`footmisc` —
a portmanteau package
for customizing footnotes in LaTeX[*]

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Copyright statement

Program: `footmisc.dtx`

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This work has the LPPL maintenance status 'maintained'.

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History

This package originated as support of a personal project, which I (Robin) was switching to LaTeX 2e over the Christmas holiday period of 1993, using the first β release.

In its first form, it was known as the "footnote" package, but by the time I had released it to CTAN, that name had already been used by a package written by Mark Wooding. So the package is now known (as you can see) as "footmisc".

Frank took over maintenance in 2018 but due to other commitments never got around finishing the changes he started to make in 2018.

In 2022 a few new options (`abovefloats`, `belowfloats`, and `bottomfloats` got introduced and the package now works with `hyperref` regardless of loading order. There are however, still a few restrictions when using both packages together, in particular the `multiple` option does not fully work.

1   User interface — package options

The footmisc package provides several different customizations of the way footnotes are represented in LaTeX 2_ε documents (the sources of the code in this package are various, but all of it has been massaged by the author; where the code comes from elsewhere, there are attributions given below, somewhere or other).

The interface to the package's options is mostly rather simple — each one is presented as an option in the `\usepackage` command, and for most, nothing else needs to be done. For example, to use a useful and consistent set, the author invokes the package with the command `\usepackage[perpage,para,symbol*]{footmisc}`.

For a small number of options, there are additional parameters available; these are described in the subsections below.

1.1   Option `perpage`

This option resets footnote numbering for each page of the document. It needs at least two passes to do this correctly (though it comes as close as possible on the first pass). You generally have to make two passes with LaTeX anyway, to get the cross-references right, so an additional pass for this purpose shouldn't cause any additional problem. The option includes code to report that '*Label(s) may have changed*', which will help the poor user to realize that (yet) another run is in order.

1.2   Option `para`

This option (derived from code by Dominik Wujastyk and Chris Rowley) causes footnotes to be typeset as a single paragraph at the bottom of the page on which they occur. In the case that there is only one footnote on the page, no effect will be observed. However, if there are several footnotes on the page, they will be run together in the page foot, each introduced by its footnote mark. The original demand for the option came from the needs of those preparing critical editions; such documents typically have large numbers of small footnotes, which look ridiculous if each is typeset in a paragraph of its own; in most other disciplines, such multiplicities of footnotes represent mere self-indulgence: the author of this package is disgracefully guilty of this.

Please note that "old" LaTeX installations may have problems with the algorithm for `para` footnotes on very wide pages (for example, those used by the a0poster class). Recent LaTeX installations use an improved technique that is believed not to be susceptible to this problem.

1.3   Option `side`

This option (suggested by Frank Mittelbach) causes footnotes to be typeset using the `\marginpar` command: this has the advantage that the note appears close to its "call-up", but has all the disadvantages associated with the `\marginpar` command (which consumes 'float' slots, and doesn't always place itself correctly at the top of pages in two-sided documents). Since the measure in which the footnote is to be typeset is likely to be pretty narrow, users of the `side` option are recommended also to use the `ragged` option, to avoid ugly spacing and line breaks.

There is a further problem (apart from the occasional failure to place the marginal note on the correct side of the page) in two-sided documents: one would like 'raggedness' to appear differently in different margins (setting the left, rather than the right, side ragged in the left margin). (The author would welcome suggestions on means of addressing the problem.)

1.4   Option `ragged` and `\footnotelayout`

The package provides facilities for ragged right setting of footnotes (so long as the `para` option isn't in effect). The change is effected by use of the command `\footnotelayout`; the package inserts this command into the start of the argument of `\footnotetext` (in effect: `\footnote` works, roughly, by calling the guts of `\footnotetext` at its end).

If you want to use some special effect other than ragged right, feel free to change `\footnotelayout` yourself: some intriguing (and completely undesirable) results are no doubt available. Change the setting simply by use of `\renewcommand\footnotelayout....` The `ragged` option simply sets `\footnotelayout` to set `\raggedright` or `\RaggedRight` as appropriate. (If you intend to use the ragged2e package, load it before footmisc — if footmisc finds `\RaggedRight` is available, it automatically uses it in place of `\raggedright`.)

