The **footnotehyper** package

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Abstract

The **footnote** package by MARK WOODING (1997/01/28 1.13) allows to gather footnotes (`\begin{savenotes}`) and later insert them (after `\end{savenotes}`) at the bottom of the page, even if the intervening material consists of tabulars, minipages or framed contents for example. One can also use the `\savenotes/\spewnotes` syntax.

Also, **footnote.sty** provides a `footnote` environment which allows to insert verbatim material.

Earlier releases of the present **footnotehyper** package added patches for hyperref compatibility and some bugfixes, addressing in particular the incompatibility with `color/xcolor`, and with `babel-frenchb`, and also fixing the `footnote` environment with optional argument `[NUM]`. Since v0.99 all macros are defined internally and the `footnote` package is not loaded at all.

The same user interface is kept. Since v1.0 it is possible to use **footnotehyper** also in absence of hyperref or when the latter is loaded with its `hyperfootnotes=false` option.

The order of loading of **footnotehyper** and hyperref is inconsequential.

1 License

% Package: footnotehyper
% Version: 1.1d (2021/02/04)
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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 Changes

v0.9c (2016/04/19) First release: adapt original package to be hyperref and color/xcolor compatible.

v0.9e (2016/04/30) Abort in absence of hyperref. Compatibility with babel-french.

v0.99 (2017/02/16) Do not load package footnote.sty\(^1\) anymore.
From then on footnotehyper is incompatible with it at it uses the same user interface.

v1.0 (2017/03/07) Be usable also in absence of hyperref or when the latter was passed hyperfootnotes=false option.

v1.1 (2018/01/23) Fix bug which arose when savenotes environment was used inside a minipage: footnotes were disappearing!\(^2\) See related remarks at end of section 4.

v1.1a (2019/11/07) Abort under beamer (difficulty with \@makefntext and suspicion beamer does not need footnotehyper).

v1.1b (2021/01/26) Fix incompatibility with the combination memoir + babel-french.

v1.1c (2021/01/29) Fix legacy bug of original package interfering with L\TeX\２e mechanism to suppress indentation after mid-paragraph lists (when savenotes environment directly wraps the enclosed list environment, mid-paragraph).

v1.1d (2021/02/04) Fix regression at v1.1b which caused a build crash whenever footnotehyper decided to raise a warning relative to \@makefntext.\(^3\)
Refactor analysis of \@makefntext for simpler and better support of babel-french.\(^4\) Better support contexts such as presence of package cleveref.
Add \iffootnotehyperparse and \iffootnotehyperwarn booleans.

3 Usage

As summarized in the abstract, the package provides:

- a savenotes environment which re-routes footnotes and delivers them at the end (there is also the \savenotes/\spewnotes syntax; which does create a group like the environment),

- footnote and footnotetext environments to allow footnotes with verbatim material.

Setting-up the environments proceeds from an analysis of the pre-existing internal L\TeX\２e macro \@makefntext. The next section discusses problems which may arise.

\(^1\)http://ctan.org/pkg/footnote
\(^2\)Thanks to François Pantigny for reporting the bug. A later suggestion of the same is to let the package do nothing under Beamer class, and this is what v1.1a 2019/11/07 does.
\(^3\)Thanks to Leon K. for reporting the bug.
\(^4\)Only basic context has been tested with babel-french: standard classes, KOMA-script, memoir. Extra packages may make the footnotehyper environments cause breakage.


## 3 Usage

### 3.1 Potential difficulties with the footnote and footnotetext environments

What is discussed here only affects the environments `footnote` and `footnotetext` not the macros `ootnote` and `ootnotetext`. `footnotehyper` inherits from `footnote` original package the aim to convert `\@makefntext` into two parts, the first one to be inserted at the start of a footnote in environment form, the second one (usually empty) at its end.\(^5\) It thus hopes that the replacement text of `\@makefntext` contains only once its parameter token `#1`, and that it is used there unbraced. This is the case with the article class.

