sublinenumincrement</code> .....	1, 16
<code>\sublinenumincrement*</code> .....	1, 16
<code>\sublinenumincrementR</code> .....	1, 16
<code>\sublinenumrepR</code> .....	1

## T

<code>\theledlanguageL</code> .....	1
<code>\theledlanguageR</code> .....	1
<code>\thepar@page</code> .....	1
<code>\thepstartL</code> .....	16



<code>\thepstartR</code> .....	16
<code>\thestanzaL</code> .....	<u>1</u> , 18
<code>\thestanzaR</code> .....	<u>1</u> , 18

## U

<code>\unhnamebox</code> .....	<u>1</u>
<code>\unvnamebox</code> .....	<u>1</u>
<code>\usernamecount</code> .....	<u>1</u>

## W

<code>\widthliketwocolumns</code> .....	9
---	---

## X

<code>\Xendlineflag</code> .....	14
<code>\Xlineflag</code> .....	14
<code>\Xnoteswidthliketwocolumns</code> .....	9
<code>\Xonlyside</code> .....	14

## Change History

v0.1.0.	
General: First public release	1
v0.2.0.	
General: Added section of babel related code	78
Fix babel problems	1
\Columns: Added \l@dcchecklang and \l@duselanguage to \Columns	84
\Pages: Added \l@duselanguage to \Pages	94
v0.3.0.	
General: Added \do@lineLhook and \do@lineRhook	58
Added hooks into Leftside environment	49
Reorganize for ledarab	1
\affixline@numR: Changed \affixline@numR to match new eledmac	63
\do@actions@nextR: Used \do@actions@fixedcode in \do@actionsR	61
\do@lineL: Added \do@lineLhook to \do@lineL	56
Simplified \do@lineL by using macros for some common code	56
\do@lineR: Changed \do@lineR similarly to \do@lineL	59
\flag@end: Removed extraneous spaces from \flag@end	43
\ifledRcol: Moved \ifl@dpairing to eledmac	23
\ifpst@rtedR: Moved \ifpst@rtedL to eledmac	26
\l@dlinenumR: Simplified \leftlinenumR and \rightlinenumR by introducing \l@dlinenumR	34
\l@dnumpstartsR: Moved \l@dnumpstartsL to eledmac	80
\ledstrutR: Added \ledstrutL and \ledstrutR	98
\normalbfnoteX: Removed extraneous spaces from \normalbfnoteX	75
\Pages: Added \ledstrutL to \Pages	94
Added \ledstrutR to \Pages	96
\Rightsidehookend: Added \Leftsidehook, \Leftsidehookend, \Rightsidehook and \Rightsidehookend	50
\sublinenumrepR: Added \linenumrepR and \sublinenumrepR	33
v0.3.a.	
General: Minor \linenummargin fix	1
\line@marginR: Do not just set \line@marginR in \linenummargin	31
v0.3.b.	
General: Improved parallel page balancing	1
\Pages: Added \l@dminpagelines calculation for succeeding page pairs	97
v0.3.c.	
General: Compatibilty with Polyglossia	1
v0.4.0.	
General: No more ledparpatch. All patches are now in the main file.	1
v0.5.0.	
General: Corrections about \section and other titles in numbered sections	1
v0.6.0.	
General: Be able to us \chapter in parallel pages.	1
v0.7.0.	
General: Option ‘shiftedverses’ which make there is no blank between two parallel verses with inequal length.	1

