

# 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, I have not attempted any in-depth analysis of all possible situations. As version number is at v0.9c, there is room for incorporating suggestions until reaching final v1.0. I promise not to find a mathematical constant in-between and I will certainly not play the 999...9 game à la XeTeX.

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

## 1 License

```
% Package: footnotehyper
% Version: 0.9c (2016/04/19)
% 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
% of the LaTeX Project Public License, version 1.3c. This version of
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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
```

## 2 Usage

% derived files footnotehyper.sty, footnotehyper.ins, footnotehyper.tex,  
% footnotehyper.pdf, footnotehyper.dvi.

## 2 Usage

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. Let's test an `amsmath` environment with `\intertext`. As

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

was too easy,<sup>6</sup> let's try:

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

One more normal footnote<sup>7</sup> and finally a use of footnote environment with some verbatim material.<sup>8</sup>

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<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 `\spewnotes` command would then (try to) deliver its footnotes to that page.

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

<sup>6</sup>there is also  $E = h\nu$ .

<sup>7</sup>Nothing left to say?

<sup>8</sup>`&$^%\[\ ]$`

### 3 Implementation

```

1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{footnotehyper}%
3 [2016/04/19 v0.9c hyperref aware footnote.sty (JFB)]

```

no options

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

We load footnote but leave the hyperref handling to the user.

<code>\@makefnfntext</code> <code>\footnote</code> <code>\footnotetext</code>	If <code>\@makefnfntext</code> has been customized and its argument is not visible at top level in its meaning, then loading <code>footnote.sty</code> will fail with a low level T <sub>E</sub> X 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 \let\FNH@@makefntext\@makefntext\let\@makefntext\@firstofone
7 \RequirePackage{footnote}%
8 \let\@makefntext\FNH@@makefntext
9 \let\FNH@footnote      \footnote
10 \let\FNH@footnotetext\footnotetext
11 \let\footnote      \fn@latex@@footnote
12 \let\footnotetext\fn@latex@@footnotetext
13 \AtBeginDocument{\@ifpackageloaded{hyperref}{}{\PackageError{footnotehyper}%
14   {hyperref package not loaded!^^}That's not easily forgiven..}%
15   {I am sure you know what to do. Else, think hard: yes you can!}}}%

```

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

```

16 \def\fn@fntext {\ifx\ifmeasuring@\undefined\expandafter\@secondoftwo
17                                     \else\expandafter\@firstofone\fi
18   {\ifmeasuring@\expandafter\@gobbletwo\fi}%
19   \FNH@fn@fntext }%

```

`\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."

```

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

```

### 3 Implementation

```
36 \fn@endnote }%
37 }%
```

`\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`.

```
38 \def\spewnotes {\endgroup
39   \if@savingnotes\else\ifvoid\fn@notes\else
40     \begingroup\let\@makefntext\@empty
41       \let\@finalstrut\@gobble
42       \let\rule\@gobbletwo
43       \H@@footnotetext{\unvbox\fn@notes}%
44   \endgroup\fi\fi
45 }%
```

`\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`.

```
46 \def\fn@endnote {\color@endgroup}%
47 \def\fn@endfntext{%
48   \@finalstrut\strutbox
49   \fn@postfntext
50   \fn@endnote
51   \egroup
52   \begingroup
53   \let\@makefntext\@empty
54   \let\@finalstrut\@gobble
55   \let\rule\@gobbletwo
56   \H@@footnotetext{\unvbox\z@}%
57   \endgroup
58 }%
59 \let\endfootnote \fn@endfntext
60 \let\endfootnotetext \endfootnote
```

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

```
61 \AtBeginDocument {%
62   \let\fn@latex@@footnote \footnote
63   \let\fn@latex@@footnotetext\footnotetext
64   \let\footnote \FNH@footnote
65   \let\footnotetext\FNH@footnotetext
66 }%
```

`\@makefntext` 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, or is used multiple times. Let's figure it out.

`\fn@prefntext`

`\fn@postfntext`

```
67 \AtBeginDocument
68   {\expandafter\FNH@check@a\@makefntext{1.2!3?4,}\FNH@@@1.2!3?4,\FNH@@@relax}%
69 \long\def\FNH@check@a #1.2!3?4,#2\FNH@@@#3{%
70   \ifx\relax#3\expandafter\@firstoftwo\else\expandafter\@secondoftwo\fi
71   {\FNH@bad@footnote@env}%
72   {\long\def\fn@prefntext{#1}\long\def\fn@postfntext{#2}\FNH@check@b}%
73 }%
74 \def\FNH@check@b #1\relax{\expandafter\expandafter\expandafter\FNH@check@c
```

### 3 Implementation

```
75 \expandafter\meaning\expandafter\fn@prefntext
76 \meaning\fn@postfntext1.2!3?4,\FNH@check@c\relax
77 }%
78 \def\FNH@check@c #11.2!3?4,#2#3\relax
79 {\ifx\FNH@check@c#2\expandafter\@gobble\fi\FNH@bad@footnote@env}%
80 \def\FNH@bad@footnote@env {\PackageWarning{footnotehyper}%
81 {The footnote environment from package footnote^^J%
82 will be dysfunctional, sorry (not my fault...)}%
83 \let\fn@prefntext\@empty\let\fn@postfntext\@empty
84 }%
85 \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. . .