

The changepage and chngpage packages

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<https://github.com/LaTeX-Package-Repositories/herries-press/>

v2.0b, 2026-09-15 and v1.2b

Abstract

Provides command `\ifoddpage` to detect the current page ‘side’, environment `adjustwidth` to locally change the margins of the text, and commands `\changetext` and `\changepage` for more radical changes to the page design mid-way through a document.

`changepage` is the new version of `chngpage` to be compatible with `memoir`. `chngpage` is now deprecated for this reason.

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File I

User documentation

Load the package like this:

```
\usepackage[strict]{changepage}
```

Or for deprecated uses:

```
\usepackage[strict]{chngpage}
```

1 Detecting odd or even pages

`\checkoddpage` The `\checkoddpage` command can be used anywhere in the body of a document to determine if $\TeX$ is typesetting on an odd or even numbered page. If on an odd page then `\ifoddpage` is set `\true`, otherwise (on an even page) `\ifoddpage` is set `\false`. Use `\ifcpcoddpage` instead if you're using `chnpage`.

Strict page checking works by the `\checkoddpage` command generating a label and then checking the `\pageref` for the label (actually, a special version of `\pageref` is required and is used internally by `\checkoddpage`). This mechanism requires at least two $\LaTeX$ passes to ensure that the labels have settled (on the initial pass there will be no labels in the `*.aux` file to be checked).

The label identifier is composed of the command `\cplabel` and an automatically generated number. `\cplabel`, initially defined as `'^_'`, can be changed in the preamble if it will cause a clash with any author-defined labels. The default labels will be of the form `'^_<N>'` where `<N>` is a positive integer.

For `chnpage`, use `\cplabelprefix` instead of `\cplabel`.

The package option 'strict' turns on strict page checking — the default is not to use strict checking. Strict page checking can be turned on or off at any time by the commands `\strictpagecheck` or `\easypagecheck`. The easy page check just tests the page number to see if it is odd or even, which often does not give the correct result because of $\TeX$'s asynchronous output mechanism.

If you use `\checkoddpage` between two paragraphs of text it is possible even in strict mode that the label gets 'attached' to the preceding paragraph. In some cases you can fix this by writing `\leavevmode\checkoddpage` so that the label is only created after the start of the next paragraph, but if you are inserting something like a section heading this approach will also insert an empty, unwanted, paragraph. Therefore use some care when choosing where and how this command is used in your document.

2 Adjusting the margins

`adjustwidth (env.)` Within an `adjustwidth` environment the left and right margins can be adjusted. The environment takes two required length arguments:

```
\begin{adjustwidth}{<leftmargin>}{<rightmargin>}
```

A positive length value will increase the relevant margin (shortening the text lines) while a negative length value will decrease the margin (lengthening text lines). An empty length argument means no change to the margin. At the end of the environment the margins revert to their original values.

For example, to extend the text into the right margin:

```
\begin{adjustwidth}{}{-8em}
```

The starred version, `adjustwidth*`, causes the values of the margins to switch between odd and even pages, or more precisely: they switch depending on if the environment *starts* on an odd or even page. They do not switch if there is a page break inside the environment.

For `chnpage` use `\begin{adjustwidth}[]` instead of `\begin{adjustwidth*}`.

For example, if the document is being set two-sided it might be advantageous to have any wider text extending into the outside margin:

```
\begin{adjustwidth*}{}{-8em}
```

To have the adjusted text horizontally centered with respect to any surrounding text, the margins should be adjusted equally:

```
\begin{adjustwidth}{-4em}{-4em}
```

For interest, `\begin{quotation}` is pretty much equivalent to

```
\begin{adjustwidth}{2.5em}{2.5em}
```

The environment may also be used inside a float if the contents are a bit too wide for the text block, but can still fit within the physical page:

```
\begin{figure}
  \begin{adjustwidth}{-2em}{-2em}
    \includegraphics{wide}
    \caption{Wide figure}
  \end{adjustwidth}
\end{figure}
```

Sometimes, because of the asynchronous nature of the TeX output routine, the margin switching may be incorrect (like `\marginpar` sometimes) near the top of a page. This can be corrected by using the package option ‘strict’ (i.e., `\usepackage[strict]{chngpage}`), which causes `adjustwidth` to use the `\checkoddpages` command (see below).

