The `biblatex-ext` Bundle

Extensions for the `biblatex` standard styles

`https://github.com/moewew/biblatex-ext`

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Contents

1 Introduction

1.1 About

The `biblatex-ext` bundle provides an extended version of the standard styles that come with `biblatex`. For each standard style this bundle provides a style with the same name prefixed with `ext-` which can be used as a drop-in replacement for the standard style – for example, the replacement for `authoryear-icomp` is called `ext-authoryear-icomp`.

The aim of the styles of this bundle is to offer a simple interface to change some of the stylistic decisions made for the standard styles that would otherwise need cumbersome and tedious redefinitions. Additionally, some customisation features that were not deemed appropriate for inclusion in the `biblatex` kernel are provided. Other than that the styles are

as close to the standard styles as possible. They do not attempt to offer options or commands for customisations that are already fairly simple to achieve with the tools provided by the standard styles.[1]

The initial motivation for this bundle was what has now become the option `inname-beforetitle`. It is fairly straighforward to print the name of the editor of an `@incollection` before the `booktitle`. But if one does not want to resort to clever tricks,[2] the modifications needed to do this in a stable, safe and clean manner by redefining the bibliography drivers can easily amass hundred lines of code – code you may not want to see in your preamble. Some contributed `biblatex` styles already place the editor in the desired position, but you may not want to commit to the other changes implied by switching to one of those styles. Especially styles written for the sole purpose of implementing the requirements of a particular style guide may have to go to great lengths to do so and are therefore not as easily modified as the standard styles. The styles of this bundle, on the other hand, try to stay as close to the standard styles as possible both in output and implementation to allow you to customise the styles with minimum additional effort over the standard styles.

A few words of warning: The styles of this bundle are only really useful if you want to use one of their features to avoid having to go through the lengthy and tedious redefinitions the standard styles would require. Before you get involved in modifying the standard styles or one of the styles of this bundle, you may want to have a look at the host of other styles available for `biblatex`,[3] maybe you are lucky and the style you are looking for has already been implemented by someone else. As was the intention, most methods to modify the standard styles are also applicable to the styles of this bundle, but you may break some of their features if you happen to modify something that the `ext-` styles redefine themselves. While many contributed `biblatex` styles are examples of good `biblatex` style coding, this cannot be said of all of the files included in this bundle. Especially the citation styles for compact citations have to work harder to implement the citation delimiter feature properly. So if you want to get inspired for your `biblatex` coding, be warned that terrible things lurk in the `.cbx` files. The standard `.cbx` files will give you a much better impression of how things should be done.

1.2   Requirements

The use of the styles requires a current version of the `biblatex` package. At the time of writing the latest version of `biblatex` is 3.19 (dated 2023-03-05), that version is required for the styles to work properly. A warning will be issued if you use an older version. You may choose to ignore that warning, but the styles cannot be guaranteed to work properly in that case: you might get other warnings or errors, and some features of the style might just fail silently.

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[1]Please be gentle and allow for a lot of wiggle room for what exactly 'simple' means. And don't get mad if the principle is not followed at all times and the occasional solution for things that already are 'simple enough' pop up here and there.

[2]See https://tex.stackexchange.com/q/122218/ and https://tex.stackexchange.com/q/173638/ for example.

[3]https://www.ctan.org/topic/biblatex

Use of the Biber backend is strongly encouraged. Most of the new features of this bundle do not require Biber explicitly in their implementation, but many `biblatex` standard features only work properly with Biber.

1.3 Compatibility with earlier versions

In an ideal world all changes to the styles in this bundle would be fully backwards compatible. Unfortunately we do not live in this ideal world. Most changes to this bundle should introduce new features that have little relevant impact on existing functionality. But the occasional change may have more lasting consequences and may cause existing customisations to fail. In fact all changes have the potential to break someone's code, since `biblatex` styles have little to no distinction between public and internal code. Still, some changes are more likely to be problematic than others and those should be kept to a minimum. They can, however, be required to move development forward.

If possible, backwards compatiblity measures that allow old code to continue to work are in place. Sometimes that is not feasible and in those cases the next best solution is to warn if old code is used, so please check the log file for warnings – especially after an update. But at times not even that is possible, so it is always a good idea to consult the change history after an update and to examine the output with extra scrutiny. Higher-level changes are found in the revision history in section 8, more technical changes and commentary can be found in `CHANGES.md`, the full set of changes can be investigated by comparing the tagged and publicly available source code.

1.4 Installation

This style bundle is available on CTAN.[4] The current release is also available in MikTeX and TeX live 2018 or newer. If at all possible you should install this bundle via your TeX distribution (using MikTeX Console[5] or `tlmgr` for TeX live[6]). If you must install this package manually, get the files from CTAN and install the `.bbx`, `.cbx`, `.def`, `.sty` and `.lua` files preferably to `tex/latex/biblatex-ext` of your local or home TeX tree[7], the other files (`CHANGES.md`, `README.md`, `biblatex-ext.tex`, `biblatex-ext.pdf` and `biblatex-ext-examples.bib`) go into `doc/latex/biblatex-ext`. You may have to refresh your file name database afterwards, so TeX can find the files.

1.5 License

Permission is granted to copy, distribute and/or modify this software under the terms of the LaTeX Project Public License, version 1.3c[8] or (at your option) any later version[9]. This bundle is maintained by Moritz Wemheuer (©2017–2023).

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[4] https://ctan.org/pkg/biblatex-ext
[5] https://miktex.org/howto/miktex-console
[6] https://www.tug.org/texlive/pkginstall.html
[7] https://texfaq.org/FAQ-inst-wlcf
[8] https://www.latex-project.org/lppl/lppl-1-3c.txt
[9] https://www.latex-project.org/lppl.txt

1.6 Feedback

You can use the `biblatex-ext` project page on GitHub[10] to report bugs and submit suggestions and feature requests, or you can do so via email.

If you do not want to report a bug or request a feature, but are simply in need of assistance, you might want to consider posting your question on the `comp.text.tex` newsgroup or TeX – LaTeX Stack Exchange.[11] If after a consultation on one of these sites it turns out you have happened upon a bug or that you can formulate a request for a new feature that could be useful, please head over to GitHub or send me an email.

2 Use

The `biblatex-ext` bundle is a collection of `biblatex` style files. You can load the styles exactly as you would load the standard styles:

```
\usepackage[style=⟨style⟩]{biblatex}
```

The naming of the styles follows the scheme ext-⟨*standard style*⟩, e.g., the style corresponding to `authoryear-icomp` is called `ext-authoryear-icomp`.

This manual assumes familiarity with the concepts of `biblatex` and does not attempt to explain any of the standard `biblatex` features, so you may want to have the `biblatex` documentation[12] at hand to fully appreciate what is going on. If you are new to `biblatex` the three hundred odd pages of the manual can be hard to stomach at first, so you may want to have a look at a more gentle introduction. Of the many introductory texts and tutorials available on the internet[13] the author particularly likes Knut Hegna and Dag Langmyhr's *Local Guide to `biblatex`*[14] and Paul Stanley's *`biblatex` – An Easier Read*[15]. French speakers may want to consider Maïeul Rouquette's *(Xe)LaTeX Appliqué aux sciences humaines* available on CTAN[16]. If you read German you may be interested in Dominik Waßenhoven's two-part series *Bibliographien erstellen mit `biblatex`* in *Die TeXnische Komödie* 2/2008[17] (pp. 53–75) and 4/2008[18] (pp. 31–51). Please keep in mind that some of these texts were written a while ago and that `biblatex` is actively developed: technical details may have changed and new features make some things easier.

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[10] https://github.com/moewew/biblatex-ext
[11] https://tex.stackexchange.com/questions/tagged/biblatex
[12] http://mirrors.ctan.org/macros/latex/contrib/biblatex/doc/biblatex.pdf
[13] https://tex.stackexchange.com/q/13509/35864
[14] https://www.mn.uio.no/ifi/tjenester/it/hjelp/latex/biblatex-guide.pdf
[15] https://github.com/PaulStanley/biblatex-tutorial/releases
[16] https://ctan.org/pkg/latex-sciences-humaines
[17] https://archiv.dante.de/DTK/PDF/komoedie_2008_2.pdf
[18] https://archiv.dante.de/DTK/PDF/komoedie_2008_4.pdf

3 Styles

This bundle provides an extended version of each standard style as well as a few new styles.

3.1 Standard styles

Please refer to the `biblatex` documentation[19] and the style examples[20] for a more detailed description of each standard style. The relations between the styles are exactly as in their standard counterparts. The `ext-` styles only build on top of the standard files.

ext-numeric An extended version of the standard `numeric` style for citations with numeric labels.

```
\usepackage[style=ext-numeric]{biblatex}
```

```
[1, 2, 5, 6, 7]
```

ext-numeric-comp An extended version of the standard `numeric-comp` style. Similar to `ext-numeric`, but citation labels are compressed to give '[1–3]' instead of '[1, 2, 3]'.

```
\usepackage[style=ext-numeric-comp]{biblatex}
```

```
[1, 2, 5–7]
```

ext-numeric-verb An extended version of the standard `numeric-verb` style. This style is similar to the `numeric` style, but each citation label is in its own set of brackets: '[1], [2], [3]'.

```
\usepackage[style=ext-numeric-verb]{biblatex}
```

```
[1], [3], [5], [6], [7]
```

ext-alphabetic An extended version of the standard `alphabetic` style for citations with alphabetic labels derived from author name and year.

```
\usepackage[style=ext-alphabetic]{biblatex}
```

```
[SR98, Knu86c]
```

ext-alphabetic-verb An extended version of the standard `alphabetic-verb` style. This style is based on `ext-alphabetic`, but like `ext-numeric-verb` places each citation label in its own pair of brackets: '[SR98], [Knu86c]'.

---

[19] http://mirrors.ctan.org/macros/latex/contrib/biblatex/doc/biblatex.pdf
[20] http://mirrors.ctan.org/macros/latex/contrib/biblatex/doc/examples/

```
\usepackage[style=ext-alphabetic-verb]{biblatex}
```

[SR98], [Knu86c]

ext-authoryear An extended version of the standard `authoryear` style for citations using author name and year.

```
\usepackage[style=ext-authoryear]{biblatex}
```

Sigfridsson and Ryde 1998

ext-authoryear-comp An extended version of the standard `authoryear-comp` style. The style is based on the author-year citations of `ext-authoryear`, but several works by the same author are compressed by not displaying the author multiple times: 'Knuth 1984, 1986' instead of 'Knuth 1984; Knuth 1986'.

```
\usepackage[style=ext-authoryear-comp]{biblatex}
```

Knuth 1984, 1986

ext-authoryear-ibid An extended version of the standard `authoryear-ibid` style. This style is similar to `ext-authoryear`, but repeated citations are replaced with 'ibidem'.

```
\usepackage[style=ext-authoryear-ibid]{biblatex}
```

Knuth 1984   ibid.

ext-authoryear-icomp An extended version of the standard `authoryear-icomp` style. This style combines the two styles `ext-authoryear-comp` and `ext-authoryear-ibid`.

```
\usepackage[style=ext-authoryear-icomp]{biblatex}
```

Knuth 1984, 1986   Sigfridsson and Ryde 1998   ibid.

ext-authortitle An extended version of the standard `authortitle` style for citations by author and title.

```
\usepackage[style=ext-authortitle]{biblatex}
```

Maron, *Animal Triste*

ext-authortitle-comp An extended version of the standard `authortitle-comp` style. This style is based on `ext-authortitle` and compresses several citations by the same author just like `ext-author-year-comp`: 'Aristotle, *Physics*, *Poetics*' instead of 'Aristotle, *Physics*; Aristotle, *Poetics*'.

```
\usepackage[style=ext-authortitle-comp]{biblatex}
```
- -
Aristotle, *Physics*, *Poetics*

ext-authortitle-ibid An extended version of the standard `authortitle-ibid` style. This style is similar to `ext-authortitle`, but replaces repeated citations of the same work with 'ibidem'.

```
\usepackage[style=ext-authortitle-ibid]{biblatex}
```
- -
Maron, *Animal Triste*   ibid.

ext-authortitle-icomp An extended version of the standard `authortitle-icomp` style. This style combines `ext-authortitle-comp` and `ext-authortitle-ibid`.

```
\usepackage[style=ext-authortitle-icomp]{biblatex}
```
- -
Aristotle, *Physics*, *Poetics*   Maron, *Animal Triste*   ibid.

ext-authortitle-terse An extended version of the standard `authortitle-terse` style. This style is similar to `ext-authortitle`, but the title is omitted in citations if there is only one work by the relevant author.

```
\usepackage[style=ext-authortitle-terse]{biblatex}
```
- -
Sigfridsson and Ryde   Aristotle, *Physics*; Aristotle, *Poetics*

ext-authortitle-tcomp An extended version of the standard `authortitle-tcomp` style. This style combines `ext-authortitle-terse` and `ext-authortitle-comp`.

```
\usepackage[style=ext-authortitle-tcomp]{biblatex}
```
- -
Sigfridsson and Ryde   Aristotle, *Physics*, *Poetics*

ext-authortitle-ticomp An extended version of the standard `authortitle-ticomp` style. This style combines `ext-authortitle-terse`, `ext-authortitle-comp` and `ext-authortitle-ibid`.

```
\usepackage[style=ext-authortitle-ticomp]{biblatex}
```

Aristotle, *Physics*, *Poetics*   Sigfridsson and Ryde   ibid.

ext-verbose   An extended version of the standard `verbose` style. This style shows the full bibliographic reference the first time a work is cited.

ext-verbose-ibid   An extended version of the standard `verbose-ibid` style. Based on `ext-verbose`, repeated citations to the same work are replaced with 'ibidem'.

ext-verbose-note   An extended version of the standard `verbose-note` style. Based on `ext-verbose` and intended for use in footnotes, subsequent citations link back to the footnote the entry was cited at first and in full.

ext-verbose-inote   An extended version of the standard `verbose-inote` style. Similar to `verbose-note`, but repeated citations to the same work are replaced with 'ibidem'.

ext-verbose-trad1   An extended version of the standard `verbose-trad1` style. This style makes extensive use of scholarly abbreviations and is otherwise similar to `ext-verbose`.

ext-verbose-trad2   An extended version of the standard `verbose-trad2` style. The style is similar to `ext-verbose-inote` and uses scholarly abbreviations to shorten citations.

ext-verbose-trad3   An extended version of the standard `verbose-trad3` style. This style is similar to `ext-verbose-trad2`.