Known bug (may be promoted to feature at some point): the analysis is done only once at begin document, whereas the article.cls’s redefines `\@makefntext` during execution of `\maketitle`. However, it does not look really urgent to support at all costs usage of the environment `footnote` in the `[author]` etc... data which contributes to the `\maketitle` expansion.\(^6\)

Some seemingly innocent redefinitions such as the one of beamer which was last time I checked (that was in 2019):

macro:`#1`->`\def \insertfootnotetext {#1}\def \insertfootnotemark {\@makefnmark }
\usebeamertemplate ***{footnote}`

are not (easily) compatible with environment forms for footnotes allowing verbatim material, as they require fetching the footnote contents.\(^7\)

In case of such a problematic `\@makefntext` `footnotehyper` raises a warning, to explain that footnotes typeset using the environment forms will be dysfunctional (the footnote marker at bottom of page will be missing, probably). Footnotes using `\footnote` are not impacted by this. Also `footnotehyper` emits some info message if `\@makefntext` was not as simple as expected but nevertheless there is some hope that the `footnote` and `footnotetext` environments will be fully functional. This is currently the case in presence of package `cleveref` (see the \TeX{}xper\text{t}\text{s} footnote 6).

You can turn off these messages by adding `\footnotehyperwarnfalse` to the document preamble.

\(^5\)!La\TeX{} inserts some stuff before and after the footnote text, even before handing it over as argument to `\@makefntext`. These tokens are currently hardcoded into the `footnotehyper` environments for footnotes.

\(^6\)!\TeX{}xper\text{t}es note: `\def\FNH@prefntext{\@makefntext{}}` would make the footnote environment dynamically adjust to circumstances, when `\@makefntext` only adds some prefix and no postfix. In fact, this is (in a more complicated form for compatibility with \KOMA-script and to obey the \FBFrenchFootnotes setting and the additional extra stuff inserted by babel-french before and after) basically what is done by `footnotehyper` to handle babel-french.

As it may cause instability if extra packages fiddle with `\@makefntext`, or `\@makefntext` is radically re-defined in some environments provided by the class, `footnotehyper` does not use this when its begin document analysis concluded the argument was used unbraced and at last position in replacement text of `\@makefntext`, but it freezes the found prefix. However, when it is concluded that probably `\@makefntext` has been redefined in an `<extra tokens>`\old@makefntext` way (for example, this is the case with `cleveref` package), then the `\def\FNH@prefntext{\@makefntext{}}` approach is taken, despite the risks inherent to it.

You can provide your own definitions of `\FNH@prefntext` and `\FNH@postfntext`. Then add `\footnotehyperparsefalse` to the preamble.

\(^7\)Since v1.1a, `footnotehyper` simply aborts under `beamer` class.
3 Usage

3.2 Other potential or actual limitations

It should be recalled that in case of \footnotemark[N] and \footnotetext{...} mark-up hyperref creates no hyperlink. This is not changed by footnotehyper and applies also to the \begin{footnotetext}{N} case. Without optional argument the link is created, and the link is created also for \footnote[N] or \begin{footnote}{N}.

This package does not handle especially floating environments, except that one can always surround them in the source in a savenotes environment and one knows that the footnotes will be delivered at the \end{savenotes}... which may well be one page earlier than the actual location of the floating material in the produced document!

Environments typesetting multiple times their contents are the most hostile to footnotes. Currently, footnotehyper only handles especially the amsmath environments (as in footnote.sty.)

3.3 A legacy macro from the original package, usage not recommended

Finally there is a \makesavenoteenv command which takes as argument an environment name and patches it to do the \savenotes/\spewnotes automatically.\footnote{It is safer to avoid it, as one never knows what happens with such patches: for example the [H] specifier provided by the float package overwrites the \end{table} definition during the execution of \begin{table}...!}

3.4 Example of use

Inside\footnote{a tabular}\footnote{Inside a tabular}
Here is an illustrative example of usage of the savenotes environment:
\begin{savenotes}
\begin{framed}
Please refer to the documentation of the footnote package.\footnote{\texttt{http://ctan.org/pkgs/footnote}}
Particularly you may check its savenotes environment.\footnote{\texttt{phantomsection}}\footnote{\texttt{\label{fn:floats}}It doesn't bring any feature to especially handle the issues related to footnotes in floating environments, though.}
\end{framed}
\end{savenotes}
Here is a link to an interesting footnote: \ref{fn:floats}.

and the present frame has footnote's from inside a tabular and is inside a savenotes environment.\footnote{Let's test an amsmath environment with \texttt{\intertext}. As \[E = mc^2,\] (1)}

\footnote{For the record the syntax is either \texttt{\makesavenoteenv{foo}} which patches environment foo or \texttt{\makesavenoteenv[bar]{foo}} which defines environment bar as this patched version of foo.}
3 Usage

was too easy\(^\text{12}\), let's try:

\[a^n + b^n = c^n.\] (2)

And a footnote with some verbatim material\(^\text{13}\).