The strict option uses a label that is issued at the begin of environment. If the environment begin just at a page break the label can be issued at the wrong place and the check is wrong (this should work better if `\DocumentMetadata` is used, see below section ?? about tagging support).

A disadvantage of the strict option is that the package generates a new label for each `adjustwidth` environment, and TeX may run out of space if there are an excessive number of labels in the document (but nowadays this shouldn’t be a problem anymore).

Whether or not the strict option is used, ‘strict adjustwidths’ can be turned on by putting the command `\strictpagecheck` before the environment, and turned off by using `\easypagecheck`.

In `chngpage`, use `\cpstricttrue` and `\cpstrictfalse` instead of `\strictpagecheck` and `\easypagecheck`.

NOTE: In a twocolumn document, the `adjustwidth` environment treats both columns equally. For example, if the width is meant to be wider at the outer margin, then on odd pages the extra width will be at the right of any column, and on even pages the extra will be at the left of any column. You can get interesting effects by careful hand tuning on two column pages.

3 Tagging support

The original `adjustwidth` environment is implemented as a list. If `\DocumentMetadata` is used, a `displayblock` environment is used together with the tagging recipe `noop`. This means that the environment does not produce additional structures.

The new implementation also changes *intentionally* the appearance in some cases: The original `adjustwidth` environment does not indent its first paragraph (which is in my

opinion a bug), the new one does it (naturally only if `\parindent` has a positive value). The new implementation also uses for `adjustwidth*` a slightly different check for odd pages if the option `strict` is in effect, this should improve the behaviour at page breaks.

4 Changing the text block

`\changetext` The `\changetext` command is for changing the size and horizontal position of the text block on a page. The command takes 5 arguments, each of which is a length or is empty. i.e.,

```
\changetext{<text height>}{<text width>}{<even-side margin>}{<odd-side margin>}{<column sep.>}
```

The given lengths are added to the corresponding current lengths and the remainder of the current page is typeset using the changed text block layout. The new layout remains in effect until another `\change...` command is issued.

5 Changing the entire page design

`\change page` The `\change page` command is for changing the general layout of a page. The command takes 9 arguments, each of which is a length or is empty. The first 5 arguments are the same as for `\changetext` and have the same effect. The last four arguments are:

```
\change page<5 args>{<topmargin>}{<headheight>}{<headsep>}{<footskip>}
```

These lengths are added to the corresponding current lengths and thus modify the vertical positions of the elements of the page. The remainder of the current page is typeset using the changed text block and page layout. The new layout remains in effect until another `\change...` command is issued.

NOTE 1 Not supplying a value for a length argument is equivalent to giving it a zero length value.

NOTE 2 For any given page, everything is constant except for the `textwidth` and `columnsep` (for example, what is the meaning of two `topmargins` on a single column page?). It is therefore best to change anything else at the start of a new page. Further, any changes only apply to whole paragraphs. If you want an odd shaped paragraph use either the `hanging` package or the `TEX \parshape` command.

For example, to change from single column pages to double column pages where the text block is both shorter and wider, then to revert back to the initial layout:

```
... single column normal page
\newpage % or \clearpage
\changetext{-5\baselineskip}{10em}{-5em}{-5em}{}
\twocolumn
... two column pages
```

```

\clearpage
\changetext{5\baselineskip}{-10em}{5em}{5em}{ }
\onecolumn
... normal pages

```

Note the adjustments to the margins which will keep the vertical centerline of the textblock at the same position on the page.

As another example, to increase the width of a single paragraph:

```

\changetext{0pt}{5em}{ }{ }{ }%
Start of wider paragraph text ...
... end of paragraph.