3.2   New styles

The following styles are not mere extensions of a particular standard style, instead they implement new combinations or extensions of the concepts available in the standard styles.

ext-authoryear-ecomp   An author-year citation that is even more compact than `ext-authoryear-comp`, it compresses lists of `extradate` letters from 'Knuth 1986a,b,c' to 'Knuth 1986a–c'.

```
\usepackage[style=ext-authoryear-ecomp]{biblatex}
```

Sigfridsson and Ryde 1998   Knuth 1986a–c

ext-authoryear-iecomp   An author-year citation that is even more compact than `ext-authoryear-icomp`, it compresses lists of `extradate` letters from 'Knuth 1986a,b,c' to 'Knuth 1986a–c'.

```
\usepackage[style=ext-authoryear-iecomp]{biblatex}
```

Sigfridsson and Ryde 1998   ibid.   Knuth 1986a–c

ext-authoryear-terse An author-year citation style that suppresses years for author lists with only one work in the bibliography. This style is like `ext-authortitle-terse`, but it is based on `ext-authoryear` and not on `ext-authortitle`.

```
\usepackage[style=ext-authoryear-terse]{biblatex}
```

Sigfridsson and Ryde   Knuth 1984   Knuth 1986

ext-authoryear-tcomp A compact author-year citation style that suppresses years for author lists with only one work in the bibliography. This style is like `ext-authortitle-tcomp`, but it is based on `ext-authoryear` and not on `ext-authortitle`.

```
\usepackage[style=ext-authoryear-tcomp]{biblatex}
```

Sigfridsson and Ryde   Knuth 1984, 1986

ext-authoryear-tecomp A compact author-year citation style that combines `ext-authoryear-tcomp` and `ext-authoryear-ecomp`.

```
\usepackage[style=ext-authoryear-tecomp]{biblatex}
```

Sigfridsson and Ryde   Knuth 1984, 1986a–c

ext-authoryear-ticomp A compact author-year citation style with 'ibidem' function that suppresses years for author lists with only one work in the bibliography. This style is like `ext-authortitle-ticomp`, but it is based on `ext-authoryear` and not on `ext-authortitle`.

```
\usepackage[style=ext-authoryear-ticomp]{biblatex}
```

Sigfridsson and Ryde   ibid.   Knuth 1984, 1986

ext-authoryear-tiecomp A compact author-year citation style that combines `ext-authoryear-ticomp` and `ext-authoryear-iecomp`.

```
\usepackage[style=ext-authoryear-tiecomp]{biblatex}
```

Sigfridsson and Ryde   ibid.   Knuth 1984, 1986a–c

ext-authornumber An author-number citation style. The number is taken from the `extraname` field which increases separately for each labelname list.

```
\usepackage[style=ext-authornumber]{biblatex}
```

Knuth [1]; Knuth [2]; Knuth [3]; Sigfridsson and Ryde [1]

ext-authornumber-comp A more compact version of `ext-authornumber` that prints the author only once if subsequent references in the same citation share the same author. This style will print 'Knuth [1, 2]' instead of `ext-authornumber`'s 'Knuth [1]; Knuth [2]'. The style will enable the `sortcites` option.

```
\usepackage[style=ext-authornumber-comp]{biblatex}
```

Knuth [1, 2, 3]; Sigfridsson and Ryde [1]

ext-authornumber-ecomp An even more compact version of `ext-authornumber-comp` that also compresses the citation numbers if appropriate. 'Knuth [1–3]' instead of `ext-authornumber-comp`'s 'Knuth [1, 2, 3]'.

```
\usepackage[style=ext-authornumber-ecomp]{biblatex}
```

Knuth [1–3]; Sigfridsson and Ryde [1]

ext-authornumber-terse A version of `ext-authornumber` which drops the number if there is only one work by that author.

```
\usepackage[style=authornumber-terse]{biblatex}
```

Knuth [1]; Knuth [2]; Knuth [3]; Sigfridsson and Ryde

ext-authornumber-tcomp A combination of `ext-authornumber-terse` and `ext-authornumber-comp`.

```
\usepackage[style=authornumber-comp]{biblatex}
```

Knuth [1, 2, 3]; Sigfridsson and Ryde

ext-authornumber-tecomp A combination of `ext-authornumber-terse` and `ext-authornumber-ecomp`.

```
\usepackage[style=authornumber-tecomp]{biblatex}
```

Knuth [1–3]; Sigfridsson and Ryde

4 Options

All options of the `biblatex` package are supported and each style supports the options of its standard counterpart.

4.1 General options

Additionally, all styles support the following options in global, per-type and per-entry scope. The default values are such that the styles can be used as drop-in replacement for the standard files without significant changes in output.

`articlein`=true, false   default: `true`

Whether or not to display 'in:' before the journal information in `@article` entries. All other entry types are not affected by this option. If it is desired to remove the 'in:' for more entry types or a more specific behaviour is required, then it is still going to be necessary to modify the bibmacro `in:`.

> ### articlein=true
>
> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.
> Westfahl, Gary (2000b). 'The True Frontier. Confronting and Avoiding the Realities of Space in American Science Fiction Films'. In: *Space and Beyond. The Frontier Theme in Science Fiction.* Ed. by Gary Westfahl. Westport, Conn. and London: Greenwood, pp. 55–65.

> ### articlein=false
>
> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. *Journal of Computational Chemistry* 19.4, pp. 377–395.
> Westfahl, Gary (2000b). 'The True Frontier. Confronting and Avoiding the Realities of Space in American Science Fiction Films'. In: *Space and Beyond. The Frontier Theme in Science Fiction.* Ed. by Gary Westfahl. Westport, Conn. and London: Greenwood, pp. 55–65.

`citexref`=true, false   default: `false`

This option controls if `@inbook`, `@incollection` and `@inproceedings` entries that are tied to a parent entry with `xref` or `crossref` show all data of their parent entry inline as usual or if they cite their parent entry instead *if* the parent is listed in the bibliography as a separate entry. With the default setting `citexref=false` the parent is not cited, the entry is shown as in the standard styles. If the option is set to `true`, the block following the 'in:' with the parent data is replaced by a citation to the parent entry and thus becomes more compact.

Parent entries will only be cited by this feature if they appear in the bibliography.

The option itself does *not* cause the parent entry to be added to the bibliography automatically. This needs to happen either explicitly by citing the parent (possibly with \nocite) or implicitly via the minxrefs or mincrossrefs option.

---

citexref=true

Westfahl, Gary, ed. (2000a). *Space and Beyond. The Frontier Theme in Science Fiction.* Westport, Conn. and London: Greenwood.
– (2000b). 'The True Frontier. Confronting and Avoiding the Realities of Space in American Science Fiction Films'. In: Westfahl 2000a, pp. 55–65.

---

citexref=false

Westfahl, Gary, ed. (2000a). *Space and Beyond. The Frontier Theme in Science Fiction.* Westport, Conn. and London: Greenwood.
– (2000b). 'The True Frontier. Confronting and Avoiding the Realities of Space in American Science Fiction Films'. In: *Space and Beyond. The Frontier Theme in Science Fiction.* Ed. by Gary Westfahl. Westport, Conn. and London: Greenwood, pp. 55–65.

For technical reasons the citation label is not produced with a real cite command. The user-definable parts of the citation output are controlled by the bibmacro bbx:xrefcite.

bbx:xrefcite This bibmacro typesets the 'citation' to the parent entry. With many citation styles it will just call the cite bibmacro, but in more complex styles it may also call additional initialisation or clean-up code.

In order to reproduce the citation label accurately in the bibliography, some initialisation and housekeeping needs to be done.

\AtXrefcite{⟨*code*⟩}

\AtXrefcite*{⟨*code*⟩}

Appends the ⟨*code*⟩ to an internal hook executed when initializing \xrefcite. The starred variant of the command clears the initialisation hook, so the defaults can be overwritten. The default settings execute the internal macro \extblx@bibcite@init, which makes sure that the label produced for introcite takes into account the citation settings and suppresses unwanted citation tracking and hyperlinks.

Even though the citation produced by this option is not implemented via a citation command, the output can be configured as if it were produced by a citation command called \bbx@xrefcite, which by default is set up to inherit most styling from \cite.

> **Example customisation of \bbx@xrefcite**
>
> ```
> \UndeclareDelimcontextAlias{bbx@xrefcite}
> \DeclareInnerCiteDelims{bbx@xrefcite}{\bibopenparen}{\bibcloseparen}
> ```
> -
> Westfahl, Gary, ed. (2000a). *Space and Beyond. The Frontier Theme in Science Fiction.*
>   Westport, Conn. and London: Greenwood.
> – (2000b). 'The True Frontier. Confronting and Avoiding the Realities of Space in
>   American Science Fiction Films'. In: Westfahl (2000a), pp. 55–65.

The following example shows the standard behaviour of `citexref` with a numeric style
and a customisation involving `bbx:xrefcite` that emulates the output of `\textcite`.

> **Standard behaviour of \bbx@xrefcite with ext-numeric**
>
> ```
> %\usepackage[style=ext-numeric, citexref=true]{biblatex}
> ```
> -
> [26]   Gary Westfahl, ed. *Space and Beyond. The Frontier Theme in Science Fiction.*
>   Westport, Conn. and London: Greenwood, 2000.
> [27]   Gary Westfahl. 'The True Frontier. Confronting and Avoiding the Realities of
>   Space in American Science Fiction Films'. In: [26], pp. 55–65.

> **\textcite-like behaviour of \bbx@xrefcite with ext-numeric**
>
> ```
> %\usepackage[style=ext-numeric, citexref=true]{biblatex}
>
> \UndeclareCiteDelims{bbx@xrefcite}
> \DeclareDelimcontextAlias{bbx@xrefcite}{textcite}
>
> \renewbibmacro*{bbx:xrefcite}{%
>   \usebibmacro{textcite:init}%
>   \usebibmacro{textcite}%
>   \usebibmacro{textcite:postnote}}
> ```
> -
> [26]   Gary Westfahl, ed. *Space and Beyond. The Frontier Theme in Science Fiction.*
>   Westport, Conn. and London: Greenwood, 2000.
> [27]   Gary Westfahl. 'The True Frontier. Confronting and Avoiding the Realities of
>   Space in American Science Fiction Films'. In: Westfahl [26], pp. 55–65.

innamebeforetitle=true, false   default: false

Whether or not the `editor` is moved before the `booktitle` field for `@incollection` and
`@inproceedings` entries.

This option does *not* influence the position of the `editor` field for `@inbook` entries.

The primary name connected to a `@book` entry is its `author`, which for `@inbook` entries normally corresponds to the `bookauthor` (usually `author` and `bookauthor` will be the same for `inbook` entries) and that is the name one would normally expect to see before the title. In most cases where one wants the `editor` to appear before the `booktitle`, the entry in question is an `@incollection` or `@inproceedings`.

---

innamebeforetitle=true

Pines, Shlomo (1979). 'The Limitations of Human Knowledge According to Al-Farabi, ibn Bajja, and Maimonides'. In: Isadore Twersky, ed. *Studies in Medieval Jewish History and Literature*. Cambridge, Mass.: Harvard University Press, pp. 82–109.

---

innamebeforetitle=false

Pines, Shlomo (1979). 'The Limitations of Human Knowledge According to Al-Farabi, ibn Bajja, and Maimonides'. In: *Studies in Medieval Jewish History and Literature. Ed. by Isadore Twersky*. Cambridge, Mass.: Harvard University Press, pp. 82–109.

`innameidem`=true, false   default: `false`

Whether or not the `editor` of the `booktitle` for the entry types `@inbook`, `@incollection` and `@inproceedings` is replaced by 'idem' in case the `editor` and `author` name lists coincide. This option only has an effect if `innamebeforetitle` is set to `true`.

---

innameidem=true (and innamebeforetitle=true)

Gaonkar, Dilip Parameshwar (2001b). 'On Alternative Modernities'. In: idem, ed. *Alternative Modernities*. Ed. by Dilip Parameshwar Gaonkar. Durham and London: Duke University Press, pp. 1–23.

---

innameidem=false (and innamebeforetitle=true)

Gaonkar, Dilip Parameshwar (2001b). 'On Alternative Modernities'. In: Dilip Parameshwar Gaonkar, ed. *Alternative Modernities*. Ed. by Dilip Parameshwar Gaonkar. Durham and London: Duke University Press, pp. 1–23.

