

Copyright (c) 1994-2003 Matthias Eckermann

This program may be distributed and/or modified under the conditions of the LaTeX Project Public License, either version 1.2 of this license or (at your option) any later version. The latest version of this license is in <http://www.latex-project.org/lppl.txt> and version 1.2 or later is part of all distributions of LaTeX version 1999/12/01 or later.

This program consists of the files `parallel.dtx`, `parallel.ins`, `readme`

The `Parallel`-Package*

release beta 4

Matthias Eckermann, Berlin
mge@arcor.de, mge@suse.de

2003/04/13

Abstract

This package provides a small tool to typeset in two columns or on two pages parallel; this might be helpful, e.g. if you want to set two languages besides in translations or if you want to compare two texts. There are some caveats and some limitations which are described in this documentation.

The gentle reader might excuse wrong words or bad constructions, but I'm not a "native speaker".

Please remember: this is only an "interim-public-beta" until I'll have finished the complete documentation, the code should be fine.

Contents

1 Usage	2
1.1 Simple Usage – for the Impatient	2
1.2 Advanced Usage	3
2 Limitations, Warnings	4
3 Todo-List	4
4 Documentation-Driver	5
5 macro package source code	5
5.1 implementation rules	5
5.2 preamble	5
5.3 lengths	5
5.4 boxes	6
5.5 tokens	6
5.6 counts	6
5.7 options	7
5.8 internal commands	7

*I want to mention and thank Bernd Raichle (Stuttgart) and Wonkoo Kim (Pittsburgh, PA), who helped developing this packages with their ideas, debugging and pieces of code.

5.9	user commands	11
5.10	Environment “Parallel”	12
5.11	postamble, settings	15
6	examples for parallel.sty	16
6.1	typesetting in columns	16
6.2	typesetting on two pages	16
6.3	Common Text for the two Examples	16
6.4	Final commands	17
7	Sample-text	17

1 Usage

1.1 Simple Usage – for the Impatient

It is recommended, that you first read the complete section *Usage* to understand `Parallel`’s behavior and limitations, but if one wants to begin immediately and there is only one paragraph in two columns parallel, one may try this code:

```

\usepackage{parallel}
...
\begin{Parallel}{<left-width>}{<right-width>}
  \ParallelLText{<left-text>}
  \ParallelRText{<right-text>}
\end{Parallel}

```

It generates the two texts typesetted parallel in two columns, footnotes at the end of the `Parallel`-Environment.

1.2 Advanced Usage

But, I think, most people want a more flexible handling of their parallel texts. So they will have to use a more difficult structure of environment `parallel`:

```

\usepackage[<package_options>]{parallel}
...
\begin{Parallel}[<environment_options>]{<left-width>}{<right-width>}
  \ParallelLText{<left-text>}
  \ParallelRText{<right-text>}
  \ParallelPar
  \ParallelLText{<left-text>}
  ...
  \renewcommand{\ParallelAtEnd}{<text>}
\end{Parallel}

```

`\ParallelPar` `\ParallelPar` is the most important Macro of this package; it tells the environment to begin a new *parallel paragraph*, i.e.: left and right texts are printed out to their lengths and then we begin new on the same vertical position, as if you close the environment `Parallel` and begin a new one. Therefore `\ParallelPar` must not be left out after a pair of `\ParallelLText` – `\ParallelRText` (only at the total end of the environment).

`\ParallelAtEnd` With the help of `\ParallelAtEnd`

```
(\renewcommand{\ParallelAtEnd}{<Your text here>})
```

you can set some text between the parallel columns and the footnotes.

`Parallel` Now we’ll have a look at the options of `Parallel`.

Package options (the options, which can be chosen when loading `parallel` in the document-preamble). The following options are possible, but only `Verbose` and `SeparatedFootnotes` can be combined with one of the others, while out of the `*Nums`-options only one can be set at one time. This behaviour may change in a later release.

OldStyleNums set the footnote-numbers with L^AT_EX’s `\oldstylnums`-command

RaiseNums like `\footnote`

ItalicNums the footnote-numbers are set in Italics

RomanNums using `\romannumeral`

SeparatedFootnotes The footnotes of the left and right columns are separately numbered and printed. The right footnotes are signed with the content of `\ParallelDot` (usual `\cdot`).

Verbose tell the author used environment and its options...

Environment options Due to the work of W.Kim (see below) the `<left-width>` and/or `<right-width>` may be left empty; the package will set the two widths to about 50% of `\textwidth`. But it is also possible to set both widths with absolute (e.g. `3cm`) or relative (e.g. `0.37\textwidth`) values.