```

```

\changetext{0pt}{-5em}{ }{ }{ }
Start of a normal paragraph ...

```

Under some circumstances you can include a `\change...` command as part of the argument to `\afterpage` (from the `afterpage` package) and it may work. Similarly it may work in a heading style used for `\thispagestyle` to change a single page.

File II

Implementation

1 The changepage package

```
1 <*package>
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{changepage}[2026-09-15 v2.0b check page and change page layout]
4
```

Don't use this with memoir

`\cp@whoopsusingmemoir`

```
5 \newcommand*{\cp@whoopsusingmemoir}{}
6 \@ifclassloaded{memoir}{\def\cp@whoopsusingmemoir{\endinput}}
7 \cp@whoopsusingmemoir
```

(End of definition for \cp@whoopsusingmemoir.)

New `\if` for the strict option

```
8 \newif\ifstrictpagecheck
9 \strictpagecheckfalse
```

`\strictpagecheck`
`\easypagecheck`

User commands for switching strict page checking on/off

```
10 \newcommand*{\strictpagecheck}{\strictpagechecktrue}
11 \newcommand*{\easypagecheck}{\strictpagecheckfalse}
```

(End of definition for \strictpagecheck and \easypagecheck. These functions are documented on page 2.)

Declare and process options

```
12 \DeclareOption{strict}{\strictpagechecktrue}
13 \ProcessOptions\relax
```

1.1 Strict checking of odd/even page.

Works by writing a label and then checking its pageref.

`\ifoddpage`

```
14 \newif\ifoddpage
```

(End of definition for \ifoddpage. This function is documented on page 2.)

```
15 \newcounter{cp@cntr}
16 \newcount\cp@tempcnt % instead of \verb|\@memcnt|
17 \newcommand{\cplabel}{^_}
18
19 \gdef\thepmemc@page{\the\c@page}
20
21 \long\def\pmemprotected@write#1#2#3{% modified \verb|\protected@write|
```

```

22 \begingroup
23 \let\thepmemc@@page\relax
24 #2%
25 \let\protect\@unexpandable@protect
26 \edef\reserved@a{\write#1{#3}}%
27 \reserved@a
28 \endgroup
29 \if@nobreak\ifvmode\nobreak\fi\fi}
30
31 \newcommand*{\pmemlabel}[1]{\@bsphack
32 \pmemprotected@write\@auxout{}%
33 {\string\newpmemlabel{#1}{\thepmemc@@page}}%
34 \@esphack}
35
36 \newcommand*{\newpmemlabel}[2]{\global\@namedef{m@#1}{#2}}
37 \newcommand*{\pmemlabelref}[1]{%
38 \expandafter\ifx\csname m@#1\endcsname\relax
39 0% 0 if there is no label yet in the aux file
40 \else
41 \csname m@#1\endcsname
42 \fi}

```

`\checkoddpag`

```

43 \DeclareRobustCommand{\checkoddpag}{%
44 \oddpagfalse%
45 \ifstrictpagecheck%
46 \stepcounter{cp@cntr}\pmemlabel{\cplabel\thecp@cntr}%
47 \cp@tempcnt=\pmemlabelref{\cplabel\thecp@cntr}\relax
48 \ifodd\cp@tempcnt\oddpagetrue\fi
49 \else
50 \ifodd\c@page\oddpagetrue\fi
51 \fi}

```

(End of definition for `\checkoddpag`. This function is documented on page 2.)

`\cp@checkoddpag@nextpar` A variant that delays the label until the next par.

```

52 \DeclareRobustCommand{\cp@checkoddpag@nextpar}{%
53 \oddpagfalse%
54 \ifstrictpagecheck%
55 \stepcounter{cp@cntr}%
56 \AddToHookNext{para/begin}{\pmemlabel{\cplabel\thecp@cntr}}%
57 \cp@tempcnt=\pmemlabelref{\cplabel\thecp@cntr}\relax
58 \ifodd\cp@tempcnt\oddpagetrue\fi
59 \else
60 \ifodd\c@page\oddpagetrue\fi
61 \fi}

```

(End of definition for `\cp@checkoddpag@nextpar`. This function is documented on page ??.)

