

# Back referencing from bibliographical citations\*

David Carlisle and Sebastian Rahtz (deceased)<sup>†</sup>

2023-11-26

## Documentation overview for `hyperref`

The documentation for package `hyperref` consists of several files:

**Manual** The **USER MANUAL** (also available as HTML).

**ChangeLog** This file records the version history.

**Bookmark talk, slides** Slides for the talk “PDF information and navigation elements with `hyperref`, `pdfTeX` and `thumbpdf`” at EuroTeX 1999.

**Bookmark talk, paper** The paper version of the talk.

Source code documentation:

**`hyperref.dtx`** This is the source code documentation for `hyperref`.

☞ **`backref.dtx`** “Back referencing from bibliographical citations” (this file)

**`nameref.dtx`** “Section name references in `LATEX`”

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\*This file has version number v1.44, last revised 2023-11-26.

<sup>†</sup><https://github.com/latex3/hyperref/issues>

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# 1 Introduction

## 2 Usage

### 2.1 Options

The supported options are given as package options. Few options (e.g. `verbose`, `enable`, `disable`) can be changed after the package is loaded by the macro `\backrefsetup`, e.g.:

```
\usepackage[verbose]{backref}
\backrefsetup{verbose=false}
```

This macro is available since version 2012/07/24 v1.37.

#### 2.1.1 Options for type of back references

In short the following options set the type of back references. Default is option `pageref`.

|                           |                              |
|---------------------------|------------------------------|
| <code>ref</code>          | section number               |
| <code>pageref</code>      | page number                  |
| <code>hyperref</code>     | section number as hyper link |
| <code>hyperpageref</code> | page number as hyper link    |

The options that start with `hyper` are intended for the use with package `hyperref`. In this case package `backref` will be loaded automatically if the `hyperref` options `backref` or `pagebackref` are given. Package `hyperref` then loads package `backref` with the appropriate option:

| <u>hyperref option</u>       | <u>backref option set by hyperref</u> |
|------------------------------|---------------------------------------|
| <code>backref</code>         | <code>hyperref</code>                 |
| <code>backref=section</code> | <code>hyperref</code>                 |
| <code>backref=slide</code>   | <code>hyperref</code>                 |
| <code>backref=page</code>    | <code>hyperpageref</code>             |
| <code>pagebackref</code>     | <code>hyperpageref</code>             |

### 2.1.2 Language options

Currently supported options are `english` (`american`, `australian`, `british`, `canadian`, `newzealand`, `UKenglish`, `USenglish`), `german` (`ngerman`, `austrian`, `naustrian`), `french` (`acadian`, `canadien`, `frenchb`, `francais`), `spanish`, and `brazil` (`brazilian`). Default is `english`.

### 2.1.3 Other options

`verbose`: A message is written into the `.aux` file for each reference that is found for back citing.

`enable`, `disable`: If a citation should not be back cited, then the recording can be turned off by option `disable` and enabled again afterwards, e.g.:

```
\backrefsetup{disable}\cite{...}\backrefsetup{enable}
or
\backrefsetup{disable}\listoffigures \backrefsetup{enable}
```

Both options are added in version 2012/07/24 v1.37.

## 2.2 Detecting the end of a bibliography entry

Package `backref` has to be able to detect the end of an entry in the bibliography, therefore each `\bibitem` entry must be ended by an empty line (or a `\par` token).

Example:

```
\begin{thebibliography}{9}
\bibitem[bib:abc] First entry.

\bibitem[bib:foo] Second entry.

\end{thebibliography}
```

Then package `backref` can automatically add hooks for the back references list at the end of the entries.

`\backrefparscanfalse` Sometimes it is not appropriate if the entry is read as argument. For example, catcode changes for verbatim stuff do not have the desired effect. Therefore the scan for the `\par` token can be disabled by `\backrefparscanfalse` before `\bibitem` and enabled by `\backrefparscantrue` afterwards.