The last one was coded as:

And a footnote with some verbatim material\%
\begin{footnote}
\verb|&$^%\[}$
\end{footnote}.

Now some use of \texttt{\footnotemark}\(^\text{14}\) followed by a \texttt{footnotetext} environment. And use of \texttt{\footnotemark[99]}\(^\text{99}\) in association with a \texttt{footnotetext} environment using the same optional argument \([99]\). No hyperfootnote link was inserted. And a final footnote, done with \texttt{\begin{footnote}[57]}\(^\text{57}\)\end{footnote}. There is no problem with the hyperlink, then. Oh, and don't forget

\(^9\)If the frame extends to the next page, the end of the \texttt{savenotes} environment delivers its intercepted footnotes only there.

\(^{10}\)Alternatively a \texttt{savenotes/spewnotes} pair could have been used.

\(^{11}\)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 \texttt{minipage} (with initial \texttt{noindent}) in any environment not doing \texttt{\ignorespacesafterend}, be careful to add a % either immediately after the \texttt{\end{minipage}} (or a \texttt{\relax} or a \texttt{\par}) or after the surrounding environment \texttt{\end{foo}} or use \texttt{\end{minipage}\end{foo}} else the output may have an extra blank line if the source has a blank line after the \texttt{foo} environment. Here is a typical example, with a \texttt{tabular} rather:

\begin{verbatim}
\begin{foo}
\noindent\begin{tabular}{p{\dimexpr\linewidth-2\tabcolsep\relax}}
A\dotfill B
\end{tabular}
\end{foo}
\end{verbatim}

If you try it out you will see an extra blank line in PDF output above the second C. Starting with v0.99 the \texttt{\end{savenotes}} emits an \texttt{\ignorespacesafterend} which avoids this generic \TeX/\LaTeX problem. For good measure there is now an \texttt{\ignorespaces} in \texttt{\begin{savenotes}}.

\(^{12}\)There is also \(E = \hbar v\).

\(^{13}\)&$^%\[}$

\(^{14}\)This one uses the normal footnote counter and the hyperlink works.

\(^{99}\)hyperref creates no hyperlink in this case, or in the \texttt{\footnotemark[N]/\footnotetext[N]{<foo>}} case. It does when the \([N]\) is absent or when it is used with a \texttt{\footnote} command (or a footnote environment.)

\(^{57}\)\texttt{footnotehyper} works since v1.0 also in absence of hyperref or when the latter was passed \texttt{hyperfootnotes=false} option.
4 Notes

A few items worth of mention:

- the `footnote` package patches the \LaTeX kernel `\parbox`. `footnotehyper` doesn't (but the code can be found commented-out at the end of the present file).
- the `footnote` package defines a `minipage*` environment which is `minipage` patched by `\makesavenoteenv`, `footnotehyper` doesn't.
- the `footnote` environment from `footnote.sty` does a `\leavevmode\unskip` which `footnotehyper` doesn't: hence if one locates `\begin{footnote}` at start of a line in the \LaTeX source, one will typically need a `%` at end of text on previous line to avoid the end-of-line space.
- the `hyperref` package inserts no hyperlink in case of `\footnotemark[N]/\footnotetext[N]`. This is not modified by `footnotehyper`.
- side-note: there is an interference between `hyperref` and `frenchb` regarding the footnote marker when using the syntax `\footnotemark[NUM]`. For the record here is a patch (last tested briefly with `hyperref` 2016/06/24 v6.83q and `frenchb` 2017/01/30 v3.2g):

  ```latex
  \AtBeginDocument{%
    \let\@xfootnotemarkORIFB \@xfootnotemark
    \def\@xfootnotemarkFB {\leavevmode\unskip\unkern,\@xfootnotemarkORIFB }%
    \ifHy@hyperfootnotes\ifFBAutoSpaceFootnotes
    \let\@xfootnotemark\@xfootnotemarkFB
  \fi\fi
  }%
  ```