End newcommands for strict checking of odd/even page.

1.2 Layout changes

Copy of some of the code from the ifmtarg package to save requiring ifmtarg:

```
62 \begingroup
63 \catcode`\Q=3
64 \long\gdef\@ifmtarg#1{\@xifmtarg#1QQ\@secondoftwo\@firstoftwo\@nil}
65 \long\gdef\@xifmtarg#1#2Q#3#4#5\@nil{#4}
66 \endgroup
```

Set the page output parameters

```
67 \DeclareRobustCommand{\ch@ngetext}{%
68   \setlength{\@colht}{\textheight}\setlength{\@colroom}{\textheight}%
69   \setlength{\vsize}{\textheight}\setlength{\columnwidth}{\textwidth}%
70   \if@twocolumn%
71     \advance\columnwidth-\columnsep \divide\columnwidth\tw@%
72     \@firstcolumntrue%
73   \fi%
74   \setlength{\hsize}{\columnwidth}%
75   \setlength{\linewidth}{\hsize}}
```

\changetext

```
76 \DeclareRobustCommand{\changetext}[5]{%
77   \@ifmtarg{#1}{}{\addtolength{\textheight}{#1}}%
78   \@ifmtarg{#2}{}{\addtolength{\textwidth}{#2}}%
79   \@ifmtarg{#3}{}{\addtolength{\evensidemargin}{#3}}%
80   \@ifmtarg{#4}{}{\addtolength{\oddsidemargin}{#4}}%
81   \@ifmtarg{#5}{}{\addtolength{\columnsep}{#5}}%
82   \ch@ngetext}
```

(End of definition for \changetext. This function is documented on page 4.)

\change page

```
83 \DeclareRobustCommand{\change page}[9]{%
84   \@ifmtarg{#1}{}{\addtolength{\textheight}{#1}}%
85   \@ifmtarg{#2}{}{\addtolength{\textwidth}{#2}}%
86   \@ifmtarg{#3}{}{\addtolength{\evensidemargin}{#3}}%
87   \@ifmtarg{#4}{}{\addtolength{\oddsidemargin}{#4}}%
88   \@ifmtarg{#5}{}{\addtolength{\columnsep}{#5}}%
89   \ch@ngetext%
90   \@ifmtarg{#6}{}{\addtolength{\topmargin}{#6}}%
91   \@ifmtarg{#7}{}{\addtolength{\headheight}{#7}}%
92   \@ifmtarg{#8}{}{\addtolength{\headsep}{#8}}%
93   \@ifmtarg{#9}{}{\addtolength{\footskip}{#9}}}
```

(End of definition for \change page. This function is documented on page 4.)

adjustwidth (env.)

```
adjustwidth* (env.) 94 \newenvironment{adjustwidth}[2]{%
95   \begin{list}{}{}%
96   \topsep\z@%
```

```

97 \listparindent\parindent%
98 \parsep\parskip%
99 \@ifmtarg{#1}{\setlength{\leftmargin}{\z@}}%
100     {\setlength{\leftmargin}{#1}}%
101 \@ifmtarg{#2}{\setlength{\rightmargin}{\z@}}%
102     {\setlength{\rightmargin}{#2}}%
103 }
104 \item[]{\end{list}}
105
106 \newenvironment{adjustwidth*}[2]{%
107 \begin{list}{}{%
108 \topsep\z@%
109 \listparindent\parindent%
110 \parsep\parskip%
111 \checkoddpage
112 \ifoddpage%      odd numbered page
113     \@ifmtarg{#1}{\setlength{\leftmargin}{\z@}}%
114         {\setlength{\leftmargin}{#1}}%
115     \@ifmtarg{#2}{\setlength{\rightmargin}{\z@}}%
116         {\setlength{\rightmargin}{#2}}%
117 \else%          even numbered page
118     \@ifmtarg{#2}{\setlength{\leftmargin}{\z@}}%
119         {\setlength{\leftmargin}{#2}}%
120     \@ifmtarg{#1}{\setlength{\rightmargin}{\z@}}%
121         {\setlength{\rightmargin}{#1}}%
122 \fi}
123 \item[]{\end{list}}
124
125 \IfFormatAtLeastTF{2026-06-01}
126 {
127 \IfDocumentMetadataT
128 {
129 \RenewDocumentEnvironment{adjustwidth}{mm}
130 {%
131 \par
132 \begin{displayblock}%
133 [tagging-recipe=noop,
134 left-margin={#1+0pt},
135 right-margin={#2+0pt},
136 para-indent=\parindent,
137 begin-vspace=0pt,
138 end-vspace=0pt,
139 begin-extra-vspace=0pt,
140 end-extra-vspace=0pt]
141 }
142 {\end{displayblock}}\par}
143 \RenewDocumentEnvironment{adjustwidth*}{mm}
144 {%
145 \par\cp@checkoddpage@nextpar