1.5 Option `symbol`

This option simply establishes that footnotes are 'labelled' by a symbol sequence. The command used is equivalent to that suggested in LaTeX manuals such as Lamport's (the job performed by the option is very simple, and doesn't really need a package).

Using symbols to 'number' your footnotes can be problematic: there is a limited number of symbols, and LaTeX will report an error if your footnotes exceed that limit. To avoid such problems, consider the `symbol*` option, or the `\setfnsymbol` command (see the next two sections), or number your footnotes by the page (see section 1.1).

1.6 Option `symbol*`

This is the `symbol` option, but with protection against the tedium that arises because of the instability of the `perpage` option. When executing the `perpage` option, the package often allocates footnotes to the wrong pages, only to correct itself on a later run (having warned the user of the need for the later run with a '*Label(s) may have changed*' message). In these circumstances the `symbol` option is prone to producing LaTeX errors, which stop processing, and confound automatic generation procedures. In the same situation, the `symbol*` option produces information messages and a warning message at end document, and the user may scan the log for those messages *after* processing has stabilized. The option produces numbers (17 and higher, in the case of the default symbol set) in place of symbols, when the footnote number is too large.

1.7 The `\setfnsymbol` and `\DefineFNsymbols` commands

> NOTE: *At some point in the past this interface got extended, but the documentation lags behind so this needs updating.*

These commands permit the definition and use of alternative (ordered) sets of symbols for numbering footnotes. LaTeX of course comes with such a set ready-defined, but the choice of symbols isn't universally loved.

You may define a set of symbols with the `\DefineFNsymbols` command. LaTeX's default set would be defined by the command:

```
\DefineFNsymbols*{lamport}{*\dagger\ddagger\S\P\|%
        {**}{\dagger\dagger}{\ddagger\ddagger}}
```

Defined this way, the symbol set produces a "counter too large" error; a robust version of the set (cf. the `symbol*` option (see 1.6)) is established by using the `\DefineFNsymbols` command without the optional `*`. You may select a set of symbols by use of the `\setfnsymbol` command; so to restore use of the default set, you would type:

```
\setfnsymbol{lamport}
```

This package defines a small selection of alternative sets of symbols, using `\DefineFNsymbols`:

bringhurst	* † ‡ § ‖ ¶
chicago	* † ‡ § ‖ #
wiley	* ** † ‡ § ¶ ‖

together with a version of Lamport's original set that, with doubled versions of §
and ¶, and tripled versions of everything but the vertical bars, provides a symbol
range to cover counters up to 16.

This last set, known as `lamport*` is selected as the default symbol set by the
package.

1.8 Options altering the footnotes/floats relationship

In LaTeX the default order on a page is "page text" followed by "footnotes" (if any)
followed by "bottom floats" (if any). The spacing between the three components
depends of whether pages are always stretched to the same height (`\flushbottom`
as used by the book class) or if they can run short (`\raggedbottom` as used by the
article or report class). If `\raggedbottom` is in force, then LaTeX would normally
set the footnotes a mere `\skip\footins` distant from the bottom of the text
and bottom floats follow separated by `\textfloatsep`. Both spaces might get
stretched if `\flushbottom` is in force.

<div style="float:left; border:1px solid">New: 2022-02</div> If you want to diverge from this default placement, then there are a number of
alterations that can be made:

- the order of footnotes and floats can be swapped; and

- both footnotes and floats can be forced to the bottom (i.e., `\raggedbottom`
  then only applies to pages with neither), or

- only one of them is forced to the bottom, the other stays close to the text.

These can be achieved by applying one or more of the options discussed below.

