

# The **footnotehyper** package

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## Abstract

The footnote package by MARK WOODING dates back to 1997 and has not been made hyperref compatible. The aim of the present package is to do that. It is barely tested and its state is what I found sufficiently well-working on a current LaTeX document of mine.

For those who don't know: the footnote package allows via `\savenotes` to gather footnotes and later release them via `\spewnotes` (one can also use a `savenotes` environment.) Thus footnotes emitted from tabulars or minipages are not separated from the general document stream of footnotes, and are printed with the others at bottom of page. This works also for environments like `framed` (in case of multi-page content, the footnotes are delivered in the last page) from the eponymous package and avoids the `\footnotemark/\footnotetext` approach, which anyhow is not immediately hyperref compatible. The footnote package has a facility to patch any user-chosen environment to do the `\savenotes/\spewnotes` automatically.

Some issues from `footnote.sty` made it incompatible with the `color` and `xcolor` packages; this is corrected by **footnotehyper**. The compatibility with `babel-frenchb` has been improved, too.

The loading of `hyperref` (either before or after) is mandatory but left to the user.

## 1 License

```
% Package: footnotehyper
% Version: 0.9d (2016/04/21)
% License: LPPL 1.3c
% Copyright (C) 2016 Jean-Francois Burnol <jfbu at free dot fr>.
%
% This Work may be distributed and/or modified under the conditions
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% this license is in:
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% Version 1.3 or later is part of all distributions of
% LaTeX version 2005/12/01 or later.
%
% The Author of this Work is: Jean-Francois Burnol `<jfbu at free dot fr>`
%
% This Work consists of the main source file footnotehyper.dtx and the
% derived files footnotehyper.sty, footnotehyper.ins, footnotehyper.tex,
% footnotehyper.pdf, footnotehyper.dvi.
```

## 2 Usage

Do *not* load footnote, leave that job to **footnotehyper**. You *must* load hyperref.

Then you can use `\savenotes/\spewnotes` or the equivalent `savenotes` environment; there is also a `footnote` environment, but its set-up during **footnotehyper** loading is more delicate and it could well fail depending on how `\@makefntext` has been customized by the class or other packages; a warning is issued in that case. A functional `footnote` environment allows footnotes with verbatim material.

Please refer to the documentation of the `footnote` package.<sup>1</sup>  
 Particularly you may check its `\makesavenoteenv` command.<sup>2</sup>

We can try some normal footnote.<sup>3</sup>

The above<sup>4</sup> was    coded<sup>5</sup> as:

```

\savenotes
\begin{framed}
  Please refer to the documentation of the |footnote| package.%
  \footnote{\url{http://ctan.org/pkg/footnote}}

  Particularly you may check its |\makesavenoteenv| command.%
  \footnote{This won't handle floating environments, though.}
\end{framed}
\spewnotes

```

and the present frame has `\footnote`'s from inside a `tabular` and is inside a `savenotes` environment.<sup>6</sup> Let's test an `amsmath` environment with `\intertext`. As

$$E = mc^2, \tag{1}$$

was too easy,<sup>7</sup> let's try:

$$F = nd^3. \tag{2}$$

<sup>1</sup><http://ctan.org/pkg/footnote>

<sup>2</sup>This won't handle floating environments, though.

<sup>3</sup>Here it is.

<sup>4</sup>Notice that if the present frame extended to next page, the end of the `savenotes` environment would then (try to) deliver its footnotes to that page.

<sup>5</sup>Alternatively a `savenotes` environment could have been used.

<sup>6</sup>Here is an issue which has nothing (as I finally figured out) to do with `footnote`, and only indirectly with  $\LaTeX$ : if you embed a *full-width* minipage (with initial `\noindent`) in any environment not doing `\ignorespacesafterend`, be careful

### 3 Implementation

Use of the footnote *environment* with some verbatim material<sup>8</sup> which was coded as:

```
Use of the \texttt{footnote} \emph{environment} with some verbatim material%
\begin{footnote}
  \verb|&${}^{\%}\{ \} $|
\end{footnote}
```

And one more normal footnote.<sup>9</sup>

### 3 Implementation

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{footnotehyper}%
3 [2016/04/21 v0.9d hyperref aware footnote.sty (JFB)]
```

no options