`\backrefprint` If the scan for the end of the entry is disabled, then package `backref` does not know where to put the back references list. The list is printed by the macro `\backrefprint`, thus just call it at the right place. Example:

```
\backrefparscanfalse % disable scan for entry ending
\bibitem[...]{...}
... \verb|...| ... % potentially dangerous stuff
... \url{...} ...
\backrefprint % print back reference list here
\backrefparscantrue % enable scan again
```

## 2.3 Formatting of the back references list

The back references list is separated from the entry by `\newblock`, if the used bibliography package supports this. The package options control the kind of back references (page numbers, sections numbers), whereas the hooks control the formatting.

There are two hooks `\backref` and a new hook `\backrefalt`, available since version 1.21 of package `backref`. The former one is enabled by default.

### 2.3.1 Formatting hook `\backref`

Macro `\backref` has a comma separated list of backref references as first and only argument. With `hyperref` options only this list will be printed. Without `hyperref` there is an introductory text, controlled by macros `\backrefpagesname` or `\backrefsectionsname`.

### 2.3.2 Formatting hook `\backrefalt`

`\backrefalt` is a new interface since version 1.21 of package `backref`. It takes four arguments:

1. Number of citations without dupes.
2. Back references list without dupes.
3. Number of all citations (with dupes).
4. Back reference list with all entries (with dupes).

The latter options consider equal entries as one entry. Now `\backrefalt` can easily be defined with text that depends on the number of citations, for example:

```
\usepackage[backref]{backref}
\renewcommand*\backref}[1]{}% for backref < 1.33 necessary
\renewcommand*\backrefalt}[4]{%
  \ifcase #1 %
    No citations.%
  \or
    One citation in section #2.%
  \else
    #1 citations in sections #2.%
  \fi
}
```

The separation between the list entries are controlled by the following macros:

- `\backrefsep`: inserted between entries except for the next cases, default is “,<sub>□</sub>”.
- `\backreftwosep`: inserted between entries in a list of two entries, default is “<sub>□</sub>and~”.
- `\backreflastsep`: inserted between the last two entries of a list with more than two entries, default is “,<sub>□</sub>and~”.

Examples:

```

⟨entry1⟩
⟨entry1⟩ \backreftwosep ⟨entry2⟩
⟨entry1⟩ \backrefsep ⟨entry2⟩ \backreflastsep ⟨entry3⟩

```

Since version 1.33 it is not necessary to redefine `pages`, it is automatically disabled if defined.

### 2.3.3 Refinement `\backrefentrycount`

Since version 1.33 the entries of the distinct list of interface `\backrefalt` are wrapped in `\backrefentrycount`. The macro is called with two arguments. The first is the backref entry and the second one the citation count of this entry. As default the macro passes the first argument through and ignores the count argument. But it can be redefined, e.g.

```

\renewcommand*\backrefalt}[4]{...}% see above
\renewcommand*\backrefentrycount}[2]{%
  #1%
  \ifnum#2>1 %
    ~(#2)%
  \fi
}

```

In case of duplicates, the distinct entry is appended by the number of citations in parentheses.

## 3 The macros

Internal command names of this package start with `\BR@`, commands, that store the original meaning of commands, which will be redefined, are prefixed with `\BRorg@`.

### 3.1 Package identification

```
1 (*package)
```

### 3.2 Options

```

2 \RequirePackage{kvoptions}[2011/06/30]
3 \RequirePackage{kvsetkeys}[2009/07/30]
4 \SetupKeyvalOptions{%
5   family=backref,%
6   prefix=BR@,%
7 }

```

```
\backrefsetup
```

```
8 \newcommand*\backrefsetup{\kvsetkeys{backref}}
```

#### 3.2.1 Option verbose

If package `hyperref` is loaded, then its setting is used as default for the verbose switch.

```
9 \DeclareBoolOption[%
```

```

10 \@ifundefined{ifHy@verbose}{%
11   false%
12 }{%
13   \ifx\ifHy@verbose\iftrue true\else false\fi
14 }%
15 ]{verbose}

```

### 3.2.2 Options for way of working

What is printed depends on how the 3 available items of information are used (page number, section number, label).

```

16 \long\def\page@backref#1#2#3{#1}
17 \long\def\section@backref#1#2#3{#2}
18 \long\def\hyper@section@backref#1#2#3{\hyperlink{#3}{#2}}
19 \long\def\hyper@page@backref#1#2#3{\hyperlink{page.#1}{#1}}