One may use only one of the *real* options; if none is used, “c” is assumed, if a bad character is chosen, an error-message will appear, but the user may go on by pressing `<return>`.

“c” (*Columns*) print in columns

“v” (*Vertical line between columns*) print in columns, but with intermediate `\vline`

“p” (*Pages*) print on two pages; if one box is empty, the corresponding page is left blank (not a bug, but feature!)

2 Limitations, Warnings

- *tabulars*, *minipages*, ... inside of `\ParallelLText` or `\ParallelRText` will cause unexpected results. But you may use these constructions outside `\ParallelLText` or `\ParallelRText`, but inside the environment, when typesetting in columns; you *must* not use those things (within the environment), when typesetting on pages parallel.

- *footnotes* are printed at the end of the environment. I hope, this is a begin of a solution on further footnote-problems.
- The max. size of “left-text” and “right-text” is limited.
- The lines are typesetted really parallel, i.e. large size-differences will cause bad or dirty output.

3 Todo-List

There are some ideas and todos, that will be fixed in the final release or in later releases:

- Most important: complete documentation.
- Dominik Neidinger, Munich, asked for leaving out `\ParallelPar` and setting to be done automatically by `\ParallelLText` and/or `\ParallelRText`.
- Add more environment-options:
 - “a” (*Autocomputed pages*) print on two pages, autocompute the width of the text that holds less characters.
 - “s” (*Save/Store once autocalculated widths*) Using this option, the widths autocalculated in the first `\ParallelPar` will be used for the other paragraphs of this *environment*. This option is introduced, to enable autocalculation *and* the same look-alike of every paragraph of an environment `Parallel`.
 - “r” (*Resume/Reload once autocalculated widths*) This option allows to transfer the widths-values between environments.
- Use “`\newif`” instead of many integer variables.
- different footnote-types for left and right footnotes
- There might be a bug in the algorithm to typeset on two pages. I must have a look at this later.

4 Documentation-Driver

```

1 (*driver)
2 \NeedsTeXFormat{LaTeX2e}
3 \documentclass[a4paper]{ltxdoc}
4 \usepackage{parallel}
5 \CodelineNumbered
6 \parskip2ex plus1ex minus1ex
7 \parindent0em
8 \setlength\hfuzz{10pt}
9 \setcounter{tocdepth}{2}
10 \hbadness=5000
11 \addtolength{\textwidth}{0.5in}
12 \pagestyle{myheadings}

```

```

13 \markboth{'Parallel'-package (\fileversion, \filedate)}%
14 {'Parallel'-package (\fileversion, \filedate)}
15 \begin{document}
16   \DocInput{parallel.dtx}
17   \begin{Parallel}[v]{0.4\textwidth}{0.51\textwidth}
18     \tolerance=1000
19 \end{driver}

```

5 macro package source code

5.1 implementation rules

Even if some people will find this confusing or too much to type: I decided to use real long names for all dimensions, counters, boxes and macros. Every name introduced in this package starts with `\Parallel`, so that it is unary (I hope) in the \LaTeX -world.

5.2 preamble

Here is the standard header for a \LaTeX -package. This package is called `parallel` and we just work with release 2.

```

20 (*package)
21 \NeedsTeXFormat{LaTeX2e}
22 \ProvidesPackage{parallel}[\filedate, setting two texts parallel (me)]
23 \message{‘parallel’: setting two texts parallel, (\fileversion) \filedate.}

```

5.3 lengths

The two dimensions `\ParallelLWidth` and `\ParallelRWidth` hold the actual size of the left and right column (or page).

```

24 \newdimen\ParallelLWidth
25 \newdimen\ParallelRWidth

```

`\ParallelTextWidth` is mainly a copy of `\textwidth`, while `\ParallelLeftMargin` holds the `\leftmargin`, e.g. if one sets a Parallel-Environment inside of another construction (e.g. list).

```

26 \newdimen\ParallelTextWidth
27 \newdimen\ParallelLeftMargin

```

While the user can redefine `\ParallelUserMidSkip` (and this is used for calculating the sizes and skips), `\ParallelMainMidSkip` holds the skip which finally is used for typesetting.

```

28 \newdimen\ParallelUserMidSkip
29 \newdimen\ParallelMainMidSkip

```

5.4 boxes

```
30 \newbox\ParallelLBox
31 \newbox\ParallelRBox
32 \newbox\ParallelBoxVar
```

5.5 tokens

```
33 \newbox\ParallelLTok
34 \newbox\ParallelRTok
```

5.6 counts

First we need some “boolean” variables. As you see, I’m a C-programmer using integer-variables for boolean operations. Perhaps it would be better, to use `\newif` here – later!?

```
35 \newcount\ParallelBoolVar
36 \newcount\ParallelBoolMid
```

`\ParallelWhichBox` tells the program, if the left (=0) or the right text-box (=1) shall be typesetted (when in page-mode).