  On 2021/01/29 the interference (lost of some babel-french customization) is still there, as I checked now. This has nothing to do with `footnotehyper`.
- some environments typeset multiple times their contents, which causes issues; `footnotehyper` takes provisions only to handle the `amsmath` measuring step.
- \LaTeX2e has some “features” when using footnotes in `minipage`’s which are themselves in a `minipage` which may also have footnotes externally to the internal minipages... try it out with some `\fbox`es around the sub-`minipages`, to see.

`footnotehyper` behaves like original package `footnote` when the `savenotes` environment is used `inside` a `minipage`. Only reasonable usage in case of nested `minipages` seems to use only a single top level (i.e. external) `savenotes` environment. But there will anyhow be collisions of the alphabetic enumerations. These collisions are there with or without `footnotehyper` (or `footnote.sty`). I did not make any attempt, nor intend to in future, to address in an automatized manner these problematic contexts.
5 Implementation

1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{footnotehyper} [%
3 [2021/02/04 v1.1d hyperref aware footnote.sty (JFB)]

no options The package has no options. I am too lazy.
4 \newif \iffootnotehyperparse \footnotehyperparsetrue
5 \newif \iffootnotehyperwarn \footnotehyperwarntrue
6 \DeclareOption*{\PackageWarning{footnotehyper}{Option `\CurrentOption' is unknown}}%
7 \ProcessOptions \relax
8

v1.1a lets the package abort under Beamer class and warn user.
9 \if@iffclassloaded{beamer}
10 {\PackageWarningNoLine{footnotehyper}{This package is
11 incompatiable with the beamer class. Aborting input..}%
12 \endinput}
13 {}%

Versions up to v0.9f loaded footnote.sty, with lots of patching afterwards. Starting with v0.99, footnotehyper does everything by itself with FNH@ prefix. Brief overview of some of the fixed issues:
• there was incompatibility with hyperref,
• and with color,
• if the @makefntext at the time of loading of footnote.sty does not have its argument visible at top level in its meaning, or is used multiple times there, then the footnote environment will lead to low level \TeX error,
• footnote.sty modifies \parbox,
• footnote.sty does some too early \let,
• the footnote environment from footnote.sty does not work if used with optional argument [N].

Starting with v1.0, footnotehyper may be used also in absence of hyperref.
14 \newbox \FNH@notes
15 \newdimen \FNH@width
16 \newtoks \FNH@toks % 1.1c
17 \let \FNH@colwidth \columnwidth
18 \newif \ifFNH@savingnotes
19 \AtBeginDocument {%
20 \let \FNH@latex@footnote \footnote
21 \let \FNH@latex@footnotetext \footnotetext
22 \let \FNH@H@@footnotetext \@footnotetext
23 \let \FNH@H@@mpfootnotetext \@mpfootnotetext
24 \newenvironment {savenotes}
25 {\FNH@savenotes \ignorespaces}{\FNH@spewnotes \ignorespacesafterend}%
26 \let \spewnotes \FNH@spewnotes
27 \let \footnote \FNH@footnote
28 \let \footnotetext \FNH@footnotetext
29 \let \endfootnote \FNH@endfntext
30 \let \endfootnotetext \FNH@endfntext
31 \@ifpackageloaded {hyperref}
32 {\if@hyperfootnotes
33 \let \FNH@H@@footnotetext \@footnotetext
34 \let \FNH@H@@mpfootnotetext \@mpfootnotetext
35 \endinput}
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These are the \footnotehyper replacement for \@footnotetext inside the \savenotes environment. There is a version creating an hyperlink and another one not creating an hyperlink. The \FNH@fntext macro serves as general dispatch. This may be a place to customize if one wants to handle environments doing multiple passes: but the footnote counter must have been taken care of elsewhere. The code currently handles only the case of \amsmath environments.

\FNH@hyper@fntext@i
\FNH@nohyp@fntext@i
\FNH@fntext

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

\FNH@hyper@fntext@i
\FNH@nohyp@fntext@i
\FNH@fntext

The original \fn@fntext had no \long.
\texttt{\textbackslash FNH@startnote} \footnotesize Same as original (the code comment is kept from original.)