```

Now the options follows, that can be used without package hyperref.

```

20 \DeclareVoidOption{pageref}{%
21   \def\backref{\backrefpagesname\ }%
22   \let\backrefxxx\page@backref
23 }
24 \DeclareVoidOption{ref}{%
25   \def\backref{\backrefsectionsname\ }%
26   \let\backrefxxx\section@backref
27 }

```

Set up back-referencing to be hyper links, by page or section.

```

28 \DeclareVoidOption{hyperref}{%
29   \def\backref{\let\backrefxxx\hyper@section@backref
30 }
31 \DeclareVoidOption{hyperpageref}{%
32   \def\backref{\let\backrefxxx\hyper@page@backref
33 }

```

Recording the back references in the auxiliary file can be enabled and disabled by the following options.

```

34 \DeclareBoolOption[true]{enable}
35 \DeclareComplementaryOption{disable}{enable}

```

### 3.2.3 Language options

```

36 \def\backrefenglish{%
37   \def\backrefpagesname{pages}%
38   \def\backrefsectionsname{sections}%
39   \def\backrefsep{, }%
40   \def\backreftwosep{ and~}%
41   \def\backreflastsep{, and~}%
42 }
43 \def\backrefgerman{%
44   \def\backrefpagesname{Seiten}%
45   \def\backrefsectionsname{Abschnitte}%
46   \def\backrefsep{, }%
47   \def\backreftwosep{ und~}%
48   \def\backreflastsep{ und~}%
49 }

```

```

50 \def\backreffrench{%
51   \def\backrefpagesname{pages}%
52   \def\backrefsectionsname{sections}%
53   \def\backrefsep{,}%
54   \def\backreftwosep{ et~}%
55   \def\backreflastsep{ et~}%
56 }
57 \def\backrefspanish{%
58   \def\backrefpagesname{p'aginas}%
59   \def\backrefsectionsname{secciones}%
60   \def\backrefsep{,}%
61   \def\backreftwosep{ y~}%
62   \def\backreflastsep{ y~}%
63 }
64 \def\backrefbrazil{%
65   \def\backrefpagesname{p'aginas}%
66   \def\backrefsectionsname{se\c c\~oes}%
67   \def\backrefsep{,}%
68   \def\backreftwosep{ e~}%
69   \def\backreflastsep{ e~}%
70 }
71 \def\backrefafrikaans{%
72   \def\backrefpagesname{bladsye}%
73   \def\backrefsectionsname{afdelings}%
74   \def\backrefsep{,}%
75   \def\backreftwosep{ en~}%
76   \def\backreflastsep{ en~}%
77 }
78 \def\backrefitalian{%
79   \def\backrefpagesname{pagine}%
80   \def\backrefsectionsname{sezioni}%
81   \def\backrefsep{,}%
82   \def\backreftwosep{ e~}%
83   \def\backreflastsep{ e~}%
84 }%

```

Instead of package babel's definition of \addto the implementation of package varioref is used. Additionally argument #1 is checked for \relax.

```

85 \def\BR@addto#1#2{%
86   #2%
87   \@temptokena{#2}%
88   \ifx#1\relax
89     \let#1\@empty
90   \fi
91   \ifx#1\@undefined
92     \edef#1{\the\@temptokena}%
93   \else
94     \toks@\expandafter{#1}%
95     \edef#1{\the\toks@\the\@temptokena}%
96   \fi
97   \@temptokena{}\toks@\@temptokena
98 }
99 \def\BR@DeclareLang#1#2{%
100  \begingroup