```

```

146     \begin{displayblock}%
147     [tagging-recipe=noop,
148     left-margin= \ifoddpage #1+0pt \else #2+0pt\fi,
149     right-margin=\ifoddpage #2+0pt \else #1+0pt\fi,
150     para-indent=\parindent,
151     begin-vspace=0pt,
152     end-vspace=0pt,
153     begin-extra-vspace=0pt,
154     end-extra-vspace=0pt]
155   }
156   {\end{displayblock}\par}
157 }
158 }
159 </package>

```

2 The chngpage package

```

160 <*chngpage>
161 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
162 %% PLEASE NOTE:
163 %% THIS PACKAGE IS DEPRECATED IN FAVOUR OF CHANGEPAGE.STY FOR REASONS
164 %% OF COMPATIBILITY WITH THE MEMOIR CLASS. The two are equivalent;
165 %% please do not use this one for new documents or packages.
166 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
167 %
168 \NeedsTeXFormat{LaTeX2e}
169 \ProvidesPackage{chngpage}[2009/10/20 v1.2b change page layout]
170
171 %% Note: internal package commands all include the string |cp@|.
172 %% New \cs{if} for the strict option.
173 \newif\ifcpstrict
174 \cpstrictfalse
175
176 %% Declare and process options.
177 \DeclareOption{strict}{\cpstricttrue}
178 \ProcessOptions\relax
179
180 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
181 % New commands for strict checking of odd/even page.
182 % Works by writing a label and then checking its pageref.
183 %
184 % Rewritten in v1.2 to handle roman, Roman, etc page numbers
185 % as well as arabic; also eliminates special code to handle
186 % hyperref. Based on the code in the memoir class.
187
188 \newif\ifcpoddpge
189 \newcounter{cp@cnt}
190 \newcounter{cp@tempcnt}
191 \newcommand{\cplabelprefix}{^_}
192
193 \gdef\thecp@page{\the\c@page}
194 \long\def\cp@protected@write#1#2#3{% % modified \cs{protected@write}
195   \begingroup
196   \let\thecp@page\relax
197   #2%
198   \let\protect\@unexpandable@protect
199   \edef\reserved@a{\write#1{#3}}%
200   \reserved@a
201   \endgroup
202   \if@nbreak\ifvmode\nobreak\fi\fi}
203
204 \DeclareRobustCommand{\checkoddpge}{%
205   \cpoddpgefalse
206   \stepcounter{cp@cnt}\cplabel{\cplabelprefix\thecp@cnt}%

