A Master Bibliographic Style File
for numerical, author–year, multilingual applications

Patrick W. Daly

This paper describes file `merlin.mbs`, version 4.33 from 2011/11/18*

1 Introduction

A problem facing users of BibTeX is that there is no standard for formatting lists of references. Publishers and journals insist on completely arbitrary placement of commas, colons, and ordering of entries. Furthermore, author–year styles of citations are supported by certain special LaTeX packages, but each for only a very limited number of bibliographic styles. Finally, most such style files are for English only, and any adaptations to other languages must duplicate the entire spectrum of such files.

All of these obstacles are in principle easily overcome by simply reprogramming BibTeX by means of an appropriate *bibliographic style file* (extension `.bst`). BibTeX is in fact extremely flexible; unfortunately its programming language is very low-level, permitting only the most basic of hacks for the normal user.

The solution to this is a *generic* or *master bibliographic style file* (extension `.mbs`) containing docstrip options for alternative coding. By selecting the desired options, one can customize a `.bst` file to one's needs.

This file, `merlin.mbs`, is my latest version of a general-purpose `.mbs` file to meet as many bibliographic needs as possible. It was originally assembled from Oren Patashnik's standard files `plain.bst` and `unsrt.bst`, plus his non-standard file `apalike.bst`, a very basic author–year citation style. It has since evolved extensively as I have added features found in available `.bst` files, and those demanded by publishers or suggested to me by many user/contributors.

To produce a customized bibliographic style (`.bst`) file from this master file, simply TeX or LaTeX the 'program' `makebst.tex`. When asked for the name of the master file, answer with

```
merlin.mbs
```

and then reply to the questions in the following menus. The last question is whether you want to generate the `.bst` file right away.

*Work on `custom-bib` 4.00 was supported by the American Physical Society

More details on this process and on the options available are to be found in the rest of this article.

2 History of this File

Since the first release of this generic file, in November 1993, under the name `genbst.mbs`, I have received innumerable suggestions for additions, most of which I have tried to include. Often this has resulted in reorganizing the coding, and adding new functions. The resulting `.bst` files are now quite different from those of Patashnik, although the underlying ideas are the same.

A second version was released shortly afterwards that paralleled the first one except that it included support for languages other than English. That file was named `babel.mbs`, following the `babel` system of Johannes Braams. Although I always viewed it as version 2 of `genbst.mbs`, all additions to the one were also included in the other. This of course was tedious and prone to error. I looked forward to the day when `babel.mbs` would become the only supported version. The reason I was reluctant to do that before was that the overhead per language was fairly high, and I dreaded to think how large the file would become when 20 or 30 languages were added.

I then found a way to put the language definitions into separate files, one per language. This means that new languages do not burden the basic file, and that users need only keep those support files that might interest him or her. New ones may also be made up locally by hacking an existing language definition file. (The file `english.mbs` is supplied only for this purpose.)

For this reason, `merlin.mbs` was released as version 3 of `genbst.mbs` and `babel.mbs`. In spite of the new name, it should be regarded as their direct successor. Needless to say, this means that the earlier two `.mbs` files will no longer be maintained.

To include language support, all explicit English words like *editor* and *chapter* have been replaced by functions whose definitions may be altered in the resulting `.bst` file (less desirable method) or which may be redefined by an external language definition file (preferred method). Alternatively, one can select the pseudo-language named `babel` which inserts LaTeX commands for the explicit words, the definitions of which must be contained in a file called `babelbst.tex`. Only the languages English and `babel` are included internally to `merlin.mbs`; all others are contained in external language definition files.

Another new feature is the possibility of including a file containing prestored shorthand designations for certain journal names. Such a file is provided for physics journals, but others could be made up using this one as a model. See Section 5.

To take advantage of these external files, one must use `makebst` version 3; `merlin.mbs` may still be used with earlier versions, but without the external files.

Version 4 arose out of a project by David Carlisle who created a variant of `merlin.mbs` for REVTeX and the American Physical Society with the help of Mark Doyle of the APS. The main purpose was to add extra fields (see page 47) that were needed. Subsequently Arthur Ogawa revised the code considerably, making it more rational, fixing some bugs and adding some extra features.