```

```

101 \edef\x##1##2{%
102 \noexpand\ifx##2\relax
103 \errmessage{No definitions for language `#2' found!}%
104 \noexpand\fi
105 \endgroup
106 \noexpand\DeclareVoidOption{#1}{%
107 \noexpand\BR@addto{\noexpand##1}{\noexpand##2}%
108 }%
109 }%
110 \expandafter\x\csname extras#1\expandafter\endcsname
111 \csname backref#2\expandafter\endcsname
112 }
113 \BR@DeclareLang{english}{english}
114 \BR@DeclareLang{american}{english}
115 \BR@DeclareLang{australian}{english}
116 \BR@DeclareLang{british}{english}
117 \BR@DeclareLang{canadian}{english}
118 \BR@DeclareLang{newzealand}{english}
119 \BR@DeclareLang{UKenglish}{english}
120 \BR@DeclareLang{USenglish}{english}
121 \BR@DeclareLang{german}{german}
122 \BR@DeclareLang{ngerman}{german}
123 \BR@DeclareLang{austrian}{german}
124 \BR@DeclareLang{naustrian}{german}
125 \BR@DeclareLang{french}{french}
126 \BR@DeclareLang{acadian}{french}
127 \BR@DeclareLang{canadien}{french}
128 \BR@DeclareLang{frenchb}{french}
129 \BR@DeclareLang{français}{french}
130 \BR@DeclareLang{spanish}{spanish}
131 \BR@DeclareLang{brazil}{brazil}
132 \BR@DeclareLang{brazilian}{brazil}
133 \BR@DeclareLang{afrikaans}{afrikaans}
134 \BR@DeclareLang{italian}{italian}

```

Default is the english version:

```
135 \backrefenglish
```

### 3.2.4 Process options

```
136 \backrefsetup{pageref}
137 \ProcessKeyvalOptions*
```

\BR@DisableOption

```

138 \def\BR@DisableOption#1{%
139 \DisableKeyvalOption[%
140 action=warning,%
141 package=backref,%
142 ]{backref}{#1}%
143 }

144 \BR@DisableOption{ref}
145 \BR@DisableOption{pageref}
146 \BR@DisableOption{hyperref}
147 \BR@DisableOption{hyperpageref}

```

### 3.3 The bibliography

```
\ifbackrefparscan
148 \newif\ifbackrefparscan
149 \backrefparscantrue

\ifBR@BackrefAlt
150 \newif\ifBR@BackrefAlt

\BR@bibitem
151 \def\BR@bibitem{%
152   \ifbackrefparscan
153     \expandafter\@ifnextchar\expandafter[\expandafter
154     \BR@@lbibitem\expandafter\BR@@bibitem
155   \else
156     \expandafter\@ifnextchar\expandafter[\expandafter
157     \BR@@@lbibitem\expandafter\BR@@@bibitem
158   \fi
159 }

160 \def\BR@@lbibitem[#1]#2#3\par{%
161   \let\backrefprint\BR@backrefprint
162   \BRorg@bibitem[#{1}]{#2}#3%
163   \BR@backref{#2}%
164 }%
165 \def\BR@@@bibitem#1#2\par{%
166   \let\backrefprint\BR@backrefprint
167   \BRorg@bibitem{#1}#2%
168   \BR@backref{#1}%
169 }
170 \def\BR@@@lbibitem[#1]#2{%
171   \def\backrefprint{\BR@backref{#2}}%
172   \BRorg@bibitem[#{1}]{#2}%
173 }
174 \def\BR@@@bibitem#1{%
175   \def\backrefprint{\BR@backref{#1}}%
176   \BRorg@bibitem{#1}%
177 }
178 \def\BR@backrefprint{%
179   \PackageError{backref}{%
180     \string\backrefprint\space is only available after \string\bibitem
181     \MessageBreak
182     with setting \string\backrefparscanfalse
183   }\@ehc
184 }
185 \let\backrefprint\BR@backrefprint
186 \def\BR@backref#1{%
187   \newblock
188   \begingroup
189   \csname @safe@activetrue\endcsname
190   \expandafter\providecommand\csname brc@#1\endcsname{0}%
191   \expandafter\providecommand\csname brcd@#1\endcsname{0}%
192   \csname @safe@activesfalse\endcsname\expandafter\endcsname
193   \ifBR@BackrefAlt
```

```

194     \ifx\backrefentrycount\BR@BackrefEntryCountUnused
195     \else
196         \BR@PopulateEntryCount{#1}%
197     \fi
198     \expandafter\backrefalt\csname brc@#1\expandafter\endcsname
199                             \csname brl@#1\expandafter\endcsname
200                             \csname brcd@#1\expandafter\endcsname
201                             \csname brld@#1\endcsname
202     \else
203         \expandafter\backref\csname br@#1\expandafter\endcsname
204     \fi
205 \endgroup
206 \par
207 }
208 \@ifundefined{newblock}{\def\newblock{\par}}{}
209 \let\BR@Unused\@empty
210 \def\BR@BackrefAltUnused#1#2#3#4{\BR@Unused}
211 \@ifundefined{backrefalt}{%
212     \let\backrefalt\BR@BackrefAltUnused
213 }{}
214 \def\BR@BackrefEntryCountUnused#1#2{\BR@Unused#1}
215 \@ifundefined{backrefentrycount}{%
216     \let\backrefentrycount\BR@BackrefEntryCountUnused
217 }{}