1.8.1 Option `bottom`

This option forces footnotes (but not the floats) to the bottom of the page and
therefore by default also implies `belowfloats`. If `\raggedbottom` is in force then
the excess space goes above the footnotes if any are present. If `\flushbottom` is
in force there is no visible difference to just specifying `belowfloats`.

1.8.2 Option `bottomfloats`

New: 2022-02 If you want force only floats to the bottom while the footnotes stay close to the
text use the option `bottomfloats`. If not overwritten this implies `abovefloats`.

1.8.3 Options `abovefloats` and `belowfloats`

New: 2022-02 These two options describe the footnote placement with respect to floats on the
page. LaTeX's default is `abovefloats`, but it can still be useful to specify it because
it fixes the bug discussed in section 1.8.5.

1.8.4 Combining the four options

New: 2022-02 By default, `bottom` and `bottomfloats` options put any excess space (i.e., when
`\raggedbottom` is in force) between floats and footnotes if both are present on a
given page. If only one of them is present, the excess space goes below the text. If
you prefer both footnotes and floats at the bottom instead, you can achieve this
as follows:

`bottom,abovefloats` This puts the footnotes above any floats and both at the bottom when present.

`bottomfloats,belowfloats` This puts floats and footnotes at the bottom but footnotes last if both are present. If there are only footnotes they are still placed at the very bottom (think of them as being placed below the float "area" even if that has no floats inside).

The other combinations are duplicates, e.g., `bottom,belowfloats` is the same as just specifying `bottom`.

1.8.5   Fixing a strange behavior of LaTeX

In the default case (if `footmisc` is not loaded) LaTeX shows a somewhat strange discrepancy: on most pages the footnotes are attached a distance of `\skip\footins` from the main text, even if that page is run short (i.e., with `\raggedbottom` in force). However, whenever there is some infinite stretch at the end of the page, e.g., from using `\newpage` or `\clearpage` the footnotes are pushed to the bottom (in particular on the last page of a document or chapter).

This is automatically corrected if `footmisc` is loaded with any of the options that deal with footnote placement, i.e., `abovefloats`, `belowfloats`, `bottom`, or `bottomfloats`. In particular, if you want to have the standard LaTeX placement (but with this strange behavior fixed, apply `abovefloats` (which is the normal order but with the bug fixed).

1.9   Option `marginal`

This option adjusts the position of footnote mark relative to the start of the line in which they appear (the option is incompatible with option `para`, for obvious reasons).

When this option is in effect, the footnote is set `\footnotemargin` relative to the left margin of the page; the default setting for `\footnotemargin` is -0.8em, which means that the footnote mark will be set jutting 0.8em into the margin. If `\footnotemargin` is a positive length, the footnote mark will be set with its right edge `\footnotemargin` from the margin. (In the absence of the option, `\footnotemargin` is set to 1.8em; you may change that value with a `\setlength` command.)

1.10   Option `flushmargin`

This option is as option marginal, but sets the footnote marker flush with, but just inside the margin from, the text of the footnote.

1.11   Option `hang`

This option sets the footnote mark flush with the margin, and makes the body of the footnote hang at an indentation of `\footnotemargin` (if that is a positive distance), or the width of the marker (if `\footnotemargin` ≤ 0). The option code itself leaves `\footnotemargin` at its default value of 1.8em.

The footnote itself may of course be longer than one paragraph; if so, the paragraphs will be separated by the vertical space specified by `\hangfootparskip`,

and the second and subsequent paragraphs are indented by `\hangfootparindent`.
Default values are:

$$\text{\texttt{\textbackslash hangfootparskip}} \quad 0.5\text{\texttt{\textbackslash baselineskip}}$$
$$\text{\texttt{\textbackslash hangfootparindent}} \quad 0\text{em}$$

The user may redefine these values (using `\renewcommand`): it is best to use the font-size-dependent measures (multiples of `\baselineskip` for the skip, multiples of `em` for the indent). Note that the default has only one of the two values non-zero; both zero may result in easily-missed paragraph breaks, and both non-zero is not generally thought to be a good-looking option.

