

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. 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: 0.9e (2016/04/30)
% 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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%
% 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.¹

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 `\@makefnctext` 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.²
Particularly you may check its `\makesavenoteenv` command.³

We can try some normal footnote.⁴

The above⁵ was coded⁶ 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.⁷ Let's test an `amsmath` environment with `\intertext`. As

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

was too easy,⁸ let's try:

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

¹Since 0.9e **footnotehyper** deactivates itself gracefully if `hyperref` is not loaded, or under `hyperref` option `hyperfootnotes=false`.

²<http://ctan.org/pkg/footnote>

³This won't handle floating environments, though.

⁴Here it is.

⁵Notice 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.

⁶Alternatively a `savenotes` environment could have been used.

3 Implementation

Use of the footnote *environment* with some verbatim material⁹ 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.¹⁰

3 Implementation

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{footnotehyper}%
3 [2016/04/30 v0.9e hyperref aware footnote.sty (JFB)]
```

no options

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

```
\@makefnctext
\footnote
\footnotetext
```

We load footnote but leave to the user to take care of hyperref.

As we need to intercept some re-definitions done by footnote we will first check if it is already loaded.

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}
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
```

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

```
17 \AtBeginDocument {%
18   \let\fn@latex@@footnote \footnote
19   \let\fn@latex@@footnotetext\footnotetext
```

⁷Here is an issue which has nothing (as I finally figured out) to do with footnote, and only indirectly with L^AT_EX: if you embed a *full-width* minipage (with initial \noindent) in any environment not doing \ignorespacesafterend, be careful 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.

⁸There is also $E = h\nu$.

⁹&\${}^{\%}\[{}\$

¹⁰**footnotehyper** deactivates itself if hyperfootnotes=false option to hyperref is detected. Essentially, it only fixes then the incompatibilities between footnote.sty and color/xcolor/babel-frenchb packages.

3 Implementation

```

20 \let\footnote \FNH@fn@footnote
21 \let\footnotetext\FNH@fn@footnotetext
22 }%

```

\FNH@inactive We intervene (for real) only if hyperfootnotes option of hyperref applies.

```

23 \AtBeginDocument{\@ifpackageloaded{hyperref}
24   {\ifHy@hyperfootnotes
25     \let\fn@fntext \FNH@fn@fntext
26     \let\spewnotes \FNH@spewnotes
27     \let\endsavenotes\spewnotes
28     \let\fn@endfntext\FNH@fn@endfntext
29   }
30   \else
31     \FNH@inactive
32   \fi } \FNH@inactive
33   \let\endfootnote\fn@endfntext
34   \let\endfootnotetext\endfootnote
35 }%
36 \def\FNH@fixendfntext\@finalstrut\strutbox\fn@postfntext
37   {\@finalstrut\strutbox\fn@postfntext\fn@endnote}%
38 \def\FNH@inactive {%
39   \expandafter\expandafter\expandafter\def
40   \expandafter\expandafter\expandafter\fn@endfntext
41   \expandafter\expandafter\expandafter
42   {\expandafter\FNH@fixendfntext\fn@endfntext}%
43   \PackageInfo{footnotehyper}{hyperref package not loaded,^^}
44   or hyperfootnotes=false option; I did not activate myself and only^^}
45   patched footnote.sty for color/xcolor/babel-frenchb compatibility}}%

```

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

```

46 \def\FNH@fn@fntext {\ifx\ifmeasuring@undefined\expandafter\@secondoftwo
47   \else\expandafter\@firstofone\fi
48   {\ifmeasuring@\expandafter\@gobbletwo\fi}%
49   \FNH@fn@fntext@i }%