\texttt{\textbackslash FNH@endnote} \footnotesize Fixed from original.

\texttt{\textbackslash FNH@savenotes} \footnotesize Same as original apart from using hyperref-aware \texttt{\textbackslash FNH@hyper\textbackslash fntext}, and taking into account hyperref's custom \texttt{\textbackslash xfootnotetext}. This was missed by v0.9f hence \texttt{\textbackslash footnotetext[N]{..}} did not work inside savenotes environment. Fixed for v0.99.

Maybe I should change the way \texttt{\textbackslash @minipagerestore} is handled.

\texttt{\textbackslash FNH@spewnotes} \footnotesize This uses \texttt{\textbackslash FNH@footnotetext} which is the \texttt{\textbackslash H@\footnotetext} hyperref's preserved original meaning of \texttt{\textbackslash footnotetext} not creating a link target.

v1.1 fixes the bug about disappearing footnotes if savenotes environment is used inside a minipage. I had never really considered such usage, hence missed realizing there was a bug.

v1.1c 2021/01/29 fixes a legacy bug from footnote package: if used to enclose a list environment inside a paragraph, it broke the mechanism which suppresses indentation following the list.

Now, situation would be far simpler here if we did not have this extra \texttt{\textbackslash begin\textbackslash group} \texttt{\textbackslash end\textbackslash group} pair in \texttt{\textbackslash FNH@savenotes/\textbackslash FNH@spewnotes}.

A priori, as far as I understand, testing the \texttt{\textbackslash if@endpe} flag should be enough, but let's be extra cautious and check that \texttt{\textbackslash par} is not \texttt{\textbackslash @par}. Attention here that this is not necessarily followed by \texttt{\textbackslash end\{savenotes\}} and we have to support the \texttt{savenotes/spewnotes} syntax. The complication is added from it creating a group without being a genuine \LaTeX2e environment.
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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.

Furthermore, independently of presence of the \color/xcolor issue, the \footnote.sty's footnote environment raised an error if used with an optional argument. v0.9f addresses this issue.

The \footnotetext environment adds a complication, in case of optional argument we should not try to set up a link due to the fact that hyperref does not support it for the \footnotemark[\N]/\footnotetext[\N] syntax. And we need to make sure that the footnote and footnotetext environments obey the \savenotes/\spewnotes mechanism.

To handle all of this we code things completely differently from \footnote.sty.

The v0.9f \begin{footnotetext}[\N] inside \savenotes tried to create an hyperref target. Fixed for v0.99.

Note: the \footnote.sty code did a \leavevmode\unskip at entrance of footnote environment, which \footnotehyper has not kept.
\begin{footnotesize}
\begin{verbatim}
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This is used for the environmental form of the footnote environments. The use of \box\z@ originates in \footnote.sty, should I change that ?
Both of \endfootnote and \endfootnotetext are aliases for \FNH@endfntext.
The \FNH@endfntext@fntext may be \@footnotetext (which will be \FNH@hyper@fntext in
\end{verbatim}
\end{footnotesize}

142 \else
143 \expandafter\FNH@latex@footnote
144 \fi
145 \fi
146 \def\FNH@footnoteenv{%
147 \@ifnextchar[%
148 \FNH@footnoteenv@i %]
149 \stepcounter{mpfn}
150 \protected@xdef@thefnmark{\thempfn}
151 \@footnotemark
152 \def\FNH@endfntext@fntext{\@footnotetext}
153 \FNH@startfntext%
154 }
155 \def\FNH@footnoteenv@i[#1]{%
156 \begin{group}
157 \csname c@\mpfn\endcsname #1\relax
158 \unrestored@protected@xdef@thefnmark{\thempfn}
159 \endgroup
160 \@footnotemark
161 \def\FNH@endfntext@fntext{\@footnotetext}
162 \FNH@startfntext%
163 }
164 \def\FNH@footnotetext{%
165 \ifx\@currenvir\FNH@footnotetext@envname
166 \expandafter\FNH@footnotetextenv
167 \else
168 \expandafter\FNH@latex@footnotetext
169 \fi
170 }
171 \def\FNH@footnotetextenv{%
172 \@ifnextchar[%
173 \FNH@footnotetextenv@i %]
174 \stepcounter{mpfn}
175 \def\FNH@endfntext@fntext{\@footnotetext}
176 \FNH@startfntext%
177 }
178 \def\FNH@footnotetextenv@i[#1]{%
179 \begin{group}
180 \csname c@\mpfn\endcsname #1\relax
181 \unrestored@protected@xdef@thefnmark{\thempfn}
182 \endgroup
183 \ifFNH@savingnotes
184 \def\FNH@endfntext@fntext{\FNH@nohyp@fntext}
185 \else
186 \def\FNH@endfntext@fntext{\FNH@H@@footnotetext}
187 \fi
188 \FNH@startfntext
189 }
\end{verbatim}
\end{footnotesize}