I was then asked to incorporate all these changes into the official version of `merlin.mbs`. This required much debugging, since the Ogawa's rationalization upset several of the delicate interplays between various options. The result is version 4.0, the work on which has been supported by the American Physical Society.

Version 4.0 contains the REVTEX extra fields and the Carlisle-Doyle-Ogawa rewrites. An additional feature that derived from Carlisle's work on REVTEX is the tagging of the text entries in the bibliography. This means the volume number is given as `\bibinfo{volume}{5}`. Normally only the number 5 is printed, but another program could use this to reconstruct the original database entries.

Arthur Ogawa also added some features to `makebst` to provide a more verbose protocol. As a result, version 4 of `merlin.mbs` can only be used with version 4 of `makebst`. Older versions of `merlin.mbs` will still function with the newer `makebst`. Also, `.dbj` files created with older versions should still produce the same results with `merlin.mbs` 4.

This file is now named after the legendary magician in the hope that it can produce wonders by incanting the right magic formulas. However, one should bear in mind that even Merlin was not omnipotent. It would be too much to hope that all bibliographic wishes will be fulfilled quickly and easily, but we shall try as best we can. Watch the wizardry at work!

3 About Master Bibliographic Style Files

For details about how master bibliography style files are to be constructed, see the documentation on `makebst`. Here only a rough overview is given.

3.1 The docstrip Program

The docstrip program, written by Frank Mittelbach, is now a fundamental part of the LaTeX 2ε installation. Its original purpose is to remove comment lines from documented files, but has the secondary function of selecting alternative lines of coding.

A master BibTeX bibliographic style file is one that, when processed by docstrip with selected options, produces a regular BibTeX `.bst` file with the desired features.

In this sense, docstrip functions something like a C preprocessor. In fact, Oren Patashnik's original `.bst` files were all produced from a single source file by means of the preprocessor. The advantage of docstrip is that it is portable to all installations with TeX.

3.2 The docstrip Batch Job

The docstrip program can be run either interactively, where the user must answer questions via the keyboard, or by means of a batch job where all the inputs are prepared in a file beforehand. For producing a BibTeX style file from a master file, the batch job method is the only feasible one, simply because of the large number of options available. (There is another reason for employing a batch job: the interactive method adds an `\endinput` command at the end, something that BibTeX will protest about.)

The batch job files in general do not have any particular extension but I use `.dbj` for *docstrip batch job*. These files are useful because they document the options used to produce the `.bst` file, and they may be edited to experiment with alternative options.

3.3 The `makebst` Program

It is possible to make up a batch job file by hand using the option information listed in Section 9, but my accompanying program `makebst` simplifies the task considerably. It reads menu information in the master file itself in order to present the user with an interactive list of choices, translating the answers into appropriate options that are then written to a batch job file.

To run it, simply process `makebst.tex` with TeX or LaTeX, and answer the questions. The first of these is whether you want some instructions or not, and the second is the name of the `.mbs` that you want to use. The next query is about the name of the desired `.bst` file (which will also be the root name of the batch job). After that, all further questions come from menu information in the master file.

At the very end, `makebst` asks if it should run the batch job for you. Isn't that a fine service?

4 Multilingual Adaptation

The original `.bst` files from Oren Patashnik contain explicit English words that are output into the final text. Since LaTeX is increasingly being used for other languages, and since the official version since December 1991 also uses macros in place of explicit words, it seems appropriate for BibTeX to follow suit.

In this master bibliographic style file `merlin.mbs`, all explicit words have been replaced by functions: e.g., the word *editor* has become the function `bbl.editor`. Depending on the language option chosen, this function is defined to be the text `"editor"`, `"Redakteur"`, or `"redacteur"`, for English, German, and French, respectively.

There is another special 'language' called `babel` that instead inserts the text `"\bbleditor{}"`; the definitions of these LaTeX commands must be in a separate file named `babelbst.tex` that is read in at the start of the bibliography.

Only English and `babel` are supported directly in `merlin.mbs`; all other language definitions are contained in separate definition files, e.g., `french.mbs`, `german.mbs`.