1.12   Option `norule`

This option suppresses the 'normal' footnote rule, and advances `\skip\footins` a bit to compensate

1.13   Option `splitrule`

This option makes puts a full-width rule above the split-off part of a split footnote. (Remember that split footnotes don't happen if you're doing paragraph footnotes.)

The option provides three different `\footnoterule` commands:

`\mpfootnoterule`	for use in minipages
`\pagefootnoterule`	for normal footnotes on regular pages
`\splitfootnoterule`	for the tail of a split footnote

By default, `\mpfootnoterule` and `\pagefootnoterule` retain the original definition of `\footnoterule` (which may have been modified by a `norule` option), while `\splitfootnoterule` becomes a full-width rule.

1.14   The `stable` option

This option deals with the problem of placing footnotes in section titles (and so on). While there is (sometimes, just) justification for putting footnotes in titles, LaTeX's treatment of the content of titles militates against them. Of course, the title argument is ordinarily a moving one, and `\footnote` is a fragile command, but the real problem comes from the way the argument actually moves — which is to two places. The argument moves to the table of contents, where the footnote will (at least) look odd. But the argument also moves to the marks that make up page headers, etc., and *there* it creates havoc, since page headers are executed in page make-up, and page make-up *must not* create footnotes.

If you use the `stable` option, the footnote won't move to the table of contents or the page headers, but it will be typeset correctly within the title itself.

The situation with `\footnotemark` is less dire (it could in principle appear in page headers, for example); footnote marks appearing on pages other than where their text appears are none the less confusing, and the stable option treats `\footnotemark` in the same way that it treats `\footnote`.

1.15 The `multiple` option

This option deals with the case where the author needs to type things like

```
mumble\footnote{blah}\footnote{grumble}
```

Without special treatment, LaTeX would output something like

mumble[13][14]

What the `multiple` option makes of the above is

mumble[13,14]

which is what most people would expect. The comma separator actually derives from the definition of `\multfootsep`, which may be changed by `\renewcommand` if the option is in effect.

The option also treats `\footnotemark` in the same way.

1.16 User interface — miscellaneous commands

The package also defines some miscellaneous footnote-related commands. The present group provides alternative means of producing footnote marks: `\footref` and `\mpfootnotemark`.

When you're in a minipage, `\footnote` numbers run according to the minipage's own footnote counter, and the marks are set in italic letters. However, the numbers used by `\footnotemark` make reference to the 'main' footnote counter, and are set in whatever is the current style for that: this behavior often surprises, and there's no obvious way in standard LaTeX to "get around" it. The command `\mpfootnotemark` gets around this problem in a minipage, by generating footnote marks in the same way as those used by `\footnote`.

In fact, making reference to footnotes in general can be problematic: it can be done by noting down the value of the footnote marker in a counter (or the like) and then using the value in a subsequent `\footnotemark` or `\mpfootnotemark`. This is a tedious way of going about things, and doesn't allow representation of all possible forms of footnote mark; `\footref` is a form of reference command that sets the reference as if it were a footnote.[1] The label should be set *within* the argument of the footnote command that is being labelled:

```
...\footnote{Note text\label{fnlabel}}
...
... potato head\footref{fnlabel}
```

2 User interface — interactions with other packages

The footmisc package modifies several parts of the LaTeX kernel; what gets modified depends on the options you select. This behavior can cause problems with other packages, particularly those that also modify the kernel.

Known interactions are:

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[1]This command is already provided by the LaTeX format.

setspace The setspace package modifies the way line spacing is calculated in footnotes. Footmisc knows about this, and preserves the change. However, you *must* load setspace *before* footmisc.

memoir class The class emulates setspace, and we detect that emulation and deal with it in the same way as setspace.

manyfoot The manyfoot package permits several independent sequences of footnotes. Some preliminary work towards interworking with footmisc has been completed, but more remains to be done at the time of writing.

hyperref The hyperref package works together with footmisc (as proved by this documentation), but at this point in time not all options of footmisc can be used — this will change over time.