In `\ParallelMainMode` the information is stored, if the environment is “on pages”, “in columns” or “in columns with vertical line”.

```
37 \newcount\ParallelWhichBox
38 \newcount\ParallelMainMode
```

These are the variables dealing with the special footnote-implementation used in environment “Parallel”. `\ParallelLFNCounter`, `\ParallelRFNCounter` and `\ParallelMaxFN` are self-explaining.

`\ParallelFNMode` is again a boolean-like variable. If `\ParallelFNMode=1`, footnotes are counted and set separated for each columns, if `\ParallelFNMode≠1`, only one footnote-counter is used: all footnotes are set in one block (columns mixed!).

But `\ParallelFNNumMode` needs some description. It holds the style in which the footnote-numbers (not those in the text, but those before the footnote-text) are set:

- 0 normal numbers
- 1 old style numbers (`\oldstylenums`)
- 2 raised numbers
- 3 italic numbers
- 4 roman numbers (`\romannumeral`)

```
39 \newcount\ParallelFNMode
40 \newcount\ParallelLFNCounter
41 \newcount\ParallelRFNCounter
42 \newcount\ParallelMaxFN
43 \newcount\ParallelFNNumMode
```

5.7 options

The following options (given to the package in `\usepackage`) set the footnote-variables in an appropriate way. Obviously only one of “OldStyleNums”, “RaiseNums”, “ItalicNums” or “RomanNums” is possible, but one can combine these with “SeparatedFootnotes” and “Verbose”. Perhaps - one day far away – it will be possible, to have arabic-numbered left-footnotes and roman-numbered right-footnotes; but today the right ones are marked by a little dot (or something like that, see below, `\ParallelDot`).

```

44 \newcommand{\ParallelMessage}[1]{\relax}
45 \DeclareOption{Verbose}{%
46   \renewcommand{\ParallelMessage}[1]{\message{#1}}
47   \message{Verbose}
48 }
49 \DeclareOption{OldStyleNums}{%
50   \ParallelFNNumMode=1\ParallelMessage{OldStyleNums}}
51 \DeclareOption{RaiseNums}{%
52   \ParallelFNNumMode=2\ParallelMessage{RaiseNums}}
53 \DeclareOption{ItalicNums}{%
54   \ParallelFNNumMode=3\ParallelMessage{ItalicNums}}
55 \DeclareOption{RomanNums}{%
56   \ParallelFNNumMode=4\ParallelMessage{RomanNums}}
57 \DeclareOption{SeparatedFootnotes}{%
58   \ParallelFNMode=1\ParallelMessage{SeparatedFootnotes}}

```

5.8 internal commands

5.8.1 footnotes

The `\footnotes` were the most important problem when first trying to implement our package. So here is a description of

- why footnotes are a problem in our task,
- which problems are solved and in which way,
- what is not solved and what seems to be *not* possible.

`\ParallelFootnote`

```

59 \newcommand{\ParallelFootnote}[1]{%
60   \global\advance\ParallelLFNCounter\@ne
61   \footnotemark[\number\ParallelLFNCounter]%
62   \expandafter\gdef%
63     \csname ParallelLFN\romannumeral\ParallelLFNCounter\endcsname{#1}}

```

`\ParallelRFootnote`

```

64 \newcommand{\ParallelRFootnote}[1]{%
65   \global\advance\ParallelRFNCounter\@ne
66   \footnotemark[\number\ParallelRFNCounter]%
67   \expandafter\gdef%
68     \csname ParallelRFN\romannumeral\ParallelRFNCounter\endcsname{#1}}

```

ParallelFNEnviron

```

69 \newenvironment{ParallelFNEnviron}{%
70 \footnotesize
71 \begin{list}{}{%
72 \leftmargin=4em \rightmargin=\z@
73 \topsep=\z@skip \itemsep=\z@skip
74 \labelwidth=3em \labelsep=1em%
75 \renewcommand{\makelabel}[1]{\hfill\footnotesize ##1}}%
76 }%
77 }{%
78 \end{list}%
79 }