\FNH@startfntext
\FNH@endfntext
\FNH@endfntext@fntext
This is used for the environmental form of the footnote environments. The use of \box\z@ originates in \footnote.sty, should I change that ?
Both of \endfootnote and \endfootnotetext are aliases for \FNH@endfntext.
The \FNH@endfntext@fntext may be \@footnotetext (which will be \FNH@hyper@fntext in

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The definitions of \FNH@prefntext and \FNH@postfntext (which are needed for the footnote environment, \FNH@startfntext and \FNH@endfntext) are extracted from a somewhat daring analysis of \@makefntext. Contrarily to footnote.sty’s original code (which may result in low level \TeX errors when the footnote environment is executed) the method here will alert the user if the argument of \@makefntext is not visible at top level in its meaning or is used there multiple times. We also insert here some code to handle especially the case of babel-frenchb.

Refactoring at v1.1d. This will make footnotehyper compatible with cleveref for example, if nothing else interferes. Not all combinations of classes and packages can be handled and we can not hardcode a pre-analysis for all possible cases. Of course, one can not expect footnotehyper to be compatible with other footnote dedicated packages, but at best only with slight modifications of \LaTeX’s defaults. At v1.1d the babel-french context is handled especially (to support it better with KOMAscript classes and simplify handling the memoir situation); there was no real other way than hardcode it more or less, but it can possibly break in presence of additional footnote packages.

Also the \iffootnotehyperparse and \iffootnotehyperwarn booleans were added.

Provide at least some definitions for \FNH@prefntext and \FNH@postfntext in case of \footnotehyperfalse in preamble.

As \ifFBBFrenchFootnotes is not a \TeX boolean if babel-frenchb isn’t loaded, we have to work around this for \fi. \fi pairs.

v1.1d fixes a v1.1b bug: any situation in \FNH@check\a causing the \FNH@bad@makefntext@alert branch to be chosen crashed the build due precisely to this problem with \ifFBBFrenchFootnotes status. I had taken precautions for the \else branch but not for the “warning” branch.

So let’s fix this, and do it in such a way (with \FNH@safeif) that the \TeX \if..\fi balancing count does not perturbate enclosing the package loading in a \TeX conditional. Why I am bothering, I don’t know.

Finally, I refactored entirely the way frenchb context is handled, (using multiple times \FNH@safeif although now only for the artistic aim of balanced conditionals, as all frenchb-related stuff being in their dedicated macro, direct usage of \ifFB... is possible).

As long as nothing else interferes babel-french should be ok with standard classes, KOMA and memoir.
"Daring analysis" is an understatement. At v1.1b we added a dangerous twist to fix a memoir + frenchb trigged issue: if the \@makefntext, as in memoir + frenchb situation, uses \def syntax to define a macro with parameter we had a problem with the \# token not being doubled in the replacement fetched by \FNH@check@a. As expedient work-around we fixed this by adding a \scantokens wrapper.

At v1.1d I refactored the babel-french situation, moving it to an entirely dedicated \FNH@frenchb@, and dropped the v1.1b usage of \scantokens.

v1.1d adds \FNH@checkagain@ which will identify circumstances likely to be safe for the approach via \def\FNH@prefntext{\@makefntext{}}. For example this is what will happen with cleveref (if not
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modified by other packages).