`maintitleaftertitle`=true, false   default: `false`

Whether or not the `maintitle` is printed after the `title` or `booktitle` of the work. If `maintitleaftertitle` is `true`, the `volume` field will be printed with the volumeof format.

> **maintitleaftertitle=true**
>
> Knuth, Donald E. (1984). *The TEXbook.* Vol. A of *Computers & Typesetting*. Reading, Mass.: Addison-Wesley.

> **maintitleaftertitle=false**
>
> Knuth, Donald E. (1984). *Computers & Typesetting*. Vol. A: *The TEXbook.* Reading, Mass.: Addison-Wesley.

4.2 Style-specific options

`dashed`=true, false, fullhash, bibnamehash   default: `true`

The `dashed` option of the `authoryear`-, `authortitle`- and `ext-authornumber`-like bibliography styles allows for finer control over the dashes than in the standard styles. The option is available globally and additionally on a per-type and per-entry level.

This option controls whether or not recurring lists of authors/editors in the bibliography are replaced with a dash. The standard values `true` and `false` are still valid and give the exact same output as in the standard styles. This means that the output is fully compatible with the standard styles. The new values `fullhash` and `bibnamehash` differ in how exactly they determine if a list of authors/editors is the same as the previous.

`true`   An alias for `fullhash`.

`false`   Disable this feature.

`bibnamehash`   Replace recurring name lists with a dash. Compare name lists using `bibnamehash`, taking into account only names that are actually listed in the bibliography account.

`fullhash`   Replace recurring name lists with a dash. Compare name lists using `fullhash`, taking into account all names in the list, even those that are truncated and do not appear in the bibliography.

Assuming `maxnames=1` and no name list disambiguation (`uniquelist=false`), the four entries

```
@book{appleby:civ,
  author  = {Humphrey Appleby},
  title   = {On the Importance of the Civil Service},
  date    = {1980},
}
@book{appleby:abl,
  author  = {Humphrey Appleby},
  title   = {On the Ablative in Greek},
  date    = {1982},
}
```

```
@book{elk:bronto,
  author  = {Elk, Anne and Hacker, James and Rumpo, Syd},
  title   = {On the Theory of Brontosauruses},
  date    = {1972},
}
@book{elk:einio,
  author  = {Elk, Anne and Hacker, James and Pode, Eric},
  title   = {On the Theory of Einiosauruses},
  date    = {1973},
}
```

give

---

dashed=false

Appleby, Humphrey (1980). *On the Importance of the Civil Service.*
Appleby, Humphrey (1982). *On the Ablative in Greek.*
Elk, Anne et al. (1972). *On the Theory of Brontosauruses.*
Elk, Anne et al. (1973). *On the Theory of Einiosauruses.*

---

dashed=bibnamehash

Appleby, Humphrey (1980). *On the Importance of the Civil Service.*
— (1982). *On the Ablative in Greek.*
Elk, Anne et al. (1972). *On the Theory of Brontosauruses.*
— (1973). *On the Theory of Einiosauruses.*

---

dashed=fullhash

Appleby, Humphrey (1980). *On the Importance of the Civil Service.*
— (1982). *On the Ablative in Greek.*
Elk, Anne et al. (1972). *On the Theory of Brontosauruses.*
Elk, Anne et al. (1973). *On the Theory of Einiosauruses.*

With `dashed=bibnamehash` the dash replaces the name list if they are indistinguishable
in the bibliography, while with `dashed=fullhash` the lists are only replaced if they are
indistinguishable in the data source.

> The `introcite` option is available for the bibliography styles of the `authoryear`, `authortitle` and `ext-authornumber` family. It cannot be used with citation styles of the `verbose` family, where it may produce undesired output or errors. The option is available globally and on a per-type and per-entry level, where only the values `plain` (and the default `false`) are supported.

This option controls whether or not the citation label is repeated in the bibliography. There are two possible output formats.

`false`   Do not show the citation label in the bibliography.

`plain`   Show the citation label at the beginning of an entry.

`label`   Show the citation label as the label of a list similar to the `numeric` or `alphabetic` styles.

The difference between `plain` and `label` is that the former simply prints the citation label at the beginning of the entry, while the latter prints the citation label similar to the item labels in a list or the numeric labels in a `numeric` bibliography.

---

introcite=false

Knuth, Donald E. (1984). *Computers & Typesetting*. Vol. A: *The TEXbook*. Reading, Mass.: Addison-Wesley.

Knuth, Donald E. (1986a). *Computers & Typesetting*. Vol. B: *TEX: The Program*. Reading, Mass.: Addison-Wesley.

Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

---

introcite=plain

Knuth 1984: Knuth, Donald E. (1984). *Computers & Typesetting*. Vol. A: *The TEXbook*. Reading, Mass.: Addison-Wesley.

Knuth 1986a: Knuth, Donald E. (1986a). *Computers & Typesetting*. Vol. B: *TEX: The Program*. Reading, Mass.: Addison-Wesley.

Sigfridsson and Ryde 1998: Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

The label produced by the plain option can be customised as follows.

\introcitepunct   The punctuation inserted between the label and the rest of the entry with introcite=plain. The default value is a colon followed by a space.

bbx:introcite:plain:keeprelated   This toggle controls whether or not the citation label is also repeated for default related entries. The default value false suppresses the label for related entries.

Note that the implementation of some related types automatically suppresses the introcite label – or rather, does not add the label in the first place. That means that the resulting bibliography should be checked for consistency if the toggle is set to true.

The label option can be configured to not allow the label to run into the remaining bibliography entry thus creating the appearance of a tabular-like bibliography. The citation label is not broken across lines, instead it moves the entry text into the next line with \introcitebreak if the width of the citation is greater than \introcitewidth.

`\introcitewidth` The maximum width of the citation label. The initial value is 8 times `\biblabelsep`.

`\introcitesep` This length sets the minimal space between the end of the citation label and the beginning of the rest of the entry. The initial value is `\biblabelsep`.

`\introcitebreak` The command to execute if a citation label exceeds `\introcitewidth`. The default is `\leavevmode\newline`.

Lengths for `introcite=label`

Coleridge 1983

Coleridge, Samuel Taylor (1983). *The collected works of Samuel Taylor Coleridge*. Vol. 7.2: *Biographia literaria, or Biographical sketches of my literary life and opinions*. Ed. by Kathleen Coburn, James Engell and W. Jackson Bate. Bollingen Series 75. London: Routledge and Kegan Paul.

`\introcitesep`

Geer 1985 — Geer, Ingrid de (1985). 'Earl, Saint, Bishop, Skald – and Music. The Orkney Earldom of the Twelfth Century. A Musicological Study'. PhD thesis. Uppsala: Uppsala Universitet.

`\introcitewidth`

Sigfridsson and Ryde 1998

Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

`introcite=label` with empty `\introcitebreak`

```
%\usepackage[..., introcite=label]{biblatex}
\renewcommand*{\introcitebreak}{}
```

Coleridge 1983   Coleridge, Samuel Taylor (1983). *The collected works of Samuel Taylor Coleridge*. Vol. 7.2: *Biographia literaria, or Biographical sketches of my literary life and opinions*. Ed. by Kathleen Coburn, James Engell and W. Jackson Bate. Bollingen Series 75. London: Routledge and Kegan Paul.

Geer 1985   Geer, Ingrid de (1985). 'Earl, Saint, Bishop, Skald – and Music. The Orkney Earldom of the Twelfth Century. A Musicological Study'. PhD thesis. Uppsala: Uppsala Universitet.

`introcite=label` with `\introcitewidth` set to zero and `\introcitesep` equal to `\bibhang`

```
%\usepackage[..., introcite=label]{biblatex}
\setlength{\introcitewidth}{0pt}
\setlength{\introcitesep}{\bibhang}
```

Geer 1985

    Geer, Ingrid de (1985). 'Earl, Saint, Bishop, Skald – and Music. The Orkney Earldom of the Twelfth Century. A Musicological Study'. PhD thesis. Uppsala: Uppsala Universitet.

Sigfridsson and Ryde 1998

    Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

In order to reproduce the citation label accurately in the bibliography, some initialisation and housekeeping needs to be done.

`\AtIntrocite{⟨code⟩}`

`\AtIntrocite*{⟨code⟩}`

Appends the ⟨*code*⟩ to an internal hook executed when initializing `\introcite`. The starred variant of the command clears the initialisation hook, so the defaults can be overwritten. The default settings execute the internal macro `\extblx@bibcite@init`, which makes sure that the label produced for introcite takes into account the citation settings and suppresses unwanted citation tracking and hyperlinks.

The appearance of the citation label can be customised mostly as if it were produced by a true citation command called `\bbx@introcite`. The delimiter context is `bbx@introcite`, the inner citation delimiters can be accessed as `bbx@introcite` as well. The label does not have outer citation delimiters, you can use the wrapper field format `bbx@introcite` instead. In fact this approach is more versatile than the outer citation delimiter feature (see the discussion in section 5.3). The default settings for `\bbx@introcite` emulate the output of `\cite`.

Example customisations for `introcite=plain`

```
%\usepackage[..., introcite=plain]{biblatex}
\DeclareFieldFormat{bbx@introcite}{\mkbibbrackets{#1}}
\DeclareDelimFormat[bbx@introcite]{nameyeardelim}{\addcomma\space}
\UndeclareInnerCiteDelims{bbx@introcite}
\renewcommand*{\introcitepunct}{\quad}
```

[Sigfridsson and Ryde, 1998]   Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

If you are using an author-year citation style together with `introcite=label` or `introcite=label`, you may be interested in combining this with `bibstyle=ext-authortitle` instead to move the year back to the end of the entry.

Geer 1985

    Geer, Ingrid de. 'Earl, Saint, Bishop, Skald – and Music. The Orkney Earldom of the Twelfth Century. A Musicological Study'. PhD thesis. Uppsala: Uppsala Universitet, 1985.

Sigfridsson and Ryde 1998

    Sigfridsson, Emma and Ulf Ryde. 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4 (1998), pp. 377–395.

5 Further Customisations

Aside from the new options mentioned in the last section the styles of this bundle also offer additional field formats, punctuation and delimiter commands, a new citation delimiter interface and a few new bibliography macros.

The citation delimiter interface is a novel feature of `biblatex-ext`, but for the other subsections familiarity with the underlying `biblatex` concepts is assumed. Some of this is easier understood by looking at the source code directly, so it might not be a bad idea to have `ext-standard.bbx` open when perusing this section of the manual.

5.1 Field formats

The styles of this bundle offer customisable field formats in a few places where the standard styles employ hard-coded formatting directives instead. Field formats can be modified with `\DeclareFieldFormat`.

bibextraname The format for the number added to the name in `ext-authornumber`-like styles. The default is to wrap the number in square brackets.

> Sigfridsson, Emma and Ulf Ryde [1]. 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

biblabeldate The format for the labeldate in the bibliography for `authoryear`-like styles. The default is to wrap the date in round brackets.

> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

Customisation example for biblabeldate

```
\DeclareFieldFormat{biblabeldate}{#1}
\DeclareDelimFormat[bib]{nameyeardelim}{\addperiod\space}
```

> Sigfridsson, Emma and Ulf Ryde. 1998. 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

biblistlabeldate Like biblabeldate, but for bibliography lists created by `\printbiblist`. The default is to use the same format as biblabeldate.

issuedate The format of the `issue` and `date` information for `@articles`. By default this block is wrapped in round brackets.

> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4 (1998), pp. 377–395.

A customisation example for `issuedate` can be found in the `\volnumdatedelim` description.

volumeof The format for the `volume` of a `maintitle` used when `maintitleaftertitle`=true.

> Knuth, Donald E. (1984). *The TEXbook*. Vol. A of *Computers & Typesetting*. Reading, Mass.: Addison-Wesley.

biblabeltitle The format for the title when it is used in `authoryear` styles to replace a missing author/editor. By default this field format is an alias for title.

> Computers and Graphics (2011) 35.4: *Semantic 3D Media and Content*. ISSN: 0097-8493.

titlecase:title The standard styles follow an all-or-nothing approach when it comes to title casing. The field format titlecase intended to enable sentence case with `\MakeSentenceCase*` is applied to all title-like fields alike. Finer control over the title casing of each field could require involved code.[21] The field format titlecase:title is applied to the fields `title` and `subtitle`. By default this field format is an alias for titlecase.

titlecase:booktitle Like titlecase:title, but controls the title casing of the `booktitle` and `booksubtitle` fields.

titlecase:maintitle Like titlecase:title, but controls the title casing of the `maintitle` and `mainsubtitle` fields.

titlecase:journaltitle Like titlecase:title, but controls the title casing of the `journaltitle` and `journalsubtitle` fields.

titlecase:issuetitle Like titlecase:title, but controls the title casing of the `issuetitle` and `issuesubtitle` fields.

titlecase:biblabeltitle Like titlecase:title, but controls the title casing of the title printed instead of missing author/editor name in `authoryear` styles.

The citetitle field format can be used to change the title case in author-title citations, so there is no citetitle:labeltitle.

> **Default output for titlecase field formats**
>
> Shore, Bradd (Mar. 1991). 'Twice-Born, Once Conceived. Meaning Construction and Cultural Cognition'. In: *American Anthropologist*. New ser. 93.1, pp. 9–27.