The language selection is made during the `makebst` run, which asks for the name of the language definition file as the first menu item. If either English or `babel` is wanted, reply with the default, which is `merlin.mbs` itself; otherwise give the name of the desired language file.

> ***Note:*** *the language definition files can only be used with* `makebst` *version 3 or later, and*
>
> *with an external definition file, the* docstrip *run requires two passes through* `merlin.mbs`*, doubling the processing time.*

Apart from the language adaptation of the whole bibliography, there is also the possibility of switching languages for individual references, so as to hyphenate the title properly. This is done with the `language` field and the `\setlanguage` command.

4.1 Adding a New Language Definition File

To create a new language definition file, simply take one of the existing ones, like `english.mbs`, and replace the explicit English words with their translations. There are, however, a number of points that can complicate this procedure.

1. Do not forget to change the documentation in the file, especially version number, date, author.

2. There are option menus that need to be translated too. It might also be desirable to add or remove options. In most cases, the options in the language files involve possible abbreviations, like

   ```
   \mes{^^JABBREVIATE WORD `PAGES':}
   \optdef{*}{}{`Page(s)'}{(no abbreviation)}
   \optdef{a}{pp}{`Page' abbreviated}{as p. or pp.}
   \getans
   ```

   In this example, the option `pp` appears later in the definition

   ```
   FUNCTION {bbl.pages}
   %<!pp>{ "pages" }
   %<pp>{ "pp." }
   ```

   This a *local* option, that only affects the coding in the definition file. It is possible to add more local options.

3. However, all options, whether activated by the main file or by the definition file, apply to both. In other words, there really is no such thing as a local option. In the above example, `pp` is only local because it is never used in `merlin.mbs`.

4. Add the name of the language as an option, with

```
\mes{^^JOptions for ENGLISH}
\wr{\spsp\spsp english,\pc: English language}
```

(This is how options are added without `\optdef` and `\getans`.) The main file just might recognize it in order to take some language-specific action. The least it should do is add a comment at the start of the `.bst` file stating for which language it is to be used.

5. There could be some problems with edition numbers due to language dependent ways of treating ordinal numbers (1st, 2nd, 3rd in English; 1^{re}, 2^{e}, 3^{e} in French; 1., 2., 3., in German). Some accommodation already exists for the oddball language English, and further hacking may be needed for others.

6. If there should be any need for a double-quote character in the translations (German needs it for umlauts) then there is trouble because the BibTeX strings do not allow it. Instead, use the command `\qq`, as in the German word `F\qq{u}nfte` for *Fünfte* (fifth). It is then vital to add the option `umlaut` with

   ```
   \wr{\spsp\spsp umlaut,\pc: Activate umlaut command}
   ```

   Bernd Raichle points out that `\^^b` can be used in place of `\"` within BibTeX code. One can thus replace `F\qq{u}nfte` with `F\^^b unfte` and do away with the `umlaut` option.

4.2 Changing `babelbst.tex` for a New Language

Alternatively, a new language can be added by modifying the file `babelbst.tex` and selecting the language `babel` for the `.bst` file. If this is the only language to be used, then just change the English words in the definitions.

However, some form of switching would be more desirable. With TeX version 3, there is a `\language` parameter to control the hyphenation patterns, and this could be used to select the correct language. For example, if language 0 is English and language 1 German, then put the English version of `babelbst.tex` into `englbst.tex` and the German version in `germbst.tex`. Then `babelbst.tex` could contain:

```
\ifcase\language \input{englbst} \or \input{germbst}
  \else \input{englbst} \fi
```

This is of course installation dependent.

4.3 Extracting the Sample `babelbst.tex` File

A sample `babelbst.tex` (for English) is contained in this master file. Extract it with `docstrip` and the option `bblbst`. It may be edited (and possibly renamed) for other languages as needed.

4.4 Problem with Edition Numbers

Something to note here is the ordinal numbers for editions. BibTeX demands that the field `edition` be given in the database as a word *First*, *Second*, etc., or as *1st*, *2nd*, etc. This is bad policy because it is language dependent. So what I do is to test for the words *first* through *fifth* (case independently) and replace them with language-dependent equivalents. If the `<ord>` option is selected, these equivalents are ordinal numbers for that language. Any other words cannot be interpreted and must be printed as is.