v0.8.0.	
General: Possibility to have a symbol on each hanging of verses, like in the french typography. Redefine the commande <code>\hangingsymbol</code> to define the character. . . . .	1
v0.9.0.	
General: Possibility to number <code>\pstart</code> . . . . .	16
Possibility to number the pstart with the commands <code>\numberpstarttrue</code> . . . . .	1
<code>\iflledRcol</code> : Moved <code>\iflledRcol</code> and <code>\ifnumberingR</code> to <code>eledmac</code> . . . . .	23
v0.9.1.	
General: The numbering of the pstarts restarts on each <code>\beginnumbering</code> . . . . .	1
v0.9.2.	
General: Debug : with <code>\Columns</code> , the hanging indentation now runs on the left columns and the hanging symbol is shown only when <code>\stanza</code> is used. . . . .	1
v0.9.3.	
General: <code>\thepstartL</code> and <code>\thepstartR</code> use now <code>\bfseries</code> and not <code>\bf</code> , which is deprecated and makes conflicts with <code>memoir</code> class. . . . .	1
v0.10.0.	
General: <code>\edlabel</code> commands on the right side are now correctly indicated. . . . .	1
<code>\edlabel</code> commands which start a paragraph are now put in the right place. . . . .	1
v0.11.0.	
General: Change <code>\do@lineL</code> and <code>\do@lineR</code> to allow line numbering by pstart (like in <code>eledmac 0.15</code> ). . . . .	56
Lineation can be by pstart (like in <code>eledmac 0.15</code> ). . . . .	30
New management of <code>hangingsymbol</code> insertion, preventing undesirable insertions. . .	75
<code>\affixline@numR</code> : Changed <code>\affixline@numR</code> to allow to disable line numbering (like in <code>eledmac 0.15</code> ). . . . .	63
<code>\Columns</code> : Line numbering by pstart. . . . .	85
<code>\get@nextboxR</code> : Change <code>\get@nextboxL</code> and <code>\get@nextboxR</code> to allow to disable line numbering (like in <code>eledmac 0.15</code> ). . . . .	104
Pstart number can be printed in side . . . . .	106
<code>\inserthangingsymbolR</code> : Prevent the column separator for hanging verse from shifting	75
v0.12.0.	
General: New management of <code>hangingsymbol</code> insertion, preventing undesirable insertions. . . . .	75
v1.0.0.	
General: Compatibility with <code>eledmac</code> . Change name to <code>eledpar</code> . . . . .	1
Debug in lineation by pstart . . . . .	30
v1.0.1.	
General: Correction on <code>\numberonlyfirstinline</code> with lineation by pstart or by page. .	1
v1.1.0.	
General: <code>Shiftedverses</code> becomes <code>shiftedpstarts</code> . . . . .	1
<code>\pstartR</code> : Add <code>\labelpstarttrue</code> (from <code>eledmac</code> ). . . . .	51
v1.1.1.	
<code>\pstartR</code> : Correct <code>\pstartR</code> bug introduced by 1.1. . . . .	51
v1.1.2.	
<code>\affixside@noteR</code> : Remove spurious space between line number and line content . .	74
v1.2.0.	
General: Support for <code>\led&lt;section&gt;</code> commands in parallel texts. . . . .	1
v1.2.1.	
<code>\set@sectcountR</code> : For the right section, the counter is defined only once. . . . .	28

v1.3.0.	
<code>\edtext</code> : Manage RTL language. . . . .	43
v1.3.1.	
<code>\l@dbfnote</code> : Compatibility of standard footnotes with <code>eledmac</code> when theses footnotes contain any commands. . . . .	75
v1.3.2.	
General: Debug with some classes. . . . .	1
v1.3.3.	
General: Debugging the left notes of the right column. . . . .	74
<code>\l@dbfnote</code> : Spurious space with footnote in right column. . . . .	75
v1.3.4.	
General: Allow use of commands in sidenotes, as introduced by <code>eledmac</code> 1.0. . . . .	74
v1.3.5.	
<code>\normalbfnoteX</code> : Allows one to redefine <code>\thefootnoteX</code> with <code>alph</code> when some packages are loaded. . . . .	75
v1.4.0.	
General: Added <code>\do@insidelineLhook</code> and <code>\do@insidelineRhook</code> . . . . .	58
v1.4.1.	
General: Enable the use of <code>stanzaindentsrepetition</code> within <code>astanza</code> environment. . . . .	76
<code>\normalbfnoteX</code> : Fix bug with normal familiar footnotes when mixing RTL and LTR text. . . . .	75
v1.4.3.	
General: Corrects a false hanging verse when a verse is exactly the length of a line. . . . .	1
<code>\inserthangingsymbolR</code> : Hanging verse is no longer automatically flush right. . . . .	75
<code>\pendL</code> : Spurious spaces in <code>\pendL</code> . . . . .	54
<code>\pendR</code> : Spurious spaces in <code>\pstartR</code> . . . . .	55
<code>\pstartR</code> : Spurious spaces in <code>\pstartL</code> and <code>\pstartR</code> . . . . .	51
v1.5.0.	
General: Add, as in <code>eledmac</code> , features to manage page breaks. . . . .	1
<code>\sublinenumincrement*</code> : Add starred version of <code>\firstlinenum</code> , <code>\linenumincrement</code> , <code>\firstsublinenum</code> , <code>\sublinenumincrement</code> to change both Left and Rightside. . . . .	32
v1.6.0.	
General: Add tool and documentation for parallel ledgroups . . . . .	19
v1.7.0.	
General: Add, as in <code>eledmac</code> , features to make crossrefs with <code>pstart</code> numbers. . . . .	1
v1.8.0.	
General: <code>\beginnumbering</code> is defined only on <code>eledmac</code> , not on <code>eledpar</code> . . . . .	26
<code>\l@dlsnote</code> , <code>\l@drsnote</code> and <code>\l@dcnote</code> defined only one time, in <code>eledmac</code> . . . . .	74
Add <code>\beforecolumnseparator</code> and <code>\aftercolumnseparator</code> . . . . .	9
Add <code>\columnspostion</code> . . . . .	9
Add, as in <code>eledmac</code> , new system of sectioning commands. . . . .	1
Add, as in <code>eledmac</code> , option to insert something after <code>\pends</code> / verses. . . . .	1
Add, as in <code>eledmac</code> , option to insert something between <code>\pstarts</code> / verse. . . . .	1
Change <code>\do@lineR</code> and <code>\do@lineR</code> to allow new sectioning commands. . . . .	56
Compatibility with <code>musixtex</code> . . . . .	1
Debug <code>eledmac</code> sectioning command after using <code>\resumenummering</code> . . . . .	1
New sectioning commands, as in <code>eledmac</code> . . . . .	20
Suppress <code>\ifl@dsamelang</code> which did not work and was not logical, because both columns could have the same language but not the main language of the document. . . . .	78
<code>\Columns</code> : Modify <code>\Columns</code> to enable to add section's title. . . . .	83