```
4 \DeclareOption*{\PackageWarning{footnotehyper}{Option '\CurrentOption' is unknown}}%
5 \ProcessOptions\relax
```

```
\@makefnctext We load footnote but leave the hyperref handling to the user.
\footnote      As we need to intercept some re-definitions done by footnote we will first check if it is already loaded.
\footnotetext  If \@makefnctext has been customized and its argument is not visible at top level in its meaning, then
loading footnote.sty will fail with a low level TeX error. We save its meaning and replace it by an innocuous
one for the time being. We will come back to this at begin document.
```

We also postpone to at begin document the redefinitions of `\footnote` and `\footnotetext`.

```
6 \@ifpackageloaded{footnote}
7 {\PackageWarning{footnotehyper}{Please next time do not load footnote,^^J
8   but leave that to me, that is much safer.}}
9 {\let\FNH@makefnctext\@makefnctext\let\@makefnctext\@firstofone
10  \RequirePackage{footnote}\relax
11  \let\@makefnctext\FNH@makefnctext
12 }%
13 \let\FNH@fn@footnote \footnote
14 \let\FNH@fn@footnotetext\footnotetext
15 \let\footnote \fn@latex@footnote
16 \let\footnotetext\fn@latex@footnotetext
17 \AtBeginDocument{\@ifpackageloaded{hyperref}{}{\PackageError{footnotehyper}%
18 {hyperref package not loaded!^^Jhow many errors will you get ?...}%
19 {...I am sure you know what to do next time!}}}%
```

`\fn@fntext` Some amsmath complications. I change the coding, but same effect as original.

```
20 \def\fn@fntext {\ifx\ifmeasuring@\undefined\expandafter\@secondoftwo
21 \else\expandafter\@firstofone\fi
22 {\ifmeasuring@\expandafter\@gobbletwo\fi}%
23 \FNH@fn@fntext }%
```

to add a % after the minipage (or after the surrounding environment; or a `\par` immediately), else the output will have an extra blank line if the source has itself a blank line there. I hesitated adding that to `\spewnotes/\endsavenotes`.

Finally I left as is.

<sup>7</sup>There is also  $E = h\nu$ .

<sup>8</sup>`&${}^{\%}\{ \} $`

<sup>9</sup>You didn't want a footnote from *inside* the verbatim I hope ...

### 3 Implementation

`\FNH@fn@fntext` Note: original `\fn@fntext` had no `\long`, which looks wrong.

We do the `\ifHy@nesting` test although `hyperref`'s manual says "Allows links to be nested; no drivers currently support this."

```

24 \long\def\FNH@fn@fntext #1{\global\setbox\fn@notes\vbox
25   {\unvbox\fn@notes
26   \fn@startnote
27   \@makefntext
28   {\rule\z@\footnotesep\ignorespaces
29   \ifHy@nesting\expandafter\ltx@firstoftwo
30     \else\expandafter\ltx@secondoftwo
31   \fi
32   {\expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{#1}}%
33   {\Hy@raisedlink
34     {\expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}%
35     {\relax}}}%
36   \let\@currentHref\Hy@footnote@currentHref
37   \let\@currentlabelname\@empty
38   #1}%
39   \@finalstrut\strutbox }%
40   \fn@endnote }%
41 }%
```

`\spewnotes` The final touch in our hack is to patch the original `\spewnotes` for it to use the original, non-`hyperref` modified, version of `\@footnotetext`. And let's not forget `\endsavenotes`.

```

42 \def\spewnotes {\endgroup
43   \if@savingnotes\else\ifvoid\fn@notes\else
44   \begingroup\let\@makefntext\@empty
45     \let\@finalstrut\@gobble
46     \let\rule\@gobbletwo
47     \H@@footnotetext{\unvbox\fn@notes}%
48   \endgroup\fi\fi
49 }%
50 \let\endsavenotes\spewnotes
```

`\fn@endfntext` We now take care of `footnote.sty`'s footnote environment. The original `\fn@endfntext` is lacking a `\fn@endnote`, and this meant that `footnote.sty` was incompatible with `color`/`xcolor` packages. Also this `\fn@endnote` was `\let` to `\color@endgroup` which is wrong.

And we need our usual replacement of `\@footnotetext` by `\H@@footnotetext`. And this time (v0.9d) let's not forget the hyperlink target.