---

[21] https://tex.stackexchange.com/a/22981/

24

> **Example changes to titlecase field formats**
>
> ```
> \DeclareFieldFormat{titlecase:title}{\MakeSentenceCase*{#1}}
> \DeclareFieldFormat{titlecase:journaltitle}{#1}
> ```
> -
> Shore, Bradd (Mar. 1991). 'Twice-born, once conceived. Meaning construction and cultural cognition'. In: *American Anthropologist*. New ser. 93.1, pp. 9–27.

5.2 Punctuation

The package provides the following commands to modify the delimiters and punctuation between fields. Normal punctuation commands should be redefined with \renewcommand, while context-sensitive commands marked with context sensitive should be redefined with \DeclareDelimFormat. A short overview over common punctuation commands defined by biblatex-ext as well as standard biblatex in an example bibliography can be found in appendix A.

\namenumberdelim Similar to \nametitledelim, but for the punctuation between the name and the label context sensitive number in ext-authornumber styles. The default is a space.

> Sigfridsson, Emma and Ulf Ryde␣[1]. 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

\nonamenumberdelim The replacement for \namenumberdelim if the labelname does not exist and is re- context sensitive placed by a fallback. By default this is an alias of \namenumberdelim.

\innametitledelim Similar to \nametitledelim, but for names after the 'in:' if innamebeforetitle is context sensitive true. The default value is that of \nametitledelim for all contexts. Since the definition of \nametitledelim is different for the delimiter contexts bib and biblist, you may have to use the optional argument to redefine the delimiter.[22]

> Pines, Shlomo (1979). 'The Limitations of Human Knowledge According to Al-Farabi, ibn Bajja, and Maimonides'. In: Isadore Twersky (ed.).␣*Studies in Medieval Jewish History and Literature*. Cambridge, Mass.: Harvard University Press, pp. 82–109.

---

[22]The author admits that it is somewhat pointless to make \innametitledelim context sensitive. But the obvious parallels with \nametitledelim were too tempting. It is probably too late now.

> Note that editortype and \editortypedelim were changed to
>
> ```
> \DeclareFieldFormat{editortype}{\mkbibparens{#1}}
> \DeclareDelimFormat{editortypedelim}{\addspace}
> ```
>
> in this example to avoid punctuation clashes.

Since \nametitledelim and \innametitledelim are independent, the following output is easily achieved. Note that the optional argument to \DeclareDelimFormat is used to make sure the definitions apply to the bibliography and bibliography lists contexts, this is necessary because these contexts have special pre-defined values that would otherwise not be redefined.

Example customisations for \innametitledelim

```
\ExecuteBibliographyOptions{innamebeforetitle=true}
\DeclareDelimFormat[bib,biblist]{nametitledelim}{\addcolon\space}
\DeclareDelimFormat[bib,biblist]{innametitledelim}{\addcomma\space}
```

- -

Gaonkar, Dilip Parameshwar, ed. (2001a)**:** *Alternative Modernities*. Durham and London: Duke University Press. ɪꜱʙɴ: 0-822-32714-7.

– (2001b)**:** 'On Alternative Modernities'. In: Dilip Parameshwar Gaonkar, ed.**,** *Alternative Modernities*. Durham and London: Duke University Press, pp. 1–23. ɪꜱʙɴ: 0-822-32714-7.

\maintitletitledelim   The punctuation between the maintitle and title or booktitle of a work if maintitleaftertitle is false. The default is \newunitpunct.

> Knuth, Donald E. (1984). *Computers & Typesetting*.␣Vol. A: *The TₑXbook*. Reading, Mass.: Addison-Wesley.

\voltitledelim   The punctuation between the volume and title or booktitle of a work if maintitle-aftertitle is false. The default is a colon followed by a space.

> Knuth, Donald E. (1984). *Computers & Typesetting*. Vol. A**:**␣*The TₑXbook*. Reading, Mass.: Addison-Wesley.

\titlemaintitledelim   The punctuation between the title or booktitle and maintitle of a work if maintitleaftertitle is true. The default is \newunitpunct.

> Knuth, Donald E. (1984). *The T_EXbook*.␣Vol. A of *Computers & Typesetting*. Reading, Mass.: Addison-Wesley.

`\titleaddonpunct` The punctuation between `title`/`subtitle` and `maintitle` as well as other `title`-like and `maintitle`-like fields. The default is `\newunitpunct`

> Salam, Abdus (1968). 'Weak and Electromagnetic Interactions'. In: *Elementary particle theory. Relativistic groups and analyticity*.␣Proceedings of the Eighth Nobel Symposium (Aspenäsgarden, Lerum, 19th–25th May 1968). Ed. by Nils Svartholm. Stockholm: Almquist & Wiksell, pp. 367–377.

Example customisation of `\titleaddonpunct`

```
\DeclareFieldFormat{booktitleaddon}{\mkbibbrackets{#1}}
\renewcommand*{\titleaddonpunct}{\addspace}
```
- -
Salam, Abdus (1968). 'Weak and Electromagnetic Interactions'. In: *Elementary particle theory. Relativistic groups and analyticity* [Proceedings of the Eighth Nobel Symposium]. Ed. by Nils Svartholm. Stockholm: Almquist & Wiksell, pp. 367–377.

`\jourvoldelim` The delimiter between the `journaltitle` and `volume` fields for `@article` if no `series` is present. The default is a space.

> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry*␣19.4 (1998), pp. 377–395.

Example customisation of `\jourvoldelim` and `\volnumdelim`

```
\DeclareFieldFormat[article,periodical]{volume}{\bibstring{jourvol}~#1}
\DeclareFieldFormat[article,periodical]{number}{\bibstring{number}~#1}
\renewcommand*{\jourvoldelim}{\addcomma\space}
\renewcommand*{\volnumdelim}{\addcomma\space}
```
- -
Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry*, vol. 19, no. 4 (1998), pp. 377–395.

`\jourserdelim` The delimiter between the `journaltitle` and `series` fields for `@article`. The default is `\newunitpunct`.

> Reese, Trevor R. (1958). 'Georgia in Anglo-Spanish Diplomacy, 1736–1739'. In: *William and Mary Quarterly*.␣3rd ser. 15 (1958), pp. 168–190.
> Shore, Bradd (1991). 'Twice-Born, Once Conceived. Meaning Construction and Cultural Cognition'. In: *American Anthropologist*.␣New ser. 93.1 (Mar. 1991), pp. 9–27.

`\servoldelim`   The delimiter between the `series` and `volume` fields for `@article`. The default is `\jourvoldelim`.

> Reese, Trevor R. (1958). 'Georgia in Anglo-Spanish Diplomacy, 1736–1739'. In: *William and Mary Quarterly*. 3rd ser.␣15 (1958), pp. 168–190.
> Shore, Bradd (1991). 'Twice-Born, Once Conceived. Meaning Construction and Cultural Cognition'. In: *American Anthropologist*. New ser.␣93.1 (Mar. 1991), pp. 9–27.

`\volnumdatedelim`   The delimiter between the `volume`, `number` block and the date information for `@article`. The default is a space.

> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4␣(1998), pp. 377–395.

Example customisation of `\volnumdatedelim`

```
\DeclareFieldFormat{issuedate}{#1}
\renewcommand*{\volnumdatedelim}{\addcomma\space}
```

> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, 1998, pp. 377–395.

`\volnumdelim`   The delimiter between `volume` and `number` for `@article`. The default is a dot.

> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395.

> **Example customisation of `\volnumdelim`**
>
> ```
> \DeclareFieldFormat[article,periodical]{number}{\mkbibparens{#1}}
> \renewcommand*{\volnumdelim}{}
> ```
> -
> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19(4), pp. 377–395.

`\sernumdelim` The delimiter between `series` and `number` for `@book`- and `@inbook`-like entries. The default is a space.

> Coleridge, Samuel Taylor (1983). *The collected works of Samuel Taylor Coleridge.* Vol. 7.2: *Biographia literaria, or Biographical sketches of my literary life and opinions.* Ed. by Kathleen Coburn, James Engell and W. Jackson Bate. Bollingen Series␣75. London: Routledge and Kegan Paul.

`\locdatedelim` The delimiter between `location` and `date`. The default is a comma followed by a space.

> Jaffé, Philipp, ed. (1885–1888). *Regesta Pontificum Romanorum ab condita ecclesia ad annum post Christum natum MCXCVIII.* Red. by Samuel Loewenfeld, Ferdinand Kaltenbrunner and Paul Ewald. 2nd ed. 2 vols. Leipzig,␣1885–1888.

`\locpubdelim` The delimiter between `location` and `publisher/organization/institution`. The default is a colon followed by a space.

> Knuth, Donald E. (1984). *Computers & Typesetting.* Vol. A: *The TeXbook.* Reading, Mass.:␣Addison-Wesley, 1984.

`\publocdelim` The delimiter between `publisher/organization/institution` and `location`. The default is a comma followed by a space. This delimiter is not used by the default style, since the standard order of fields is `location`, `publisher/organization/institution`, `date`. You could use `\publocdelim` if you changed the order of these fields to `publisher/organization/institution`, `location date` by redefining the bibmacro `pubinstorg+location+date` as follows.

\pubdatedelim   The delimiter between publisher/organization/institution and date. The default is a comma followed by a space.

\extradateonlycompcitedelim   Similar to \compcitedelim, but indended for use between compressed   context sensitive
author-year citations where the second is an extradate only. The default is a comma (*not* followed by a space).

\extradateonlycompciterangedelim   Similar to \extradateonlycompcitedelim, but indended for use in   context sensitive
a compressed list of extradates in the -ecomp styles. The default is \bibrangedash.

\extranameonlycompcitedelim   Similar to \compcitedelim, but indended for use between compressed   context sensitive
author-number citations. The default is a comma (*not* followed by a space).

\extranameonlycompciterangedelim   Similar to \extranameonlycompcitedelim, but indended for use in   context sensitive
a compressed list of extranames in the -ecomp styles. The default is \bibrangedash.

5.3 Delimiters for citation commands

The delimiters for citation commands provided by the styles of this bundle offer a simple way to customise the bracketing of citation commands.

The citation commands \cite, \parencite and \textcite come with two sets of delimiters: A pair of *outer delimiters* wrapped around the resulting citation in its entirety and a pair of *inner delimiters* that sets off certains bits of the citation label from other information. An example for outer delimiters would be the round brackets of \parencite for authoryear-like styles or the square brackets of \cite for numeric- or alphabetic-like styles. Inner delimiters would be the round brackets in \textcite around the year for authoryear or around the title for authortitle. See table 1 for more details.

The delimiters are set up to work as paired delimiters, but you are free to use non-matching pairs or to leave the opening or closing delimiter empty. If you want to add punctuation, the context-sensitive delimiters nameyeardelim, nametitledelim, postnotedelim and friends are more approriate.

> Although the outer delimiters can be set up using \DeclareCiteCommand's optional ⟨*wrapper*⟩ argument for most styles, this is not possible for all styles. Similarly, inner delimiters can be set up with \DeclareFieldFormat in some styles, but other styles need more intricate implementations. This means that the commands discussed here can be used to place the citations between delimiters, but not natively to pass the result of a citation to a wrapper command as an argument.

Table 1: Outer and inner citation delimiters by style. If the style does not use the delimiters by default, ⟨ and ⟩ are substituted in the appropriate place.

Style family	\cite	\parencite	\textcite
		Citation command	
alphabetic	[Knu84]	[Knu84]	⟨Knuth [Knu84]⟩
numeric	[2]	[2]	⟨Knuth [2]⟩
authortitle	⟨Knuth, ⟨T*E*Xbook⟩⟩	(Knuth, ⟨T*E*Xbook⟩)	⟨Knuth (T*E*Xbook)⟩
authoryear	⟨Knuth ⟨1984⟩⟩	(Knuth ⟨1984⟩)	⟨Knuth (1984)⟩
authornumber	⟨Knuth [1]⟩	(Knuth ⟨1⟩)	⟨Knuth [1]⟩

\DeclareOuterCiteDelims{⟨*cite command*⟩}{⟨*opening delimiter*⟩}{⟨*closing delimiter*⟩}

Sets up the outer delimiters for the citation command \⟨*cite command*⟩. The name of the ⟨*cite command*⟩ is given without leading backslash in the argument, it normally corresponds to the delimiter context.

Note that outer citation delimiters are often hard-coded so they usually do not respond to delimiter context aliases. Inner citation delimiters, on the other hand, usually follow delimiter context aliases. This may lead to initially surprising results if aliases are used.

You may use almost any input for ⟨*opening delimiter*⟩ and ⟨*closing delimiter*⟩ as long as type-setting of '⟨*opening delimiter*⟩text⟨*closing delimiter*⟩' does not lead to errors when arbitrary grouping such as '{⟨*opening delimiter*⟩text}⟨*closing delimiter*⟩' or '⟨*opening delimiter*⟩text{⟨*closing delimiter*⟩}' is introduced. It cannot be guaranteed that the opening and closing delimiters are executed at the same level of grouping, let alone in the same group. As mentioned above, citation delimiters cannot be used to introduce a wrapper command for the citation output, i.e. to pass the entire output of the citation command as argument to a macro.

Instead of hard-coded (,), [and] their `biblatex` counterparts `\bibopenparen`, `\bibclose-paren`, `\bibopenbracket` and `\bibclosebracket` are preferable, since these commands respond to nesting and check if opening brackets are always closed.