```

\ParallelShowFNList

```

80 \newcommand{\ParallelShowFNList}{%
81 % footnotes in left or right column, i.e. left+right>0?
82 \ParallelMaxFN=\ParallelLFNCounter
83 \advance\ParallelMaxFN \ParallelRFNCounter
84 \ifnum\ParallelMaxFN>\z@
85 \ParallelMessage{Parallel Footnotes (}%
86 \begin{ParallelFNEnviron}%
87 \ParallelMaxFN=\ParallelLFNCounter
88 \global\ParallelLFNCounter=\z@
89 \loop
90 \ifnum\ParallelLFNCounter<\ParallelMaxFN
91 \global\advance\ParallelLFNCounter \@ne
92 \item[\ifcase\ParallelFNNumMode \number\ParallelLFNCounter%
93 \or \oldstylenums{\the\ParallelLFNCounter}%
94 \or \raisebox{1ex}{\the\ParallelLFNCounter}%
95 \or \textit{\number\ParallelLFNCounter}%
96 \or \romannumeral\ParallelLFNCounter%
97 \else \number\ParallelLFNCounter \fi}%
98 \par
99 {\csname ParallelLFN\romannumeral\ParallelLFNCounter\endcsname}%
100 \par
101 \repeat
102 \end{ParallelFNEnviron}%
103 \ifnum\ParallelFNMode=\@ne
104 \begin{ParallelFNEnviron}%
105 \ParallelMaxFN=\ParallelRFNCounter
106 \global\ParallelRFNCounter=\z@
107 \loop
108 \ifnum\ParallelRFNCounter<\ParallelMaxFN
109 \global\advance\ParallelRFNCounter \@ne
110 \item[\ifcase\ParallelFNNumMode
111 \number\ParallelRFNCounter\ParallelDot
112 \or \oldstylenums{\the\ParallelRFNCounter}\ParallelDot
113 \or \raisebox{1ex}{\the\ParallelRFNCounter\ParallelDot}%
114 \or \textit{\number\ParallelRFNCounter\ParallelDot}%
115 \or \romannumeral\ParallelLFNCounter%
116 \else \number\ParallelRFNCounter\ParallelDot \fi}%
117 \par

```

```

118         {\csname ParallelRFN\romannumeral\ParallelRFNCounter\endcsname}%
119         \par
120         \repeat
121         \end{ParallelFNE Environ}%
122     \fi
123     \global\ParallelLFNCounter=\z@
124     \global\ParallelRFNCounter=\z@
125     \ParallelMessage{)}%
126 \else
127     \ParallelMessage{No Parallel Footnotes}%
128 \fi
129 }

```

5.8.2 typesetting on one page

`\ParallelParOnePage` I'm glad that Bernd Raichle¹ spent his rare time to debug the code of this function and of the environment `ParallelFNE Environ`. Frank Mittelbach enhanced it in 2002/2003.

```

130 \newcommand{\ParallelParOnePage}{%
131     \ifnum\ParallelBoolVar=\@ne
132     \par\begingroup
133     \leftmargin=\z@ \rightmargin=\z@
134     \parskip=\z@skip \parindent=\z@
135     \vbadness=10000
136     \vfuzz=3ex
137     \splittopskip=\z@skip
138     \loop%
139     \ifnum\ParallelBoolVar=\@ne%
140     \noindent
141     \hbox to\textwidth{%
142     \hskip\ParallelLeftMargin
143     \hbox to\ParallelTextWidth{%
144     \ifvoid\ParallelLBox
145     \hskip\ParallelLWidth
146     \else
147     \ParallelWhichBox=\z@
148     \vbox{\setbox\ParallelBoxVar
149     =\vsplit\ParallelLBox to\dp\strutbox%
150     \unvbox\ParallelBoxVar}%
151     \fi
152     \strut
153     \ifnum\ParallelBoolMid=\@ne
154     \hskip\ParallelMainMidSkip
155     \vrule
156     \else
157     \hss
158     \fi
159     \hss
160     \ifvoid\ParallelRBox
161     \hskip\ParallelRWidth
162     \else

```

¹Stuttgart; raichle@informatik.uni-stuttgart.de; 1996/10/01

```

163         \ParallelWhichBox=\@ne
164         \vbox{\setbox\ParallelBoxVar
165             =\vsplit\ParallelRBox to\dp\strutbox%
166             \unvbox\ParallelBoxVar}%
167         \fi}}%
168     \ifvoid\ParallelLBox \ifvoid\ParallelRBox
169     \global\ParallelBoolVar=\z@
170     \fi\fi%
171     \fi%
172     \ifnum\ParallelBoolVar=\@ne%
173         \penalty\interlinepenalty
174     \repeat
175     \par
176     \endgroup
177     \fi}