Suppress \l@dchecklang from \Columns. . . . .	84
\l@dchecklang: Suppress \l@dchecklang which did not work and was not logical, because both columns could have the same language but not the main language of the document. . . . .	78
\Pages: Modify \Pages to enable to add section's title. . . . .	91
\pendL: As in eledmac, \pendL can have an optional argument. . . . .	54
\pendR: As in eledmac, \pendR can have an optional argument. . . . .	55
\print@columnseparator: Move some code of \Columns to \print@columnseparator. . . . .	86
\pstartR: As in eledmac, \pendL and \pendR can have an optional argument. . . . .	51
\sidenotemargin*: \sidenotemargin is now directly defined in eledmac to be able to manage eledpar. . . . .	74
Add \sidenotemargin* . . . . .	74
\theledlanguageR: Correct left/right language setting with polyglossia. . . . .	79
v1.8.1.	
\do@lineL: Fix a bug with critical notes at the beginning of a page, (maybe added by v1.8.0) (?). . . . .	56
\do@lineR: Fix a bug with critical notes at the beginning of a page, added by v1.8.0 (?). . . . .	59
v1.8.2.	
General: Debug \eledxxx with some paper sizes . . . . .	1
Debug left and side note (bugs added by 1.8.0) . . . . .	1
\flag@end: \flag@start and \flag@end are now defined only one time for eledmac and eledpar . . . . .	43
\lineation*: Add \lineation* . . . . .	30
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Fix incompatibility between optional argument of \pstart and \numberpstarttrue	1
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v2.2.0.	
General: <b>astanza</b> environment can take an optional argument, which will be the optional argument of \pstart started by this environment. . . . .	1
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v2.2.1.	
General: Fix bug with optional argument of last left \pend . . . . .	1
v2.3.0.	
General: Change some internal codes in order to provide compatibility with L <sup>A</sup> T <sub>E</sub> X release of october 2015 . . . . .	1
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\Pages: Fix bug when calling \Columns after a \Pages (bug added in v1.13.0). . . . .	92
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New commands \linenummarginR and \linenummargin* . . . . .	1
v2.5.1.	
General: Fix spurious space when using optional argument of <b>astanza</b> environment (in- troduced in v2.5.0). . . . .	1
v2.5.2.	
General: Fix bug introduced in v2.5.0 with \linenummargin, \firstlinenum, \linenumincrement, \firstsublinenum, \sublinenumincrement. . . . .	1
v2.6.0.	
General: \Xlineflag and \Xendlineflag added . . . . .	1
\printlinesR deleted . . . . .	1
Error message when calling \Pages or \Columns without previous pages or pairs environment. . . . .	1
Fix bug with footnote numbering when using the same series of familiar footnotes on both sides. . . . .	1
Fix bug with right side title number when using title commands before pages or columns environments. . . . .	1
Fix compatibility with babel (broken in v2.0.0). . . . .	1



No error messages about ends of left / right page when using the <code>\syntaxonly</code> command of the <code>syntonly</code> package. . . . .	1
<code>\l@dmake@labelsR</code> : <code>\@Rlineflag</code> is not stored directly after the line number, but as a fifth argument of <code>\the@labelX</code> . Can be retrieved by <code>\xflagref</code> . . . . .	73
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v2.6.2.	
General: Fix (again) bugs with footnote numbering in parallel typesetting while using <code>ledgroup</code> environments (bug added in v2.6.0). . . . .	1
Fix bug (added in v2.6.0) with footnote numbering in parallel typesetting while using <code>polyglossia</code> with specific numbering systems (like Greek). . . . .	1
<code>\newseries@par</code> : The $\TeX$ counter <code>\footnoteX@reading</code> is defined in <code>reledmac</code> . . .	44
v2.6.3.	
General: Fix spurious dot when using <code>\linenummargin</code> in right side (introduced in v2.5.0). . . . .	1