`\DeclareOuterCiteDelimsAlias{`⟨*cite alias*⟩`}{`⟨*cite command*⟩`}`
`\DeclareOuterCiteDelimsAlias*{`⟨*cite alias*⟩`}{`⟨*cite command*⟩`}`

Use the outer delimiters of \⟨*cite command*⟩ for \⟨*cite alias*⟩ as well. The unstarred version uses `\def` assignment while the starred version uses `\let`. This means that the starred version copies the values of the definitions at the time of executing the aliasing command, whereas the alias created by the unstarred version will only evaluate the delimiters whenever the citation command is called.

`\UndeclareOuterCiteDelims{`⟨*cite command*⟩`}`

Completely remove the definitions of the outer delimiters for \⟨*cite command*⟩.

`\DeclareInnerCiteDelims{`⟨*cite command*⟩`}{`⟨*opening delimiter*⟩`}{`⟨*closing delimiter*⟩`}`

Sets up the inner delimiters for the citation command \⟨*cite command*⟩.

This command is similar to `\DeclareOuterCiteDelims` and the same restrictions for the arguments apply.

Note that inner citation delimiters usually follow context delimiter aliases. Outer citation delimiters, on the other hand, do not respond to context delimiter aliases. This may lead to initially surprising results if aliases are used.

`\DeclareInnerCiteDelimsAlias{`⟨*cite alias*⟩`}{`⟨*cite command*⟩`}`
`\DeclareInnerCiteDelimsAlias*{`⟨*cite alias*⟩`}{`⟨*cite command*⟩`}`

Use the inner delimiters of \⟨*cite command*⟩ for \⟨*cite alias*⟩ as well. The unstarred version uses `\def` assignment while the starred version uses `\let`. This means that the starred version copies the values of the definitions at the time of executing the aliasing command, whereas the alias created by the unstarred version will only evaluate the delimiters whenever the citation command is called.

`\UndeclareInnerCiteDelims{`⟨*cite command*⟩`}`

Completely remove the definitions of the inner delimiters for \⟨*cite command*⟩.

`\UndeclareCiteDelims{`⟨*cite command*⟩`}`

Remove inner and outer delimiters for \⟨*cite command*⟩ by calling `\UndeclareOuterCiteDe-lims` and `\UndeclareInnerCiteDelims`.

`\RegisterCiteDelims{`⟨*modifier*⟩`}{`⟨*cite command*⟩`}`

Register a pair of ⟨*modifier*⟩ citation delimiters for \⟨*cite command*⟩. This command will define a delimiter wrapper command \mk⟨*modifier*⟩⟨*cite command*⟩s that places its argument between the opening delimiter `\extblx@citedelim@`⟨*cite command*⟩`@`⟨*modifier*⟩`@open` and the closing delimiter `\extblx@citedelim@`⟨*cite command*⟩`@`⟨*modifier*⟩`@close`. No error will be raised if the opening or closing delimiters are not defined, but an error will be raised if \mk⟨*modifier*⟩⟨*cite command*⟩s is already defined.

The styles of this bundle only use the values `outer` and `inner` for ⟨*modifier*⟩, but other values are possible. With `outer` and `inner` you can use `\DeclareOuterCiteDelims` or `\DeclareInnerCiteDelims` and friends to define the opening and closing delimiters, otherwise you need to define them manually.

All styles of `biblatex-ext` define the wrapper commands listed in table 2.

Table 2: Delimiter wrappers defined by `biblatex-ext`

| Citation command | Modifier | |
	Outer	Inner
`\cite`	`\mkoutercitedelims`	`\mkinnercitedelims`
`\parencite`	`\mkouterparencitedelims`	`\mkinnerparencitedelims`
`\textcite`	`\mkoutertextcitedelims`	`\mkinnertextcitedelims`
`\footcite`	`\mkouterfootcitedelims`	`\mkinnerfootcitedelims`
`\supercite`[a]	`\mkoutersupercitedelims`	—
'`\bbx@xrefcite`'[b]	`\mkouterbbx@xrefcitedelims`	`\mkinnerbbx@xrefcitedelims`
'`\bbx@introcite`'	—[c]	`\mkinnerbbx@introcitedelims`

[a]If defined by the citation style.
[b]Not implemented as a citation command, but can be customised as if it were.
[c]Use the field format bbx@introcite instead, see section 4.2.

The default setup for `ext-authoryear` mirroring the standard `authoryear` is as follows.

\parencite setup of ext-authoryear

`\DeclareOuterCiteDelims{parencite}{\bibopenparen}{\bibcloseparen}`
`\DeclareInnerCiteDelims{parencite}{}{}`

- -

lorem (Knuth 1984) ipsum (Sigfridsson and Ryde 1998)

> **\textcite setup of ext-authoryear**
>
> ```
> \DeclareOuterCiteDelims{textcite}{}{}
> \DeclareInnerCiteDelims{textcite}{\bibopenparen}{\bibcloseparen}
> ```
> -
> lorem Knuth (1984) ipsum Sigfridsson and Ryde (1998)

If you wanted \parencite of ext-authoryear to look like '[Sigfridsson and Worman (1998)]' you would use

> ```
> \DeclareOuterCiteDelims{parencite}{\bibopenbracket}{\bibclosebracket}
> \DeclareInnerCiteDelims{parencite}{\bibopenparen}{\bibcloseparen}
> ```
> -
> [Sigfridsson and Ryde (1998)]   [Geer (1985); Worman (2002)]   [Knuth (1984, 1986a,b)]

5.4   Selected bibliography macros

The following macros are defined in ext-standard.bbx and may make certain things easier to customise. Many of these macros are replacements for bare \printfield or \printlist in the bibliography drivers, or pack a frequently-used sequence of commands into one central place.

barevolume+volumes   A bibliography macro to print the volume, part and volumes fields for @mvbook-, @book- and @inbook-like entry types. If maintitle is defined, the volume and part fields will be printed by maintitle+title or maintitle+booktitle instead.

> Knuth, Donald E. (1984–1986). *Computers & Typesetting*. 5 vols. Reading, Mass.: Addison-Wesley, 1984–1986.
> Matuz, Roger, ed. (1990). *Contemporary Literary Criticism*. Vol. 61. Detroit: Gale, 1990, pp. 204–208.

edition   A bibliography macro to print the edition field, this avoids a direct \printfield{edition} in the bibliography drivers. This bibliography macro is particularly useful to suppress the edition field in its standard position to print it elsewhere without having to use \clearfield, \savefield and \restorefield.

> **Example use of the edition bibmacro for superscript edition before date**
>
> ```
> \renewbibmacro*{edition}{}
>
> \DeclareFieldFormat{superedition}{\textsuperscript{#1}}
> \newbibmacro*{superedition}{%
>   \iffieldnums{edition}
>     {\printfield[superedition]{edition}}
>     {\printfield{edition}%
>      \setunit{\addspace}}}
>
> \renewcommand*{\pubdatedelim}{\addspace}
> \renewcommand*{\locdatedelim}{\pubdatedelim}
> \renewbibmacro*{pubinstorg+location+date}[1]{%
>   \printlist{location}%
>   \iflistundef{#1}
>     {\setunit*{\locdatedelim}}
>     {\setunit*{\locpubdelim}}%
>   \printlist{#1}%
>   \setunit*{\pubdatedelim}%
>   \usebibmacro{superedition}%
>   \usebibmacro{date}%
>   \newunit}
> ```
>
> -
>
> Malinowski, Bronisław (1972). *Argonauts of the Western Pacific. An account of native enterprise and adventure in the Archipelagoes of Melanesian New Guinea*. London: Routledge and Kegan Paul [8]1972.

version   Similar to the edition bibliography macro, version prints the version field, this avoids a direct \printfield{version} in the bibliography drivers.

pagetotal   Similar to the edition bibliography macro, pagetotal prints the pagetotal field, this avoids a direct \printfield{pagetotal} in the bibliography drivers.

in:editor(+others)   The bibliography macro to print the editor before the booktitle for @inbook, @incollection and @inproceedings when innamebeforetitle is set to true. The \printname uses the name format ineditor.

language   A bibliography macro to print the language field, this avoids a direct \printlist{language} in the bibliography drivers.

note   A bibliography macro to print the note field, this avoids a direct \printfield{note} in the bibliography drivers.

pubinstorg+location+date   A general-purpose bibliography macro to catch publisher+location+date, institution+location+date and organization+location+date. This bibliography macro has one mandatory argument: the name of a list field, sensible values are publisher, institution and organization. By default the macro is defined and used as follows.

```
\newbibmacro*{pubinstorg+location+date}[1]{%
  \printlist{location}%
  \iflistundef{#1}
    {\setunit*{\locdatedelim}}
    {\setunit*{\locpubdelim}}%
  \printlist{#1}%
  \setunit*{\pubdatedelim}%
  \usebibmacro{date}%
  \newunit}

\renewbibmacro*{publisher+location+date}{%
  \usebibmacro{pubinstorg+location+date}{publisher}}

\renewbibmacro*{institution+location+date}{%
  \usebibmacro{pubinstorg+location+date}{institution}}

\renewbibmacro*{organization+location+date}{%
  \usebibmacro{pubinstorg+location+date}{organization}}
```

An example use of pubinstorg+location+date is shown in the description
of \publocdelim.

type+number   A bibliography macro to print the type and number fields.

6 Tabular Bibliographies

An experimental addition to this bundle is the package `biblatex-ext-tabular` which allows you to typeset tabular (two-column) bibliographies. The package must be loaded after `biblatex` and has no further options.

```
\usepackage[⟨options⟩]{biblatex}
...
\usepackage{biblatex-ext-tabular}
```

If it turns out that the tabular bibliography package is useful on its own, it may be split off from the rest of this bundle in the future. In that case the name `biblatex-ext-tabular` may be deprecated in favour of something more snappy. The old name should then continue to work, but you may have to install a new package to be able to use it.

The package `biblatex-ext-tabular` can be used independently of the styles provided in this bundle. But no matter what style you use, you will probably have to apply some tweaks here and there to make the output look acceptable.

The code for the tabular bibliographies is based on Audrey's[23] answer to a question[24] on TeX – LaTeX Stack Exchange. The code has been modernised to keep in sync with changes to internal macros and modified to allow for slightly more flexible setups, so any bugs you find are mine and not Audrey's. Please report them via the channels mentioned above in section 1.6.

Before tabular bibliographies can be used, a suitable definition must be supplied with `\defbibtabular`.

`\printbibtabular`[⟨*key=value, …*⟩]

This commands prints a tabular bibliography. It accepts the same options as `\printbiblio-graphy`, but note that env must be a tabular bibliography declared with `\defbibtabular`. The default value for env is `bibtabular`.

> Note that there is no default definition for the `bibtabular` environment, so you must define it with `\defbibtabular` before use. An error will be issued if you fail to provide a definition for `bibtabular` before you use `\printbibtabular` with the default env value and no bibliography will be printed.

`\defbibtabular`{⟨*name*⟩}{⟨*begin code*⟩}{⟨*end code*⟩}{⟨*row code*⟩}

This command defines a tabular bibliography. The ⟨*name*⟩ is an identifier passed to the env option of `\printbibtabular` when selecting the environment. The ⟨*begin code*⟩ is LaTeX code to be executed at the beginning of the environment, usually it will begin a tabular

---

[23] https://tex.stackexchange.com/users/4483/audrey
[24] https://tex.stackexchange.com/q/71088/35864

environment. The ⟨*end code*⟩ is executed at the end of the environment and would usually end the tabular environment. The ⟨*row code*⟩ holds the code for one row in the tabular bibliography, it should have no more columns than ordered in ⟨*begin code*⟩ and should end with \\.

> Please keep in mind that the tabular bibliography is subject to all limitations of the particular tabular environment you decide to use.

Within the ⟨*row code*⟩ argument the following macros are defined and can be used to typeset the result of bibliography macros. Each cell should normally be wrapped into exactly one of the following macros since they are responsible for providing the necessary entry data to the bibliography macros.

\plain{⟨*code*⟩}

Typesets ⟨*code*⟩ with the entry data of the current entry.

\plainlang{⟨*code*⟩}

Like \plain, but typesets ⟨*code*⟩ in the language of the current item if the language switching options are enabled.

\anchor{⟨*code*⟩}

Like \plain, but additionally sets a link anchor for the current entry. That link anchor is used when a citation links to the bibliography entry. There should only be one \anchor or \anchorlang per entry (and hence per row), and for proper linking there should be at least one. Usually \anchor or \anchorlang is the first cell in a row.

\anchorlang{⟨*code*⟩}

Like \anchor, but in the entry language like \plainlang.

\driver{⟨*precode*⟩}

Typesets the bibliography entry using the correct driver. This always uses the entry language if language switching is enabled. The ⟨*precode*⟩ argument can be used to execute code before the driver is executed. Usually \driver would be issued in the last (and widest) cell in a row, duplicate information can be cleaned up with help of the ⟨*precode*⟩ argument.

Recall that standard tabular can't break across pages, so you may want to give longtable a try. Additionally, the standard column specifiers l, r and c define flexible-sized columns which might not be appropriate here; p defines fixed-width columns but imposes justification, which does not look good if the columns are too narrow. You may want to look into fixed-width flush-left or flush-right columns[25].

---

[25] https://tex.stackexchange.com/q/12703/35864

The package also defines two helpful bibliography macros.

tabular:sortname   Prints the labelname/sortname.

tabular:omitsortname   Suppresses the labelname/sortname in the current group.