```

5.8.3 typesetting on two page

`\ParallelParTwoPages`

```

178 \newcommand{\ParallelParTwoPages}{%
179     \ifnum\ParallelBoolVar=\@ne
180     \par\begingroup
181     \global\ParallelWhichBox=\@ne
182     \newpage
183     \vbadness=10000
184     \vfuzz=3ex
185     \splittopskip=\z@skip
186     \loop%
187         \ifnum\ParallelBoolVar=\@ne%
188         \ifnum\ParallelWhichBox=\@ne
189             \ifvoid\ParallelLBox \mbox{} \newpage
190             \else\global\ParallelWhichBox=\z@\fi
191         \else
192             \ifvoid\ParallelRBox \mbox{} \newpage
193             \else\global\ParallelWhichBox=\@ne\fi
194         \fi
195         \ifnum\ParallelWhichBox=\z@
196             \ifodd\thepage \mbox{} \newpage \fi
197             \hbox to\textwidth{%
198                 \vbox{\vsplit\ParallelLBox to.98\textheight}}%
199         \else
200             \ifodd\thepage\relax\else \mbox{} \newpage \fi
201             \hbox to\textwidth{%
202                 \vbox{\vsplit\ParallelRBox to.98\textheight}}%
203         \fi
204         \vspace*{\fill}\newpage
205     \fi
206     \ifvoid\ParallelLBox\ifvoid\ParallelRBox
207     \global\ParallelBoolVar=\z@
208     \fi\fi
209     \ifnum\ParallelBoolVar=\@ne
210     \repeat

```

```
211 \par
212 \endgroup
213 \fi}
```

5.9 user commands

\ParallelAfterText

```
214 \newcommand{\ParallelAfterText}{%
215 \global\ParallelBoolVar=\@ne
216 \let\footnote=\ParallelOldFootnote\endgroup}
```

\ParallelCheckOpenBrace

```
217 \newcommand{\ParallelCheckOpenBrace}{%
218 \ifx\x\bgroup \else
219 \errmessage{Missing opening brace}%
220 \fi
221 \endgroup}
```

\ParallelLText

```
222 \newcommand{\ParallelLText}{%
223 \everypar{}\@restorepar\beginingroup
224 \hbadness=3000
225 \let\footnote=\ParallelLFootnote
226 \ParallelWhichBox=0
227 \global\setbox\ParallelLBox=\vbox\bgroup \hsize=\ParallelLWidth
228 \aftergroup\ParallelAfterText
229 \beginingroup \afterassignment\ParallelCheckOpenBrace \let\x=}
```

\ParallelRText

```
230 \newcommand{\ParallelRText}{%
231 \everypar{}\@restorepar\beginingroup
232 \hbadness=3000
233 \ifnum\ParallelFNMode=\@ne
234 \let\footnote=\ParallelRFootnote
235 \else
236 \let\footnote=\ParallelLFootnote
237 \fi
238 \ParallelWhichBox=\@ne
239 \global\setbox\ParallelRBox=\vbox\bgroup \hsize=\ParallelRWidth
240 \aftergroup\ParallelAfterText
241 \beginingroup \afterassignment\ParallelCheckOpenBrace \let\x=}
```

\ParallelAtEnd \ParallelAtEnd must be defined: the user just types \renewcommand, and everything is right (I hope); it’s a dummy.

```
242 \newcommand{\ParallelAtEnd}{}
```

\ParallelPar Actually, this is a dummy again or a “Pointer” to the \ParallelPar, which is chosen.

```
243 \newcommand{\ParallelPar}{} % Dummy
```

\ParallelDot

```
244 \newcommand{\ParallelDot}{\ensuremath{\cdot}}
```

5.10 Environment “Parallel”

Parallel

```

245 \newenvironment{Parallel}[3][c]{%
246   \begingroup%
247   \ParallelTextWidth=\linewidth
248   \ParallelLeftMargin=\textwidth
249   \advance\ParallelLeftMargin by-\linewidth