```

\FNH@fn@fntext@i 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."

```

49 \long\def\FNH@fn@fntext@i #1{\global\setbox\fn@notes\vbox
50   {\unvbox\fn@notes
51     \fn@startnote
52     \@makefntext
53     {\rule\z@\footnotesep\ignorespaces
54       \ifHy@nesting\expandafter\ltx@firstoftwo
55       \else\expandafter\ltx@secondoftwo
56     }
57     \fi
58     {\expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}{#1}}%
59     {\Hy@raisedlink
60       {\expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}%
61       {\relax}}}%
62     \let\@currentHref\Hy@footnote@currentHref
63     \let\@currentlabelname\@empty
64     #1}%
65   \@finalstrut\strutbox }%

```

3 Implementation

```
65 \fn@endnote }%
66 }%
```

\FNH@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 (done at begin document).

```
67 \def\FNH@spewnotes {\endgroup
68   \if@savingnotes\else\ifvoid\fn@notes\else
69     \begingroup\let\@makefntext\@empty
70       \let\@finalstrut\@gobble
71       \let\rule\@gobbletwo
72       \H@@footnotetext{\unvbox\fn@notes}%
73   \endgroup\fi\fi
74 }%
```

\H@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.

```
75 \def\fn@endnote {\color@endgroup}%
76 \def\FNH@fn@endfntext{%
77   \@finalstrut\strutbox
78   \fn@postfntext
79   \fn@endnote
80   \egroup
81   \begingroup
82   \let\@makefntext\@empty
83   \let\@finalstrut\@gobble
84   \let\rule\@gobbletwo
85   \H@@footnotetext
86   {\ifHy@nesting\expandafter\ltx@firstoftwo
87     \else\expandafter\ltx@secondoftwo
88     \fi
89     {\expandafter\hyper@@anchor
90       \expandafter{\Hy@footnote@currentHref}{\unvbox\z@}}}%
91   {\Hy@raisedlink
92     {\expandafter\hyper@@anchor\expandafter{\Hy@footnote@currentHref}%
93       {\relax}}}%
94   \let\@currentHref\Hy@footnote@currentHref
95   \let\@currentlabelname\@empty
96   \unvbox\z@}%
97 }%
98 \endgroup
99 }%
```

\@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. 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.

```
100 \ifx\FNH@makefntext\undefined\expandafter\@gobble
101   \else\expandafter\AtBeginDocument\fi
```

3 Implementation

```
102 {%
103 \ifx\@makefntextFB\undefined
104 \expandafter\@gobble\else\expandafter\@firstofone\fi
105 {\ifFBFrenchFootnotes \let\FNH@\@makefntext\@makefntextFB \else
106 \let\FNH@\@makefntext\@makefntextORI\fi}%
107 \expandafter\FNH@check@a\FNH@\@makefntext{1.2!3?4,}\FNH@@@1.2!3?4,\FNH@@@\relax
108 }%
109 \long\def\FNH@check@a #1.2!3?4,#2\FNH@@@#3%
110 {%
111 \ifx\relax#3\expandafter\@firstoftwo\else\expandafter\@secondoftwo\fi
112 \FNH@bad@footnote@env
113 {\def\fn@prefntext{#1}\def\fn@postfntext{#2}\FNH@check@b}%
114 }%
115 \def\FNH@check@b #1\relax
116 {%
117 \expandafter\expandafter\expandafter\FNH@check@c
118 \expandafter\meaning\expandafter\fn@prefntext
119 \meaning\fn@postfntext1.2!3?4,\FNH@check@c\relax
120 }%
121 \def\FNH@check@c #1.2!3?4,#2#3\relax
122 {\ifx\FNH@check@c#2\expandafter\@gobble\fi\FNH@bad@footnote@env}%
123 \def\FNH@bad@footnote@env
124 {%
125 \PackageWarning{footnotehyper}%
126 {The footnote environment from package footnote^^}%
127 will be dysfunctional, sorry (not my fault...). You may try to mail
128 me^^]the preamble and/or only the next lines:}%
129 \typeout{\meaning\@makefntext}%
130 \let\fn@prefntext\@empty\let\fn@postfntext\@empty
131 }%
132 \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. . .