> These two bibliography macros have a fairly basic definition that should make them compatible with most styles (not only `biblatex-ext` or standard styles). Consequently, they may not be able to support all advanced features of the style you are using.
>
> If you are missing anything, you will have to write versions of those macros that are tailored to the specific style you are loading and the features you want to use.

For the common case of two-column tabular bibliographies there is a thin wrapper around `\defbibtabular` that might turn out a bit easier to use.

`\defbibtabulartwocolumn{⟨name⟩}{⟨begin code⟩}{⟨end code⟩}{⟨anchor code⟩}{⟨driver precode⟩}`

This defines a two-column tabular bibliography environment with ⟨*name*⟩, ⟨*begin code*⟩ and ⟨*end code*⟩ as for `\defbibtabular`.

The first column is an `\anchorlang` column that executes ⟨*anchor code*⟩, the second column executes a pre-code and the bibliography driver.

```
\defbibtabulartwocolumn{⟨name⟩}
  {⟨begin code⟩}{⟨end code⟩}
  {⟨anchor code⟩}{⟨driver precode⟩}
```

is equivalent to

```
\defbibtabular{⟨name⟩}
  {⟨begin code⟩}{⟨end code⟩}
  {\anchorlang{⟨anchor code⟩} & \driver{⟨driver precode⟩} \\}
```

An annotated example document with a simple tabular bibliography can be found on the following pages.

Example document with tabular bibliography

```latex
\documentclass[british]{article}
\usepackage{babel}
\usepackage{csquotes}

\usepackage[backend=biber, style=ext-authoryear]{biblatex}
\usepackage{biblatex-ext-tabular}

\usepackage{longtable}
\usepackage{array}
\newcolumntype{L}[1]{%
  >{\raggedright\let\newline\\\arraybackslash\hspace{0pt}}p{#1}}

\defbibtabular{bibtabular}
  {\setlength{\LTpre}{0pt}%
   \setlength{\LTpost}{0pt}%
   \renewcommand*{\arraystretch}{2}%
   \begin{longtable}{%
     @{}
     L{\dimexpr0.3\textwidth-\tabcolsep\relax}
     L{\dimexpr0.7\textwidth-\tabcolsep\relax}
     @{}}}
  {\end{longtable}}
  {\anchorlang{\usebibmacro{tabular:sortname}} &
   \driver{\usebibmacro{tabular:omitsortname}} \\}

\addbibresource{biblatex-examples.bib}

\begin{document}
Lorem \autocite{sigfridsson,nussbaum}
ipsum \autocite{geer}.

\printbibtabular
\end{document}
```

Load biblatex as usual, then load `biblatex-ext-tabular`

Set up enhanced table support as desired

Set up a tabular bibliography with `\defbibtabular`

Print bibliography table with `\printbibtabular`

Geer, Ingrid de	*Earl, Saint, Bishop, Skald – and Music* (1985). 'The Orkney Earldom of the Twelfth Century. A Musicological Study'. PhD thesis. Uppsala: Uppsala Universitet.
Nussbaum, Martha	*Aristotle's 'De Motu Animalium'* (1978). Princeton: Princeton University Press.

<table>
<tr>
<td>Sigfridsson, Emma and Ulf Ryde</td>
<td>Comparison of methods for deriving atomic charges from the electrostatic potential and moments (1998). In: Journal of Computational Chemistry 19.4, pp. 377–395. DOI: <code>10.1002/(SICI)1096-987X(199803)19:4<377::AID-JCC1>3.0.CO;2-P</code>.</td>
</tr>
</table>

This defines a two-column bibliography where the first column shows the primary name associated with the work (the labelname/sortname) and the second colum shows the bibliography data with the primary name suppressed to avoid duplication. The anchor is set to the first column, so that a viewer jumps there if a link to the entry is followed.

Using \defbibtabulartwocolumn the example from above could be written as

```
\documentclass[british]{article}
\usepackage{babel}
\usepackage{csquotes}

\usepackage[backend=biber, style=ext-authoryear]{biblatex}
\usepackage{biblatex-ext-tabular}

\usepackage{longtable}
\usepackage{array}
\newcolumntype{L}[1]{%
  >{\raggedright\let\newline\\\arraybackslash\hspace{0pt}}p{#1}}

\defbibtabulartwocolumn{bibtabular}
  {\setlength{\LTpre}{0pt}%
   \setlength{\LTpost}{0pt}%
   \renewcommand*{\arraystretch}{2}%
   \begin{longtable}{%
     @{}
     L{\dimexpr0.3\textwidth-\tabcolsep\relax}
     L{\dimexpr0.7\textwidth-\tabcolsep\relax}
     @{}}}
  {\end{longtable}}
  {\usebibmacro{tabular:sortname}}
  {\usebibmacro{tabular:omitsortname}}

\addbibresource{biblatex-examples.bib}

\begin{document}
Lorem \autocite{sigfridsson,nussbaum}
ipsum \autocite{geer}.

\printbibtabular
```

```
\end{document}
```

```
\end{document}
```

7 Open Access Symbols

The package `biblatex-ext-oa` was inspired by a question[26] by pluton[27] on TeX.SX about promoting open access works by adding a small open access symbol into the margin.

The package must be loaded after `biblatex`. It is not tied to use with styles of this bundle, though it cannot be guaranteed that everything will work out of the box with all other styles. The package works as expected with the standard styles and should work with most contributed styles at least to some extent. For the actual typesetting of the symbol `biblatex-ext-oa` patches the bibliography macro `begentry` to include a call to the bibliography macro `oamark`.

```
\usepackage[⟨biblatex options⟩]{biblatex}
...
\usepackage[⟨biblatex-ext-oa options⟩]{biblatex-ext-oa}
```

The package may load the support packages `biblatex-ext-oa-doiapi`, `biblatex-ext-oasymb-pict2e`, `biblatex-ext-oasymb-l3draw` and `biblatex-ext-oasymb-tikz`. The preferred way to use those packages is to have them loaded automatically via `biblatex-ext-oa`'s package options. It should usually not be necessary to load any of these support packages directly with `\usepackage`, but it is possible to use them as stand-alone packages should the need arise in other situations.

> Note that the macro `\oasymbol` must be defined and should contain an open access symbol that can be printed in the margin for the package `biblatex-ext-oa` to work properly. The package `biblatex-ext-oa` itself does not provide a definition for `\oasymbol` if the option `symbolpackage` is not used. So you should either set that option or define command `\oasymbol` yourself.

The package `biblatex-ext-oa` provides the following load-time options.

`enable`=`true`, `false` default: `true`

This option controls whether the package is only loaded (`false`) or loaded and active (`true`).

'Active' means that the initial state of the global bibliography option `openaccess` is `auto` and that useful default settings are applied for semi-automatic open access detection. These useful defaults include patches of the bibmacro `begentry` and, if `doiapi` is enabled, also `doi+eprint+url`.

If the package is loaded with `enable` set to `false` the global bibliography option `openaccess` will be set to `false` and no sensible defaults are defined for the semi-automatic open access detection.

---

[26]https://tex.stackexchange.com/q/459449/35864
[27]https://tex.stackexchange.com/users/371/pluton

`symbolpackage`=false, pict2e, l3draw, tikz   default: `false`

Load one of the available open access symbol support packages.

`false`   Don't load any symbol package.

> ⚠ Since `biblatex-ext-oa` does not provide a default definition for `\oasymbol`, you will have to make sure to define that command yourself if you don't load any of the symbol packages.

`pict2e`   Load `biblatex-ext-oasymb-pict2e` to provide a definition for `\oasymbol` drawn in `pict2e`. See sections 7.3 and 7.3.1.

`l3draw`   Load `biblatex-ext-oasymb-l3draw` to provide a definition for `\oasymbol` drawn in `l3draw`. See sections 7.3 and 7.3.3.

> ⚡ Please keep in mind that `l3draw` is still considered experimental.

`tikz`   Load `biblatex-ext-oasymb-tikz` to provide a definition for `\oasymbol` that is drawn with PGF/Ti*k*Z. See sections 7.3 and 7.3.2.

> ⚡ The package `biblatex-ext-oasymb-tikz` will load PGF/Ti*k*Z.

`symbol`=⟨*symbol*⟩

Set `\oasymbol` to output the symbol identified as ⟨*symbol*⟩. This option is passed on to the ⟨*symbolpackage*⟩ selected with the `symbolpackage` option. Possible values can be found in the respective subsections of section 7.3.

> ⚠ Note that this option is only available if the option `symbolpackage` has been set to a valid value different from `false` or one of the open access symbol packages has been loaded manually (the latter is usually not recommended, the option `symbolpackage` is the preferred way to load those packages).

`doiapi`=true, false   default: `false`

Whether or not to load the support package `biblatex-ext-oa-doiapi` that provides a Lua module to query open access information from Unpaywall[28] via the DOI of an entry.

> ⚠ The package `biblatex-ext-oa-doiapi` and thus this option can only be used with LuaLaTeX.

---
[28] https://unpaywall.org/

The following macros in `biblatex-ext-oa` are also of interest.

`\LoadOASymbolPackage`[⟨*symbol*⟩]{⟨*package*⟩}

This command provides an alternative to `symbolpackage` for loading a symbol package. The mandatory argument ⟨*package*⟩ can take the same values as the `symbolpackage` option. The optional argument ⟨*symbol*⟩ has the same meaning as the possible values for the `symbol` package option.

The command can only be used in the preamble. It may only be used once and only if none of the symbol packages have been loaded either explicitly or via the `symbolpackage` option.

This command is related to `\DefineOASymbol` (see section 7.3).

`\oasymbol` This commands holds the little symbol that is going to be printed in the margin to mark open access publications.

This command is initially undefined and must be defined for the package to work. One way of giving this command a useful definition is via the `symbolpackage` option of `biblatex-ext-oa`.

An entry will be marked as open access if it has a 'best open access URL'. This best open access URL will be determined according to the rules set out by the `openaccess` bibliography option (see section 7.1) in the `\AtDataInput` hook, it is stored in the newly defined field `bestoaurl`.

`bestoaurl` field (literal)

This field holds the 'best open access URL' as determined by the open access detection outlined in section 7.1.

Note that this field need not hold the URL in expanded form.

Depending on the load-time options the package may define the following two bibliography macros.

`oamark` Prints the open access symbol if a best open access URL is available. This bibliography macro is available if the package is loaded with `enable` set to `true`

`api:bestoaurl` Display the best open access URL according to the Unpaywall API. The URL is not shown if it coincides with the DOI, the check for that is performed by `\OpenaccessURLisDOI` (see section 7.2). This macro is only available if both the `enable` and the `doiapi` options are set to `true`.

This macro is useful in connection with the Unpaywall API since the best open access URL may not be amongst the fields that are already displayed in the entry.

> With `enable` set to `true` the package will furthermore patch the bibliography macro `begentry` to execute the bibliography macro `oamark`. If additionally `doiapi` is `true`, the bibliography macro `doi+eprint+url` will be patched to include a call to `api:bestoaurl`. Please keep that in mind should you need to redefine `begentry` or `doi+eprint+url`.

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7.1 Open access detection

The heart of the package `biblatex-ext-oa` is the bibliography option `openaccess`, which can be set globally, per type or per entry.

A longer example document exploring various aspects of open access detection can be found at `https://github.com/moewew/biblatex-ext/blob/release/oaslinks.tex`.

`openaccess`=auto, doiapi, forcedoiapi, true, false, none,   default: auto (none)
⟨*open access field*⟩

This option controls how the best open access URL is detected. The initial value is `auto` unless the package is loaded with the `enable` option set to `false` in which case the initial value changes to `none`.

All of the following values are valid at all three levels (global, per-type and per-entry), but not all options may be useful at all available levels.

`auto`	Use a semi-automatic heuristic to find the best open access URL.
`all`	Assume that all known 'open access fields' contain an open access URL.
	Note that an entry still needs at least one field that open access field for the open access symbol to show up.
`none`	Assume that no known 'open access field' contains an open access URL.
	The value `none` may be used to disable the `openaccess` feature.
`doiapi`	Use API queries from the `biblatex-ext-oa-doiapi` package to determine the best open access link from the DOI.

> This option requires that the `doiapi` package option be set to `true` and only works with LuaLaTeX. Furthermore it needs a DOI in the `doi` field. If the `doi` field is empty, this option falls back to `auto`.

`onlydoiapi`	Like `doiapi`, but does not fall back to `auto` in case no DOI is present.
`forcedoiapi`	Like `doiapi`, but overrides more specific option levels that would say otherwise.
	By default more specific options take precedence over more general options, that means that a per-entry option trumps a per-type option, which in turn overrides the global setting. If `forcedoiapi` is set it will prevail over more specific options that would say otherwise. A common use case is to override per-entry options with a global `forcedoiapi`.
`forceonlydoiapi`	A combination of `onlydoiapi` and `forcedoiapi`. This options overrides all more specific values and does not fall back to `auto` in case the DOI is not given.
`true`	An alias for `all`.
`false`	An alias for `none`.

⟨*open access field*⟩   Specifies that the open access version is given by ⟨*open access field*⟩. This value would normally be used only on a per-entry level.

Any field for which `\DeclareOpenAccessFieldUrl` has declared a URL specification is a valid 'open access field'.

The heuristics to find the best open access link are governed by the following commands and rely on information present in the `.bib` file (ideally in field annotations).