```

The following code checks for the optional argument: it tells the environment, if the user wants typesetting on page (`'p'`), in columns (`'c'`) or in columns with an intermediate `\vline` (`'v'`). If none of these options is given, column mode is chosen, but if there is a wrong char (as an argument), an error message appears, but the user may go on by pressing `<return>`.

```

250   \if #1p\relax
251     \ParallelMessage{ on Pages (}%
252     \ParallelMainMode=\z@
253     \renewcommand{\ParallelPar}{\ParallelParTwoPages}
254   \else
255     \if #1a\relax
256       \ParallelMessage{ autocomputed Pages (}%
257       \ParallelMainMode=\tw@
258       \renewcommand{\ParallelPar}{\ParallelParTwoPages}
259     \else
260       \tolerance=600           % sorry, but necessary
261       \emergencystretch=.5em % dto.
262       \ParallelMainMode=\@ne
263       \renewcommand{\ParallelPar}{\ParallelParOnePage}
264       \if #1v\relax
265         \ParallelBoolMid=\@ne
266         \ParallelMessage{ in Columns, with VLine (}%
267       \else
268         \if #1c\relax\else
269           \errhelp{possible options:
270             'p'age, 'c'olumn or columns with 'v'line ---
271             type <return> to proceed in column-mode}
272           \errmessage{bad option '#1' to environment 'Parallel'}
273         \fi
274       \ParallelMessage{ in Columns (}%
275     \fi\fi\fi

```

Smart column width support was mainly done by Wonkoo Kim². `\ParallelLWidth` or `\ParallelRWidth` fields can be left blank in user document. Their default width (in column-mode) is $0.5\text{\textwidth} - \text{\ParallelUserMidSkip}$ for null widths. Even the `\ParallelUserMidSkip` can be set by user; its default value is 0.5em. If only one width is given, the other width will be computed.

First we must see, if the arguments of the environment are given or not. If not, the value is set to zero inches, for that we have a value, that can be calculated.

²Pittsburgh, PA; wkim+@pitt.edu; 1996/09/29

```

276 \def\ParallelArgL{#2} \def\ParallelArgR{#3}
277 \ifx\ParallelArgL\empty\ParallelLWidth=0in\else\ifx\ParallelArgL\space
278 \ParallelLWidth=0in\else\setlength\ParallelLWidth{#2}\fi\fi
279 \ifx\ParallelArgR\empty\ParallelRWidth=0in\else\ifx\ParallelArgR\space
280 \ParallelRWidth=0in\else\setlength\ParallelRWidth{#3}\fi\fi

```

If we are in column-mode ($\backslash\text{ParallelMainMode}=1$):

```

281 \ifnum\ParallelMainMode=\@ne
282 \ifdim\ParallelLWidth>1em
283 \ifdim\ParallelRWidth>1em

```

- If both dimensions are set, we calculate the left width and set the vertical line centered (by calculating)

```

284 \ParallelMainMidSkip=\linewidth
285 \advance\ParallelMainMidSkip by-\ParallelLWidth
286 \advance\ParallelMainMidSkip by-\ParallelRWidth
287 \advance\ParallelMainMidSkip by-.5pt
288 \advance\ParallelMainMidSkip by-\ParallelLeftMargin
289 \divide\ParallelMainMidSkip by 2
290 \else

```

- If only the left width is given, the mid-skip (between vertical line and text) is set to $\backslash\text{ParallelUserMidSkip}$, the width of right text is calculated.

```

291 \ParallelRWidth=\linewidth
292 \advance\ParallelRWidth by-\ParallelLWidth
293 \advance\ParallelRWidth by-2\ParallelUserMidSkip
294 \advance\ParallelRWidth by-\ParallelLeftMargin
295 \ParallelMainMidSkip=\ParallelUserMidSkip
296 \fi
297 \else
298 \ifdim\ParallelRWidth>1em

```

- If only the right width is given, the mid-skip (between vertical line and text) is set to $\backslash\text{ParallelUserMidSkip}$, the width of left text is calculated.

```

299 \ParallelLWidth=\linewidth
300 \advance\ParallelLWidth by-\ParallelRWidth
301 \advance\ParallelLWidth by-2\ParallelUserMidSkip
302 \advance\ParallelLWidth by-\ParallelLeftMargin
303 \ParallelMainMidSkip=\ParallelUserMidSkip
304 \else

```

- If none of the dimensions is given, the mid-skip (between vertical line and text) is set to $\backslash\text{ParallelUserMidSkip}$, the left and right dimensions are calculated – each the same width: $0.5\backslash\text{linewidth} - \backslash\text{ParallelLeftMargin} - \backslash\text{ParallelUserMidSkip}$.

```

305         \ParallellWidth=.5\linewidth
306         \advance\ParallellWidth by-\ParallellLeftMargin
307         \advance\ParallellWidth by-\ParallellUserMidSkip
308         \ParallellRWidth=\ParallellWidth
309         \ParallellMainMidSkip=\ParallellUserMidSkip
310     \fi
311     \fi
312 \else

```

If we are in page-mode ($\backslash\text{ParallellMainMode}\neq 1$):