```

### 3.4 Reading .brf file

`\backcite` The file `\jobname.brf` collects the back cite informations as calls of `\backcite` with the informations in the arguments.

The first argument of macro `\backcite` is the citation label, the second parameter contains the page number (`\thepage`), the current label of the citation (`\@currentlabel`), and the current anchor name (`\@currentHref`). Example for a citation at the first page in second section:

```
\backcite {bib:abc}{1}{2}{section.2}
```

While the file `\jobname.brf` is read, the informations are collected and stored in macros whose names are build by the citation label *<label>*:

|                                  |  |
|----------------------------------|--|
| <code>\br@&lt;label&gt;</code>   | list, entries separated by comma without dupes |
| <code>\brc@&lt;label&gt;</code>  | number of citations without dupes              |
| <code>\brl@&lt;label&gt;</code>  | backref list without dupes                     |
| <code>\brcd@&lt;label&gt;</code> | number of all citations (with dupes)           |
| <code>\brld@&lt;label&gt;</code> | backref list with all entries (with dupes)     |

What are “dupes”? An instance: you have three references to an entry in the bibliography on the first page:

```

\backcite {bib:abc}{1}{1}{section.1}
\backcite {bib:abc}{1}{1}{section.1}
\backcite {bib:abc}{1}{2}{section.2}

```

Then the whole backref list with option `pageref` would print, e.g.:

Entry for `bib:abc`. Cited on pages 1, 1, 1.

Without dupes the entries with the same page number would be removed, e.g.:

Entry for `bib:abc`. Cited on page 1.

Also the third entry is removed, because it has the same page number. For the comparison only these pieces of information are considered that will be used later by `\backrefxxx`. With option `pageref` macro `\backrefxxx` becomes `\page@backref` that throws away the second and third argument and only uses the first argument with the page number. To be more precise, the first expansion of `\backrefxxx` is used in comparison. If some arguments are used here, but later omitted, then this will not be detected.

`\backrefxxxdupe` With option `hyperref` you will get two entries in the following example because the second entry differs in the link information, so the result will be the same section number, but as different links.

```
\backref {bib:abc}{1}{1}{section.1}
\backref {bib:abc}{1}{1}{equation.1}
```

Macro `\backrefxxxdupe` will be used in the comparison test if it is defined. Thus you can provide a definition in this case as follows:

```
\newcommand*{\backrefxxxdupe}[3]{#2}
```

Then only the section number is interpreted, but not the anchor name.

To avoid same entries, it is checked before, whether the entry already exists. Only the information needed by `\backrefxxx` is compared.

```
218 \def\backcite#1#2{%
219   \@for\x:=#1\do{%
220     \begingroup
221       \csname @safe@activestruel\endcsname
222       \edef\x{\endgroup
223         \def\noexpand\x{\expandafter\@firstofone\x\@empty}}%
224       }%
225     \x
```

Now macro `\x` contains the citation label name.

```
226   \expandafter\ifx\csname br@\x\endcsname\relax
```

Initialization, fill in the first entry.

```
227     \expandafter\protected@xdef\csname br@\x\endcsname{%
228       \protect\backrefxxx#2%
229     }%
230     \ifBR@BackrefAlt
231       \global\expandafter\let\csname brl@\x\expandafter\endcsname
232         \csname br@\x\endcsname
233       \global\expandafter\let\csname brld@\x\expandafter\endcsname
234         \csname br@\x\endcsname
235       \expandafter\gdef\csname brc@\x\endcsname{1}%
236       \expandafter\gdef\csname brcd@\x\endcsname{1}%
237     \fi
238   \else
```