```

```

207 \c@cp@tempcnt=\cp@labelref{\cplabelprefix\thecp@cnt}\relax
208 \ifodd\c@cp@tempcnt\cpoddpagetrue\fi}
209
210 \newcommand{\cplabel}[1]{\@bsphack
211 \cp@protected@write\@auxout{}%
212 {\string\newcplabel{#1}{\thecp@page}}%
213 \@esphack}
214
215 \newcommand{\newcplabel}[2]{\global\@namedef{p@#1}{#2}}
216
217 \newcommand{\cp@labelref}[1]{%
218 \expandafter\ifx\csname p@#1\endcsname\relax
219 0% 0 if there is no label yet in aux file
220 \else
221 \csname p@#1\endcsname
222 \fi}
223
224 % End newcommands for strict checking of odd/even page.
225 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
226
227 % Copy of some of the code from the ifmtarg package to save requiring ifmtarg.
228 \begingroup
229 \catcode`\Q=3
230 \long\gdef\@ifmtarg#1{\@xifmtarg#1QQ\@secondoftwo\@firstoftwo\@nil}
231 \long\gdef\@xifmtarg#1#2Q#3#4#5\@nil{#4}
232 \endgroup
233
234 % Set the page output parameters.
235 \DeclareRobustCommand{\ch@ngetext}{%
236 \setlength{\@colht}{\textheight}\setlength{\@colroom}{\textheight}%
237 \setlength{\vsize}{\textheight}\setlength{\columnwidth}{\textwidth}%
238 \if@twocolumn%
239 \advance\columnwidth-\columnsep \divide\columnwidth\tw@%
240 \@firstcolumntrue%
241 \fi%
242 \setlength{\hsize}{\columnwidth}%
243 \setlength{\linewidth}{\hsize}%
244 }
245
246 \DeclareRobustCommand{\changetext}[5]{%
247 \@ifmtarg{#1}{\addtolength{\textheight}{#1}}%
248 \@ifmtarg{#2}{\addtolength{\textwidth}{#2}}%
249 \@ifmtarg{#3}{\addtolength{\evensidemargin}{#3}}%
250 \@ifmtarg{#4}{\addtolength{\oddsidemargin}{#4}}%
251 \@ifmtarg{#5}{\addtolength{\columnsep}{#5}}%
252 \ch@ngetext%
253 }
254
255 \DeclareRobustCommand{\change page}[9]{%

```

```

256 \@ifmtarg{#1}{-}{\addtolength{\textheight}{#1}}%
257 \@ifmtarg{#2}{-}{\addtolength{\textwidth}{#2}}%
258 \@ifmtarg{#3}{-}{\addtolength{\evensidemargin}{#3}}%
259 \@ifmtarg{#4}{-}{\addtolength{\oddsidemargin}{#4}}%
260 \@ifmtarg{#5}{-}{\addtolength{\columnsep}{#5}}%
261 \ch@ngetext%
262 \@ifmtarg{#6}{-}{\addtolength{\topmargin}{#6}}%
263 \@ifmtarg{#7}{-}{\addtolength{\headheight}{#7}}%
264 \@ifmtarg{#8}{-}{\addtolength{\headsep}{#8}}%
265 \@ifmtarg{#9}{-}{\addtolength{\footskip}{#9}}%
266 }
267
268
269 \newenvironment{adjustwidth}[3][\@empty]{%
270 \begin{list}{}{%
271 \topsep\z@%
272 \listparindent\parindent%
273 \parsep\parskip%
274 \@ifmtarg{#2}{-}{\setlength{\leftmargin}{\z@}}{\setlength{\leftmargin}{#2}}%
275 \@ifmtarg{#3}{-}{\setlength{\rightmargin}{\z@}}{\setlength{\rightmargin}{#3}}%
276 \ifx\@empty #1\relax \else
277 \cpoddpagefalse
278 \ifcpstrict\checkoddpagel\else
279 \ifodd\c@page\cpoddpagetrue\fi
280 \fi
281 \ifcpoddpage\else % even numbered page
282 \ifmtarg{#3}{-}{\setlength{\leftmargin}{\z@}}{\setlength{\leftmargin}{#3}}%
283 \ifmtarg{#2}{-}{\setlength{\rightmargin}{\z@}}{\setlength{\rightmargin}{#2}}%
284 \fi
285 \fi}
286 \item[]{\end{list}}
287 </chnpage>

```