- If both dimensions are given (standard usage): nothing happens
- If only left size is given: right is set to $\backslash\text{linewidth} - \backslash\text{ParallellLeftMargin}$.

```

313     \ifdim\ParallellWidth>1em
314         \ifdim\ParallellRWidth>1em
315         \else
316             \ParallellRWidth=\linewidth
317             \advance\ParallellRWidth by-\ParallellLeftMargin
318         \fi
319     \else

```

- If only right size is given: left is set to $\backslash\text{linewidth} - \backslash\text{ParallellLeftMargin}$.

```

320         \ifdim\ParallellRWidth>1em
321             \ParallellWidth=\linewidth
322             \advance\ParallellWidth by-\ParallellLeftMargin
323         \else

```

- If none of the sizes is given: each is set to $\backslash\text{linewidth} - \backslash\text{ParallellLeftMargin}$.

```

324             \ParallellWidth=\linewidth
325             \advance\ParallellWidth by-\ParallellLeftMargin
326             \ParallellRWidth=\linewidth
327             \advance\ParallellRWidth by-\ParallellLeftMargin
328         \fi
329     \fi
330 \fi

```

Now we do some standard-settings.

```

331     \global\ParallellFNCounter=\z@
332     \global\ParallellRFNCounter=\z@
333     \let\ParallellOldFootnote=\footnote

```

We finished the start-part of this environment with setting the footnote-counters to zero and saved the old `\footnote`-macro.

```

334 }{\%

```

Before leaving Parallel-environment with `\end{Parallel}`, we ensure, that all text was typesetted (by invoking `\ParallelPar`), then we call `\ParallelAtEnd`, to display some (optional) text before the footnotes.

```
335 \ParallelPar%
336 \ParallelAtEnd%
337 \endgroup%
```

Now, it's time to show the footnotes (by invoking `\ParallelShowFNList`) and to restore the original `\footnote`-macro. The only thing to do is, to close the message-braces opened at the beginning of our Environment.

```
338 \ParallelShowFNList%
339 \let\footnote=\ParallelOldFootnote
340 \ParallelMessage{}}
```

5.11 postamble, settings

When the package is loaded, it's necessary to reset some of our Variables to standard-values; the options must be processed.

```
341 \ParallelFNNumMode=\z@
342 \ParallelFNMode=\z@
343 \ParallelBoolMid=\z@
344 \ParallelUserMidSkip=.5em
345 \ProcessOptions
346 </package>
```

6 examples for parallel.sty

6.1 typesetting in columns

```

347 (*example1)
348 \NeedsTeXFormat{LaTeX2e}
349 \documentclass[12pt]{article}
350 \usepackage{parallel}
351 \linespread{1.9}
352 \textwidth10.5cm
353 \textheight15cm
354 \begin{document}
355   This is a sample \LaTeX{}-file for the \texttt{Parallel}-environment.
356   It is typesetted with \verb+\linespread{1.9}+, \verb+\textheight15cm+,
357   \verb+\textwidth10.5cm+, for that we need more space on
358   the pages and some pagebreaks are visible. This really is no masterpiece
359   of typesetting, but the user should see, what the package is able to do
360   and what \texttt{not}.\par
361   The following text is from St.~Augustin, De corr.~et gratia XII,~34%
362   \footnote{De corr. et gratia XII, 34, ALG VII, 214f.},
363   latin and german.\par
364 \begin{Parallel}[v]{0.4\textwidth}{0.51\textwidth}
365   \tolerance=1000
366 \end{Parallel}

```

6.2 typesetting on two pages

```

367 (*example2)
368 \NeedsTeXFormat{LaTeX2e}
369 \documentclass[12pt]{article}
370 \usepackage[Verbose]{parallel}
371 \linespread{1.9}
372 \textwidth10.5cm
373 \textheight14cm
374 \begin{document}
375 \Large\par
376   This is a sample \LaTeX{}-file for the \texttt{Parallel}-environment. It
377   is typesetted with \verb+\linespread{1.9}+, \verb+\textheight14cm+,
378   \verb+\textwidth10.5cm+ and \verb+\Large+ for that we need more space on
379   the pages and some pagebreaks are visible. This really is no masterpiece
380   of typesetting, but the user should see, what the package is able to do
381   and what \texttt{not}.\par
382   The following text is from St.~Augustin, De corr.~et gratia XII,~34%
383   \footnote{De corr. et gratia XII, 34, ALG VII, 214f.},
384   latin and german.\par
385 \begin{Parallel}[p]{}{}
386 \end{Parallel}