`\DeclareOpenAccessFieldUrl[`⟨*openness*⟩`]{`⟨*field*⟩`}{`⟨*url spec*⟩`}`

Declares ⟨*field*⟩ to be an 'open access field'. The code for ⟨*url spec*⟩ should expand to the full URL under which the entry can be accessed. The optional ⟨*openness*⟩ argument indicates whether the URL will always be open access (`always`) or whether it is only open access under certain conditions (`conditional`); if it is not present `conditional` is assumed.

If the package is loaded with `enable` set to `true`, the following declarations are active.

```
\DeclareOpenAccessFieldUrl{url}{\thefield{url}}
\DeclareOpenAccessFieldUrl{doi}{https://doi.org/\thefield{doi}}
```

`\UndeclareOpenAccessFieldUrl{`⟨*field*⟩`}`

Disable ⟨*field*⟩ as 'open access field' and remove its mapping to a URL.

`\DeclareOpenAccessEprintUrl[`⟨*openness*⟩`]{`⟨*eprinttype*⟩`}{`⟨*url spec*⟩`}`

Declares the `eprinttype` ⟨*eprinttype*⟩ to be an 'open access eprint type'. The code for ⟨*url spec*⟩ should expand to the full URL under which the entry can be accessed.

The optional ⟨*openness*⟩ argument indicates whether the URL will always be open access (`always`) or whether it is only open access under certain conditions (`conditional`); if it is not present `conditional` is assumed.

The `always` decision can be overridden on a per-entry basis by giving the field annotation `closedaccess`. If a field has openness `conditional` it is only considered for a particular entry if the field annotation `openaccess` is set.

If the package is loaded with `enable` set to `true`, the following declarations are active.

```
\DeclareOpenAccessEprintUrl{jstor}{%
  http://www.jstor.org/stable/\thefield{eprint}}
\DeclareOpenAccessEprintUrl{hdl}{%
  http://hdl.handle.net/\thefield{eprint}}
\DeclareOpenAccessEprintUrl{pubmed}{%
  http://www.ncbi.nlm.nih.gov/pubmed/\thefield{eprint}}
\DeclareOpenAccessEprintUrl[always]{arxiv}{%
  https://arxiv.org/\abx@arxivpath/\thefield{eprint}}
```

Since articles on the arXiv are always open access, the declaration for `arxiv` features the optional ⟨*openness*⟩ argument `always`.

`\DeclareOpenAccessEprintAlias{⟨alias⟩}{⟨eprinttype⟩}`

Handle the open access URL detection for ⟨*alias*⟩ exactly as that for ⟨*eprinttype*⟩.

If the package is loaded with `enable` set to `true`, the following declarations are active.

```
\DeclareOpenAccessEprintAlias{JSTOR}{jstor}
\DeclareOpenAccessEprintAlias{HDL}{hdl}
\DeclareOpenAccessEprintAlias{PubMed}{pubmed}
\DeclareOpenAccessEprintAlias{arXiv}{arxiv}
```

`\UndeclareOpenAccessEprintUrl{⟨eprinttype⟩}`

Disable ⟨*eprinttype*⟩ as 'open access eprint type' and remove its mapping to a URL.

`\DeclareOpenAccessUrlFieldPriority{⟨fields⟩}`

Define the priority order of 'open access fields' if several fields contain valid open access URLs. The fields processed in the given order and the last field prevails, meaning that fields later in the list have higher priority.

The default definition if the package is active is

```
\DeclareOpenAccessUrlFieldPriority{url,eprint,doi}
```

which means that the DOI is given preference over eprints, which in turn prevail over the `url` field.

The `auto` detection works as follows.

- The best known open access URL is cleared.

- For each non-empty field listed in `\DeclareOpenAccessUrlFieldPriority` the URL specification is obtained.
    - If the field has ⟨*openness*⟩ `always`, the best known open access URL is updated with the new value, unless the field has been explicitly marked as closed acces with the field annotation `closedaccess`.
    - If the field has ⟨*openness*⟩ `conditional`, the best known open access URL is updated with the new value if the field has been marked with the field annotation `openaccess`.

For `auto`-detection, an open access article with DOI would ideally use the field annotation `openaccess` (`{doi+an = {=openaccess},}`).

```
@article{cipriani,
  author  = {Cipriani, Alessandra and Hazra, Rajat Subhra
             and Ruszel, Wioletta M.},
  title   = {Scaling limit of the odometer in divisible sandpiles},
  journal = {Probability Theory and Related Fields},
  date    = {2018},
  volume  = {172},
  number  = {3},
  pages   = {829--868},
  doi     = {10.1007/s00440-017-0821-x},
  doi+an  = {=openaccess},
}
```

Preprints on the arXiv, on the other hand, need no field annotation, because they are always open access.

```
@online{meckes,
  author     = {Elizabeth Meckes and Kathryn Stewart},
  title      = {On the eigenvalues of truncations
                 of random unitary matrices},
  eprinttype = {arxiv},
  eprint     = {1811.08340},
  eprintclass = {math.PR},
  date       = {2018-11-20}
}
```

Cipriani, Alessandra, Rajat Subhra Hazra and Wioletta M. Ruszel (2018). 'Scaling limit of the odometer in divisible sandpiles'. In: *Probability Theory and Related Fields* 172.3, pp. 829–868. DOI: 10.1007/s00440-017-0821-x.

Kastenholz, M. A. and Philippe H. Hünenberger (2006). 'Computation of methodology-independent ionic solvation free energies from molecular simulations. I. The electrostatic potential in molecular liquids'. In: *J. Chem. Phys.* 124, 124106. DOI: 10.1063/1.2172593.

Meckes, Elizabeth and Kathryn Stewart (20th Nov. 2018). *On the eigenvalues of truncations of random unitary matrices*. arXiv: 1811.08340 [math.PR].

Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395. DOI: 10.1002/(SICI)1096-987X(199803)19:4<377::AID-JCC1>3.0.CO;2-P.

If the openaccess option is set to one specific field only, only that field will be taken into consideration and it will be assumed that the field contains an open access link unless the field annotation closedaccess is set. In particular the ⟨*openness*⟩ of each field does not play a role.

7.2 Open access detection with the Unpaywall API

Inspired by Eric Marsden's[29] answer to the open access symbol question on TeX.SX, the package `biblatex-ext-oa-doiapi`, which can be loaded via the `doiapi` option of `biblatex-ext-oa`, provides means to automatically find the best open access link to a given article via its DOI by querying the Unpaywall API[30].

> This package can only be used with LuaLATEX and needs online access. Furthermore the Unpaywall API requires an email address and asks to limit requests to 100,000 calls per day[a].
>
> ---
> [a]https://unpaywall.org/products/api

To avoid too many calls to the API, the package caches its information in the temporary `.oai` file. It is safe to delete that file at any point, but if you do so the next LuaLATEX run may take a while, because all information has to be retrieved from the APIs. To avoid old information sticking around for too long you can set a cache expiration period.

`\SetDOIAPIMail{⟨email⟩}`

Define the email address that is going to be used for API queries that require an email.

> There is no predefined default email address. If the package is loaded and no email was provided until the beginning of the document (as tested in an `\AtEndPreamble` hook) you will receive a warning. A fatal error will be thrown if you try to query the Unpaywall database without an email address.

`\SetDOIAPICacheExpiration{⟨days⟩}`

Set the expiration period for the cache. If the information for an entry in the cache is older than ⟨days⟩ days it will be queried again. The default expiration period is seven days.

`\IsOpenaccess{⟨DOI⟩}{⟨true⟩}{⟨false⟩}`

Expands to ⟨true⟩ if the DOI is an open access work according to the Unpaywall database and to ⟨false⟩ otherwise.

`\GetOpenaccessURLWrapped{⟨DOI⟩}`

Obtain the best open access URL as returned by the Unpaywall API wrapped in the `\url` macro.

---

[29]https://tex.stackexchange.com/users/29621/eric-marsden
[30]https://unpaywall.org/

`\OpenaccessURLisDOI{⟨DOI⟩}{⟨true⟩}{⟨false⟩}`

Expands to ⟨*true*⟩ if the best open access URL as returned by the Unpaywall API is the DOI and to ⟨*false*⟩ otherwise.

7.3   Open access symbols

Currently, this bundle offers three methods of drawing the open access symbols. Each method is packed up in a little sub-package, end users are not expected to load these packages manually, instead they should use the option `symbolpackage` of `biblatex-ext-oa`.

The package `biblatex-ext-oasymb-pict2e` draws the symbols using `pict2e`'s picture environment. The package `biblatex-ext-oasymb-tikz` uses PGF/Ti*k*Z's `tikzpicture`. The package `biblatex-ext-oasymb-l3draw` finally uses LaTeX3's `l3draw` package. The main purpose of these packages is to define the macro `\oasymbol` for use with `biblatex-ext-oa`.

All packages define a similar set of macros, so they are not indended to be loaded together. If used as stand-alone packages, all packages only have one option.

`symbol`=plos, oanet   default: plos

This options determines which of the two available symbols is going to be used for `\oasymbol`.

The possible values are

plos   Use the open access symbol by PLOS | Public Library of Science[31] .

              The drawing is based on a CC0[32] work by PLoS (now PLOS | Public Library of Science), modified by Wikipedia users Nina, Beao, and JakobVoss[33].

oanet   Use the open access symbol by open-access.net[34] .

              The drawing is based on the logo uploaded to Wikimedia[35] and originally from open-access.net[36]. Wikimedia claims the content does not meet the threshold of originality for copyright protection. Even if that is not the case, the legal notices on open-access.net[37] place all contents under a Creative Commons 4.0 Attribution International (CC BY 4.0) Licence[38] unless stated otherwise. The logo designer is listed as *Medien + Design, Center für Digitale Systeme, Kompetenzzentrum e-Learning / Multimedia, Freie Universität Berlin*.

              There is no implication that the open-access.net logo is not covered by the CC BY 4.0 terms. Indeed, the German 'about us' page explicitly states 'Das Logo der Informationsplattform darf nachgenutzt werden, gerne mit

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[31]https://www.plos.org/
[32]https://creativecommons.org/publicdomain/zero/1.0/deed.en
[33]https://commons.wikimedia.org/wiki/File:Open_Access_logo_PLoS_white.svg
[34]https://open-access.net/
[35]https://commons.wikimedia.org/wiki/File:Open_access.svg
[36]https://open-access.net/fileadmin/logos/oa.svg
[37]https://open-access.net/impressum
[38]https://creativecommons.org/licenses/by/4.0/

einem Link zu open-access.net.'[39] The English version has 'The logo of the information platform may be reused with a link to open-access.net'[40]. While the German version leaves some leeway as to whether or not a link is required as attribution, the English version seems more explicit.

That means that if you do not follow Wikimedia in considering the symbol not protected by copyright in your – and all other relevant jurisdictions – due to its failure to cross the threshold of originality, you should probably treat it as CC BY 4.0 and treat the link to `https://open-access.net` as attribution requested by the Licensor according to Section 3(a)(1)(A) of the license. If you can't reasonably meet the requirements of the license in your work, you may want to consider using the PLOS logo, which is licensed under CC0.

Apart from `\oasymbol` the packages only define one other user-level command.

`\DefineOASymbol[`⟨*symbol*⟩`]`

This command redefines `\oasymbol` to point to a different version of the symbol. The possible values for the ⟨*symbol*⟩ argument are the values of the `symbol` option.

7.3.1 Open access symbols with pict2e

The main purpose of the package `biblatex-ext-oasymb-pict2e` is to define the command `\oasymbol`. As mentioned above, usually this package is not going to be loaded as a stand-alone package, instead it is loaded via `biblatex-ext-oa`.

The package requires and loads the packages `pict2e`[41] by Hubert Gäßlein, Rolf Niepraschk and Josef Tkadlec as well as `xcolor`[42] by Uwe Kern.

If used as a stand-alone package, `biblatex-ext-oasymb-pict2e` has one load-time option, namely `symbol`, and defines one command besides `\oasymbol`, namely `\DefineOASymbol`. The option determines whether `\oasymbol` is defined to display the PLOS symbol (⛛) or the open-access.net symbol (⬯). The command `\DefineOASymbol` can be used to change the definition of `\oasymbol` on the fly.

7.3.2 Open access symbols with Ti*k*Z

The main purpose of the package `biblatex-ext-oasymb-tikz` is to define the command `\oasymbol`. As mentioned above, usually this package is not going to be loaded as a stand-alone package, instead it is loaded via `biblatex-ext-oa`.

This package requires and loads the package `tikz`[43] by Till Tantau as well as all its dependencies.

If used as a stand-alone package, `biblatex-ext-oasymb-tikz` has one load-time option, namely `symbol`, and defines one command besides `\oasymbol`, namely `\DefineOASymbol`.

---

[39]`https://open-access.net/ueber-uns/`
[40]`https://open-access.net/en/about-us/`
[41]`https://ctan.org/pkg/pict2e`
[42]`https://ctan.org/pkg/xcolor`
[43]`https://ctan.org/pkg/pgf`

The option determines whether \oasymbol is defined to display the PLOS symbol (⊙) or the open-access.net symbol (⊙). The command `\DefineOASymbol` can be used to change the definition of \oasymbol on the fly.

This package used to be called `biblatex-ext-oa-tikzsymbols`, for consistency reasons it has been renamed to `biblatex-ext-oasymb-tikz`.

The command \DefineTikZOASymbol has been renamed to the more generic `\DefineOA-Symbol`. Backwards compatibility code for that change is in place.