\def\FNH@check@{%
  \expandafter\FNH@check@a\@makefntext{1.2!3?4,}\FNH@@@1.2!3?4,\FNH@@@\relax
}%
\long\def\FNH@check@a a #1.2!3?4,#2\FNH@@@#3{%
  \ifx\relax#3\expandafter\FNH@checkagain@
  \else
    \def\FNH@prefntext{#1}\def\FNH@postfntext{#2}
    \expandafter\FNH@check@b
  \fi
}\fi
\def\FNH@check@b #1\relax{%
  \expandafter\expandafter\expandafter\FNH@check@c
  \expandafter\meaning\expandafter\FNH@prefntext
  \meaning\FNH@postfntext1.2!3?4,\FNH@check@c\relax
}%
\def\FNH@check@c #11.2!3?4,#2#3\relax{%
  \ifx\FNH@check@c#2\else\FNH@bad@makefntext@alert\fi
}\fi
\def\FNH@bad@makefntext@alert{%
  \iffootnotehyperwarn
    \PackageWarningNoLine{footnotehyper}{\string\@makefntext:^^J
    The footnote environments will probably lack footnote numbers at^^J
    bottom of pages, sorry.^^J
    You may try to email the author this meaning of\string\@makefntext:^^J
    together with the document preamble}^^J
  \fi
}\fi

Back to non babel-french context. Let's check that pre and post do not contain some weird stuff from
original \@makefntext{#1} containing multiple times #1.
\def\FNH@check@b #1\relax{%
  \expandafter\expandafter\expandafter\FNH@check@c
  \expandafter\meaning\expandafter\FNH@check@c
  \meaning\FNH@postfntext1.2!3?4,\FNH@check@c\relax
}%
\def\FNH@check@c #1.2!3?4,#2#3\relax{%
  \ifx\FNH@check@c#2\else\FNH@bad@makefntext@alert\fi
}\fi
\def\FNH@bad@makefntext@alert{%
  \iffootnotehyperwarn
    \PackageWarningNoLine{footnotehyper}{\string\@makefntext:
    \{^^J The footnote environments will probably lack footnote numbers at^^J
    bottom of pages, sorry.^^J
    You may try to email the author this meaning of \string\@makefntext:
    together with the document preamble}^^J
  \fi
5 Implementation

\let\FNH@prefntext@empty\let\FNH@postfntext@empty

\makenvnoteenv Same as original. Not recommended. Safer to use explicitly savenotes environment.
\def\makenvnoteenv{\@ifnextchar[\FNH@msne@ii\FNH@msne@i}%
\def\FNH@msne@i #1{%
\expandafter\let\csname FNH$#1\expandafter\endcsname %$
\csname #1\endcsname
\expandafter\let\csname endFNH$#1\expandafter\endcsname %$
\csname end#1\endcsname
\FNH@msne@ii[#1]{FNH$#1}%$
}\def\FNH@msne@ii[#1]#2{%
\expandafter\edef\csname#1\endcsname{\noexpand\savenotes
\expandafter\noexpand\csname#2\endcsname
\noexpand\expandafter
\noexpand\spewnotes
\noexpand\if@endpe\noexpand\@endpetrue\noexpand\fi}\expandafter\edef\csname end#1\endcsname{\expandafter\noexpand\csname end#2\endcsname\noexpand\expandafter
\noexpand\spewnotes
\noexpand\if@endpe\noexpand\@endpetrue\noexpand\fi}}%
\def\FNH@msne@ii[#1]#2{%
\expandafter\edef\csname#1\endcsname{\noexpand\savenotes
\expandafter\noexpand\csname#2\endcsname
\noexpand\expandafter
\noexpand\spewnotes
\noexpand\if@endpe\noexpand\@endpetrue\noexpand\fi}}%
\endinput

Original footnote.sty patches \parbox, we don’t touch it. Also it defines a \minipage*\ environment, we don’t do it.
\makenvnoteenv[minipage*]{minipage}
\let\fn@parbox\parbox
\def\parbox{\@ifnextchar[{{\fn@parbox}{\fn@parboxii}}}%
\def\parboxii{\@ifnextchar[{{\fn@parboxii}{\fn@parboxii}}}%
\long\def\fn@parboxii\@ifnextchar[{{\fn@parboxii}{\fn@parboxii}}}%
\endinput