Fill in further entry. But check for dupe first.

```
239 \begingroup
240 \@ifundefined{backrefxxdupe}{-}{\let\backrefxxx\backrefxxdupe}%
241 \expandafter\def\expandafter\reserved@a\expandafter{%
242 \backrefxxx#2%
243 }%
244 \let\BRorg@backrefxxx\backrefxxx
245 \global\let\BR@found=N%
246 \long\def\backrefxxx##1##2##3{%
247 \expandafter\def\expandafter\reserved@b\expandafter{%
248 \BRorg@backrefxxx{##1}{##2}{##3}%
249 }%
250 \ifx\reserved@a\reserved@b
251 \global\let\BR@found=Y%
252 \fi
253 }%
254 \setbox\@tempboxa\hbox{\csname br@\x\endcsname}%
255 \endgroup
256 \let\backrefsep\relax
257 \def\backreftwosep{\backrefsep}%
258 \def\backreflastsep{\backrefsep}%
259 \if N\BR@found
260 \expandafter\protected@xdef\csname br@\x\endcsname{%
261 \csname br@\x\endcsname, %
262 \protect\backrefxxx#2%
263 }%
264 \ifBR@BackrefAlt
265 \expandafter\protected@xdef\csname brl@\x\endcsname{%
266 \csname brl@\x\endcsname
267 \ifnum\@nameuse{brc@\x}=1 %
268 \noexpand\backreftwosep
269 \else
270 \noexpand\backreflastsep
271 \fi
272 \protect\backrefxxx#2%
273 }%
274 \count@=\@nameuse{brc@\x}\relax
275 \advance\count@ by 1 %
276 \expandafter\xdef\csname brc@\x\endcsname{\the\count@}%
277 \fi
278 \fi
279 \ifBR@BackrefAlt
280 \expandafter\protected@xdef\csname brld@\x\endcsname{%
281 \csname brld@\x\endcsname
282 \ifnum\@nameuse{brcd@\x}=1 %
283 \noexpand\backreftwosep
284 \else
285 \noexpand\backreflastsep
286 \fi
287 \protect\backrefxxx#2%
288 }%
289 \count@=\@nameuse{brcd@\x}\relax
290 \advance\count@ by 1 %
291 \expandafter\xdef\csname brcd@\x\endcsname{\the\count@}%
```

```

292     \fi
293     \fi
294 }%
295 }

```

\BR@PopulateEntryCount

```

296 \def\BR@PopulateEntryCount#1{%
297   \begingroup
298   \toks@{}%
299   \def\backrefsep{%
300     \toks@\expandafter{\the\toks@\backrefsep}%
301   }%
302   \def\backreftwosep{%
303     \toks@\expandafter{\the\toks@\backreftwosep}%
304   }%
305   \def\backreflastsep{%
306     \toks@\expandafter{\the\toks@\backreflastsep}%
307   }%
308   \def\protect{}%
309   \let\BR@backrefxxx\backrefxxx
310   \let\backrefxxx\BR@PopulateBackrefxxx
311   \def\BR@name{#1}%
312   \csname brl@#1\endcsname
313   \expandafter\xdef\csname brl@#1\endcsname{\the\toks@}%
314   \endgroup
315 }

```

\BR@PopulateBackrefxxx

```

316 \def\BR@PopulateBackrefxxx#1#2#3{%
317   \expandafter\def\expandafter\BR@tempa\expandafter{%
318     \BR@backrefxxx{#1}{#2}{#3}%
319   }%
320   \begingroup
321   \count@=\z@
322   \def\backrefsep{}%
323   \def\backreftwosep{}%
324   \def\backreflastsep{}%
325   \let\backrefxxx\BR@PopulateBackrefxxx
326   \csname brld@\BR@name\endcsname
327   \toks\tw@={\backrefxxx{#1}{#2}{#3}}%
328   \edef\x{\endgroup
329     \toks@{%
330       \the\toks@
331       \noexpand\backrefentrycount{%
332         \the\toks\tw@
333       }\the\count@}%
334     }%
335   }%
336   \x
337 }