```

6.3 Common Text for the two Examples

Here we see the common text for our examples.

```

387 (*example1 | example2 | driver)
388 \ParallelLText{Itemque ipsa adiutoria distinguenda sunt. Aliud est
389   adiutorium sine quo aliquid non fit, et aliud est adiutorium quo
390   aliquid fit. \ldots}
391 \ParallelRText{Und ebenso mu\ss\ man die Gnadenhilfen selbst
392   unterscheiden. Etwas anderes ist eine Hilfe, ohne die etwas nicht
393   geschieht, und etwas anderes eine Hilfe, durch die etwas
394   geschieht.\ldots}
395 \ParallelPar
396 \ParallelLText{Primo itaque homini, qui in eo bono quo factus fuerat
397   rectus acceperat posse non peccare, posse non mori, posse ipsum bonum
398   non deserere, datum est adiutorium perseverantiae, non quo fieret ut
399   perseveraret, sed sine quo per liberum arbitrium perseverare non
400   posset. Nunc vero sanctis in regnum Dei per gratiam Dei praedestinatis
401   non tale adiutorium perseverantiae datur, sed tale ut eis perseverantia
402   ipsa donetur; non solum ut sine isto dono perseverantes esse non
403   possint, verum etiam ut per hoc donum non nisi perseverantes sunt.}
404 \ParallelRText{Dem ersten Menschen, der in dem Gute, worin er gerecht
405   erschaffen war, die F\ahigkeit empfangen hatte, nicht zu s\undigen,
406   nicht zu sterben und vom Guten selbst nicht ab\zufallen, ist demnach
407   die Gnade der Beharrlichkeit verliehen worden, nicht jene, wo\durch
408   seine Beharrlichkeit bewirkt worden w\are, sondern jene, ohne die er
409   nicht imstande gewesen w\are, mit seinem freien Willen auszuharren.
410   Jetzt aber wird den Heiligen, die durch die Gnade Gottes f\ur das Reich
411   Gottes vorher\bestimmt sind, nicht eine solche Gnade der Beharrlichkeit
412   gegeben, sondern eine derartige, da\ss\ ihnen die Beharrlichkeit selbst
413   geschenkt wird; daher sind sie ohne dieses Gnadengeschenk nicht nur
414   unf\ahig zur Beharrlichkeit, sondern sind auch durch dieses Geschenk
415   Nurbeharrende.}
416 \end{Parallel}
417 \end{document}
418 </example1 | example2 | driver)

```

6.4 Final commands

```

419 (*package)
420 \endinput
421 %
422 %% End of parallel.sty
423 </package)

```

7 Sample-text

And finally we see the output of our sample-text typesetted parallel on one page with vertical-line. The text is from St. Augustin, De correptione et gratia XII, 34³, latin and german.

Itemque ipsa adiutoria distinguenda sunt. Aliud est adiutorium sine quo aliquid non fit, et aliud est adiutorium quo aliquid fit. . . .

Und ebenso muß man die Gnadenhilfen selbst unterscheiden. Etwas anderes ist eine Hilfe, ohne die etwas nicht geschieht, und etwas anderes eine Hilfe, durch die etwas geschieht...

³De corr. et gratia XII, 34, ALG VII, 214f.

Primo itaque homini, qui in eo bono quo factus fuerat rectus acceperat posse non peccare, posse non mori, posse ipsum bonum non deserere, datum est adiutorium perseverantiae, non quo fieret ut perseveraret, sed sine quo per liberum arbitrium perseverare non posset. Nunc vero sanctis in regnum Dei per gratiam Dei praedestinati non tale adiutorium perseverantiae datur, sed tale ut eis perseverantia ipsa donetur; non solum ut sine isto dono perseverantes esse non possint, verum etiam ut per hoc donum non nisi perseverantes sunt.

Dem ersten Menschen, der in dem Gute, worin er gerecht erschaffen war, die Fähigkeit empfangen hatte, nicht zu sündigen, nicht zu sterben und vom Guten selbst nicht abzufallen, ist demnach die Gnade der Beharrlichkeit verliehen worden, nicht jene, wodurch seine Beharrlichkeit bewirkt worden wäre, sondern jene, ohne die er nicht imstande gewesen wäre, mit seinem freien Willen auszuharren. Jetzt aber wird den Heiligen, die durch die Gnade Gottes für das Reich Gottes vorherbestimmt sind, nicht eine solche Gnade der Beharrlichkeit gegeben, sondern eine derartige, daß ihnen die Beharrlichkeit selbst geschenkt wird; daher sind sie ohne dieses Gnadengeschenk nicht nur unfähig zur Beharrlichkeit, sondern sind auch durch dieses Geschenk Nurbeharrende.