7.3.3 Open access symbols with `l3draw`

The main purpose of the package `biblatex-ext-oasymb-l3draw` is to define the command `\oasymbol`. As mentioned above, usually this package is not going to be loaded as a stand-alone package, instead it is loaded via `biblatex-ext-oa`.

This package requires and loads the full force of LaTeX3. Aside from the main package `expl3`[44] it loads `xparse`[45], and `l3keys2e`[46]. Drawing is performed with the (still experimental) `l3draw`[47] packages. The code works best with version 2021-02-18 or above of `l3draw`.

If used as a stand-alone package, `biblatex-ext-oasymb-l3draw` has one load-time option, namely `symbol`, and defines one command besides `\oasymbol`, namely `\DefineOASymbol`. The option determines whether \oasymbol is defined to display the PLOS symbol (⊙) or the open-access.net symbol (⊙). The command `\DefineOASymbol` can be used to change the definition of \oasymbol on the fly.

---

[44]https://ctan.org/pkg/expl3

[45]https://ctan.org/pkg/xparse

[46]https://ctan.org/pkg/l3keys2e

[47]https://ctan.org/pkg/l3experimental

8 Revision History

The GitHub repository of this project uses release tags, so you can compare the changes in source code there.[48] See also CHANGES.md.

The numbers on the right indicate the relevant section of the manual.

0.17   2023-03-18

Synced \textcite implementation in some styles with biblatex 3.19 changes.

Synced \printbibtabular implementation with biblatex 3.19. 6

0.16   2022-06-18

Reworked citexref implementation 4

0.15   2022-03-06

New ext-authornumber-* style subfamily 3.2

0.14   2021-08-31

Use language bibmacro also in @dataset driver 5.4

Fixed inner cite delims for citexref/\bbx@xrefcite 4.1

0.13   2021-06-08

Fixed title formatting with related entries in authoryear style family

Added biblabeltitle and titlecase:biblabeltitle field formats 5.1

0.12b   2021-04-22

Fixed bug with refcontext assignment in \printbibtabular 6

0.12a   2021-04-20

Fixed bug with env option for \printbibtabular 6

0.12   2021-02-27

Added \UndeclareCiteDelims 5.3

Clarified innamebeforetitle documentation 4.1

0.11   2021-02-19

Synced with l3draw changes.

0.10   2021-01-01

Synced with biblatex 3.16 changes.

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[48]https://github.com/moewew/biblatex-ext/compare/

0.9 2020-08-21

Synced with `biblatex` 3.15 changes.

0.8g 2020-08-09

Synced `biblatex-ext-oasymb-l3draw` with 2020-08-07 `l3color`/`l3draw` changes.

0.8f 2020-05-09

Fixed inner cite delimiters for `\footcitetext` . . . .

0.8e 2020-05-05

Fixed `introcite` definition for ext-numeric-comp . . . .

Fixed issue with `labelprefix` in `\printbibtabular` . . . .

0.8d 2020-03-15

Fixed issue with `tabular:sortname` . . . .

0.8c 2019-11-30

Stopped querying `https://doi.org` API for DOI verification . . . .

0.8b 2019-11-01

Fixed bug in ext-verbose-trad2 . . . .

0.8a 2019-10-31

Fixed default value of `\servoldelim` . . . .

Fixed bug in ext-authoryear-tiecomp . . . .

0.8 2019-08-25

Added `\AtIntrocite` . . . .

Require biblatex v3.13 (2010/08/17) . . . .

0.7a 2019-04-04

Fixed bug in the env option of `\printbibtabular` . . . .

0.7 2019-02-08

Added outer citation delimiters for `\supercite` . . . .

Added `biblatex-ext-oasymb-pict2e` . . . .

Added `biblatex-ext-oasymb-l3draw` . . . .

Renamed biblatex-ext-oa-tikzsymbols to `biblatex-ext-oasymb-tikz` . . . . .

Deprecated option `tikzsymbol` of `biblatex-ext-oa` in favour of `symbolpackage` and
    `symbol` . . . .

Renamed and generalised \DefineTikZOASymbol to `\DefineOASymbol` . . . .

Renamed and generalised \LoadTikZOASymbol to `\LoadOASymbolPackage` . . . . .

0.6b   2019-01-11

Fixed issue loading `socket.url` module in `biblatex-ext-oa-doiapi`

0.6a   2019-01-04

Minor improvements for `biblatex-ext-oa`

0.6   2018-11-23

Require `biblatex` 3.12

Made `dashed` and `introcite` options available on a per-entry and per-type basis

Added `\titleaddonpunct`

Added `biblatex-ext-oa` package for open access detection and symbols

0.5a   2018-10-09

Fixed a bug with `\footcites` and `\footcitetexts` in `ext-authoryear`

0.5   2018-10-02

New `ext-authoryear-*ecomp` style subfamily

Added outer cite delimiters for `\footcite`

Added experimental tabular bibliography

0.4   2018-06-10

Renamed `\DeclareOuterCiteDelim` and friends to `\DeclareOuterCiteDelims`

Added `\RegisterCiteDelims`

Renamed 'virtual' cite command `\bbx:introcite` to `\bbx@introcite`

Renamed `citeinxref` to `citexref`

0.3   2018-06-04

Added `titlecase:...title` field formats

Added `bbx:introcite:plain:keeprelated` toggle

Added `\jourvoldelim`, `\jourserdelim` and `\servoldelim`

Improved documentation

0.2   2018-03-28

Rework lengths for `introcite`=`label`

Fixed meaning of `\maintitletitledelim`

Added `\voltitledelim`

0.1   2018-03-18

First public release

Example References

Cipriani, Alessandra, Rajat Subhra Hazra and Wioletta M. Ruszel (2018). 'Scaling limit of the odometer in divisible sandpiles'. In: *Probability Theory and Related Fields* 172.3, pp. 829–868. DOI: 10.1007/s00440-017-0821-x.

Coleridge, Samuel Taylor (1983). *The collected works of Samuel Taylor Coleridge*. Vol. 7.2: *Biographia literaria, or Biographical sketches of my literary life and opinions*. Ed. by Kathleen Coburn, James Engell and W. Jackson Bate. Bollingen Series 75. London: Routledge and Kegan Paul.

Computers and Graphics (2011) 35.4: *Semantic 3D Media and Content*. ISSN: 0097-8493.

Gaonkar, Dilip Parameshwar, ed. (2001a). *Alternative Modernities*. Durham and London: Duke University Press. ISBN: 0-822-32714-7.

– (2001b). 'On Alternative Modernities'. In: *Alternative Modernities*. Ed. by Dilip Parameshwar Gaonkar. Durham and London: Duke University Press, pp. 1–23. ISBN: 0-822-32714-7.

Geer, Ingrid de (1985). 'Earl, Saint, Bishop, Skald – and Music. The Orkney Earldom of the Twelfth Century. A Musicological Study'. PhD thesis. Uppsala: Uppsala Universitet.

Goossens, Michel, Frank Mittelbach and Alexander Samarin (1994). *The LaTeX Companion*. 1st ed. Reading, Mass.: Addison-Wesley. 528 pp.

Jaffé, Philipp, ed. (1885–1888). *Regesta Pontificum Romanorum ab condita ecclesia ad annum post Christum natum MCXCVIII*. Red. by Samuel Loewenfeld, Ferdinand Kaltenbrunner and Paul Ewald. 2nd ed. 2 vols. Leipzig.

Kastenholz, M. A. and Philippe H. Hünenberger (2006). 'Computation of methodology-independent ionic solvation free energies from molecular simulations. I. The electrostatic potential in molecular liquids'. In: *J. Chem. Phys.* 124, 124106. DOI: 10.1063/1.2172593.

Knuth, Donald E. (1984–1986). *Computers & Typesetting*. 5 vols. Reading, Mass.: Addison-Wesley.

– (1984). *Computers & Typesetting*. Vol. A: *The TEXbook*. Reading, Mass.: Addison-Wesley.

– (1986a). *Computers & Typesetting*. Vol. B: *TEX: The Program*. Reading, Mass.: Addison-Wesley.

Knuth, Donald E. (1986b). *Computers & Typesetting*. Vol. C: *The METAFONTbook*. Reading, Mass.: Addison-Wesley.

– (1986c). *Computers & Typesetting*. Vol. D: *METAFONT: The Program*. Reading, Mass.: Addison-Wesley.

Malinowski, Bronisław (1972). *Argonauts of the Western Pacific. An account of native enterprise and adventure in the Archipelagoes of Melanesian New Guinea*. 8th ed. London: Routledge and Kegan Paul.

Matuz, Roger, ed. (1990). *Contemporary Literary Criticism*. Vol. 61. Detroit: Gale, pp. 204–208.

Meckes, Elizabeth and Kathryn Stewart (20th Nov. 2018). *On the eigenvalues of* ᵿ *truncations of random unitary matrices*. arXiv: `1811.08340 [math.PR]`.

Moore, Gordon E. (1965). 'Cramming more components onto integrated circuits'. In: *Electronics* 38.8, pp. 114–117.

Nussbaum, Martha (1978). *Aristotle's 'De Motu Animalium'*. Princeton: Princeton University Press.

Pines, Shlomo (1979). 'The Limitations of Human Knowledge According to Al-Farabi, ibn Bajja, and Maimonides'. In: *Studies in Medieval Jewish History and Literature*. Ed. by Isadore Twersky. Cambridge, Mass.: Harvard University Press, pp. 82–109.

Reese, Trevor R. (1958). 'Georgia in Anglo-Spanish Diplomacy, 1736–1739'. In: *William and Mary Quarterly*. 3rd ser. 15, pp. 168–190.

Salam, Abdus (1968). 'Weak and Electromagnetic Interactions'. In: *Elementary particle theory. Relativistic groups and analyticity*. Proceedings of the Eighth Nobel Symposium (Aspenäsgarden, Lerum, 19th–25th May 1968). Ed. by Nils Svartholm. Stockholm: Almquist & Wiksell, pp. 367–377.

Shore, Bradd (Mar. 1991). 'Twice-Born, Once Conceived. Meaning Construction and Cultural Cognition'. In: *American Anthropologist*. New ser. 93.1, pp. 9–27.

Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4, pp. 377–395. DOI: `10.1002/(SICI)1096-987X(199803)19:4<377::AID-JCC1>3.0.CO;2-P`.

Vizedom, Monika B. and Gabrielle L. Caffee, trans. (1960). *The Rites of Passage*. University of Chicago Press. Trans. of Arnold van Gennep. *Les rites de passage*. Paris: Nourry, 1909.

Westfahl, Gary, ed. (2000a). *Space and Beyond. The Frontier Theme in Science Fiction*. Westport, Conn. and London: Greenwood.

– (2000b). 'The True Frontier. Confronting and Avoiding the Realities of Space in American Science Fiction Films'. In: *Space and Beyond. The Frontier Theme in Science Fiction*. Ed. by Gary Westfahl. Westport, Conn. and London: Greenwood, pp. 55–65.

Worman, Nancy (2002). *The Cast of Character. Style in Greek Literature*. Austin: University of Texas Press.

A Punctuation Commands in Use

The following example bibliography shows some common punctuation commands in use. Commands provided by standard `biblatex` are marked in *\italics*, new commands defined by `biblatex-ext` are in **\bold** and linked to their documentation.

> **Punctuation and delimiters (defined by *standard `biblatex`* and **`biblatex-ext`**)**
>
> *\nameyeardelim*   *\nametitledelim*
> Geer, Ingrid de (1985). 'Earl, Saint, Bishop, Skald – and Music. The Orkney Earldom of the Twelfth Century. A Musicological Study'. PhD thesis. Uppsala: Uppsala Universitet.
>
> *\multinamedelim*   *\finalnamdelim*
> Goossens, Michel, Frank Mittelbach and Alexander Samarin (1994). *The LaTeX Companion.* 1st ed. Reading, Mass.: Addison-Wesley, 1994. 528 pp.
>   **\locpubdelim**   **\pubdatedelim**
>
> Knuth, Donald E. (1984). *Computers & Typesetting.* Vol. A: *The T_EX book.* Reading, Mass.: Addison-Wesley, 1984.   **\voltitledelim**
>   **\maintitletitledelim**
>
> Moore, Gordon E. (1965). 'Cramming more components onto integrated circuits'. In: *Electronics* 38.8, pp. 114–117.   *\intitlepunct*
> *\bibpagespunct*   *\bibrangedash*
>
> Sigfridsson, Emma and Ulf Ryde (1998). 'Comparison of methods for deriving atomic charges from the electrostatic potential and moments'. In: *Journal of Computational Chemistry* 19.4 (1998), pp. 377–395.
>   **\jourvoldelim**   **\volnumdelim**
>
>   *\translatortypedelim*
> Vizedom, Monika B. and Gabrielle L. Cafee, trans. (1960). *The Rites of Passage.* University of Chicago Press. Trans. of Arnold van Gennep. *Les rites de passage.* Paris: Nourry, 1909.   *\begrelateddelim*
>
>   *\editortypedelim*
> Westfahl, Gary, ed. (2000a). *Space and Beyond. The Frontier Theme in Science Fiction.* Westport, Conn. and London: Greenwood, 2000.   *\newunitpunct*
>
>   *\bibnamedash*   *\subtitlepunct*
> — (2000b). 'The True Frontier. Confronting and Avoiding the Realities of Space in American Science Fiction Films'. In: *Space and Beyond. The Frontier Theme in Science Fiction.* Ed. by Gary Westfahl. Westport, Conn. and London: Greenwood, 2000, pp. 55–65.