```

\BR@@PopulateBackrefxxx

```

338 \def\BR@@PopulateBackrefxxx#1#2#3{%
339   \expandafter\def\expandafter\BR@tempb\expandafter{%

```

```

340   \BR@backrefxxx{#1}{#2}{#3}%
341   }%
342   \ifx\BR@tempa\BR@tempb
343     \advance\count@\@ne
344   \fi
345 }

```

### 3.5 Initialization

```

346 \def\@currentHref{}
347 \AtBeginDocument{%
348   \let\BRorg@bibitem\bibitem
349   \let\bibitem\BR@bibitem
350   \let\BRorg@thebibliography\thebibliography
351   \def\thebibliography{%
352     \BR@starttoc
353     \BRorg@thebibliography
354   }%
355   \@ifundefined{NAT@parse}{%
356     \global\let\BRorg@citex\@citex
357     \global\let\@citex\BR@citex
358   }{%
359     \@ifpackageloaded{hyperref}{%
360       \def\hyper@natlinkstart#1{\Hy@backout{#1}}%
361     }%
362     \PackageInfo{backref}{** backref set up for natbib **}%
363   }%
364 }

```

\BR@starttoc

```

365 \def\BR@starttoc{%
366   \ifx\backrefalt\BR@BackrefAltUnused
367     \global\BR@BackrefAltfalse
368   \else
369     \global\BR@BackrefAlttrue
370   \fi
371   \begingroup
372     \makeatletter
373     \@input{\jobname.brf}%
374     \if@filesw
375       \@ifundefined{tf@brf}{%
376         \expandafter\newwrite\csname tf@brf\endcsname
377       }{}%
378       \@ifundefined{tf@brf@open}{%
379         \BR@RerunFileCheck
380         \immediate\openout\csname tf@brf\endcsname\jobname.brf\relax
381         \gdef\tf@brf@open{}%
382       }{}%
383     \fi
384     \@nobeckfalse
385   \endgroup
386 }

```

### 3.6 Collecting back cite informations

`\BR@citex`

```
387 \def\BR@citex[#1]#2{%
388   \BRorg@citex[#{#1}]{#2}%
389   \Hy@backout{#2}%
390 }

Grr. for chicago.sty
391 \@ifpackageloaded{chicago}{%
392   \let\BRorg@citedatax\@citedatax
393   \def\@citedatax[#1]#2{%
394     \BRorg@citedatax[#{#1}]{#2}%
395     \Hy@backout{#2}%
396   }%
397 }
```

`\Hy@backout`

```
398 \def\Hy@backout#1{%
399   \@bsphack
400   \ifBR@enable
401     \ifBR@verbose
402       \PackageInfo{backref}{Back cite \string`#1\string'}%
403     \fi
404     \ifx\@empty\@currentlabel
405       \protected@write\@auxout{}{%
406         \string\writefile{brf}{%
407           \string\backcite{#1}{{\thepage}{(document)}}{Doc-Start}}%
408       }%
409     }%
410   \else
411     \protected@write\@auxout{}{%
412       \string\writefile{brf}{%
413         \string\backcite{#1}{{\thepage}{\@currentlabel}}{\@currentHref}}%
414       }%
415     }%
416   \fi
417 \else
418   \ifBR@verbose
419     \PackageInfo{backref}{Disabled back cite \string`#1\string'}%
420   \fi
421 \fi
422 \@esphack
423 }
```

### 3.7 Rerun warning

`\BR@RerunFileCheck` The following code computes a MD5 sum and the file size of the `.brf` file at the begin and the end of the document and compares them. A rerun warning is given, if they do not match. This method requires pdf $\TeX$  or Lua $\TeX$ . The method fails, if the MD5 sum and the file size are the same for a changed `.brf` file (it's probably very seldom).

```
424 \RequirePackage{rerunfilecheck}[2009/12/10]
```

```

425 \def\BR@RerunFileCheck{%
426   \RerunFileCheck{\jobname.brf}{%
427     \@ifundefined{tf@brf@open}{%
428       }{%
429         \immediate\closeout\tf@brf
430       }%
431     }{%
432       Rerun to get bibliographical references right%
433     }%
434 }

435 </package>

```

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