```

51 \def\fn@endnote {\color@endgroup}%
52 \def\fn@endfntext{%
53   \@finalstrut\strutbox
54   \fn@postfntext
55   \fn@endnote
56   \egroup
57   \begingroup
58   \let\@makefntext\@empty
59   \let\@finalstrut\@gobble
60   \let\rule\@gobbletwo
61   \H@@footnotetext
62   {\ifHy@nesting\expandafter\ltx@firstoftwo
63     \else\expandafter\ltx@secondoftwo
```

### 3 Implementation

```

64      \fi
65      {\expandafter\hyper@@anchor
66       \expandafter{\Hy@footnote@currentHref}{\unvbox\z@}}%
67      {\Hy@raisedlink
68       {\expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}%
69        {\relax}}}%
70      \let\@currentHref\Hy@footnote@currentHref
71      \let\@currentlabelname\@empty
72      \unvbox\z@}
73  }%
74  \endgroup
75 }%
76 \let\endfootnote      \fn@endfntext
77 \let\endfootnotetext \endfootnote

```

There are some \let's done by footnote.sty in what appears to be premature ways.

```

78 \AtBeginDocument {%
79   \let\fn@latex@@footnote      \footnote
80   \let\fn@latex@@footnotetext \footnotetext
81   \let\footnote                \FNH@fn@footnote
82   \let\footnotetext            \FNH@fn@footnotetext
83 }%

```

\@makefntext \fn@prefntext \fn@postfntext The footnote.sty's mechanism for setting up a footnote environment is doomed to failure if the parameter in \@makefntext is not visible at top level in its meaning. This is the case with babel-frenchb at begin document. It is also wrong if the parameter is used multiple times. Let's figure it out; and a special rescue for footnote+babel+frenchb... notice that these checks will fail (rather, they are skipped) if footnote's loading was done by the user and not by footnotehyper.

```

84 \ifx\FNH@makefntext\undefined\expandafter\@gobble
85   \else\expandafter\AtBeginDocument\fi
86 {%
87   \ifx\@makefntextFB\undefined
88     \expandafter\@gobble\else\expandafter\@firstofone\fi
89   {\ifFBFrenchFootnotes \let\FNH@makefntext\@makefntextFB \else
90     \let\FNH@makefntext\@makefntextORI\fi}%
91   \expandafter\FNH@check@a\FNH@makefntext{1.2!3?4,}\FNH@@@1.2!3?4,\FNH@@@ \relax
92 }%
93 \long\def\FNH@check@a #11.2!3?4,#2\FNH@@@#3%
94 {%
95   \ifx\relax#3\expandafter\@firstoftwo\else\expandafter\@secondoftwo\fi
96   \FNH@bad@footnote@env
97   {\def\fn@prefntext{#1}\def\fn@postfntext{#2}\FNH@check@b}%
98 }%
99 \def\FNH@check@b #1\relax
100 {%
101   \expandafter\expandafter\expandafter\FNH@check@c
102   \expandafter\meaning\expandafter\fn@prefntext
103   \meaning\fn@postfntext1.2!3?4,\FNH@check@c\relax
104 }%
105 \def\FNH@check@c #11.2!3?4,#2#3\relax
106   {\ifx\FNH@check@c#2\expandafter\@gobble\fi\FNH@bad@footnote@env}%
107 \def\FNH@bad@footnote@env
108 {%

```

### 3 Implementation

```
109 \PackageWarning{footnotehyper}%  
110   {The footnote environment from package footnote^^}%  
111   will be dysfunctional, sorry (not my fault...). You may try to mail  
112   me^^}the preamble and/or only the next lines:}%  
113 \typeout{\meaning\@makefntext}%  
114 \let\fn@prefntext\@empty\let\fn@postfntext\@empty  
115 }%  
116 \endinput
```

Let me say again I have barely tested on a few examples that it does at all work! One of the main tests being the present documentation. . .