However, if the `edition` is given as a number, with or without following letters, then the numbers 1 through 5 are replaced by their words; any higher numbers just have the ordinal ending (*th* in English) added to them.

These numbers are only used with the word *edition* or its equivalent in other languages, so the translators need to provide only the one gender, e.g., feminine for both German and French.

5 Prestoring Names of Journals

The standard `.bst` files contain the names of some 20 journals in the field of computing, stored as macros for easy reference within the database `.bib` files. For example, the *Journal of Computer and System Sciences* can be referred to as `jcss`. With the option `jabr` (for journal abbreviation) this same shorthand produces *J. Comput. Syst. Sci.*.

Some `.bst` files for physics journals include additional journal names, and it is conceivable that other faculties might wish to prepare their own such lists, with each name present in a full or abbreviated form. Such an external file can now be added with `merlin.mbs` and `makebst` version 3.

As a model, I supply a file `physjour.mbs` with the names of physics journals which I have taken from other `.bst` files. I also have a file `geojour.mbs` with the names of geophysics journals, and a contributed file `photjour.mbs` containing names of optics journals.

In fact, version 3.5 can even include multiple journal-name files. Thus one can decide whether to include both, one, or none of the above files.

6 HTML Output

There is an option `html` to create a `.bst` file producing hypertext (HTML) output instead of the regular LaTeX code. This is still experimental. The resulting BibTeX output will still be a file with extension `.bbl` and will contain the LaTeX special characters, like `\"a` for ä. One must go over the output to convert such characters to the HTML equivalents, and to remove curly braces. Only then can it be renamed `.html`.

Three possible lists are offered:

- a simple paragraph for each entry,

- a numbered list,
- a description list with the key as the label.

7 Updating Older .dbj Files

If you have existing .dbj files for generating .bst files from the older version genbst.mbs, these may be run with merlin.mbs by simply changing the name of the source .mbs file. For example, where the older .dbj file contains the line

```
\generateFile{mystyle.bst}{f}{\from{genbst.mbs}{%
```

edit the file so that genbst.mbs is replaced by merlin.mbs. The resulting mystyle.bst file will then be an updated version of the older one, containing all the same features.

Version 4 of merlin.mbs can only be used with version 4 of makebst, whereas older versions of merlin.mbs will still function with the newer makebst. Also, .dbj files created with older versions should still produce the same results with merlin.mbs 4, albeit with different coding.

8 Acknowledgements

I wish to thank all the people who have taken the trouble to send me suggestions or special requests. Admittedly, it has been out of self-interest on their part, since they had bibliographic needs to be met. And I have often questioned the need for many of their demands. Yet, that is part of the bibliographic jungle that I am trying to eliminate. If I thought that bibliographies were arbitrarily formatted before I started this project, I have more than sufficient confirmation since then. The fault lies not with the poor contributors, but with the publishers who cannot agree on a decent standard.

I want to thank Frank Mittelbach, not only for creating docstrip in the first place, but also for sending me his bibliographic requirements, and for suggesting an improvement to makebst.

David Carlisle has added the REVTEX fields and \bibinfo tagging in a special variant of merlin.mbs; Arthur Ogawa then incorporated them into the main file, and overhauled much of the coding to make it more legible and rational.

I especially wish to thank Mark Doyle and the American Physical Society for supporting the work on custom-bib 4.0.

And finally, all of us must thank Oren Patashnik for providing BIBTEX; without its flexibility and programmability (in spite of the complexity of the language) the master bibliographic styles would not be possible at all.

9 The Options

Here I present a list of all the docstrip options that are available in this file `merlin.mbs`. The normal user can skip this section since he will probably make use of the menus via `makebst`. These are described in Section 10. The menus provide much more informative prompts than the heavily abbreviated option names listed here. In other words, the options described in this section are meant for internal (programmer) usage, while the normal interface for the user is the menus.

I have tried to avoid conflicts with mutually exclusive options by always letting one dominate if more than one has been specified. Such options have the same prefix, such as `nm-rev` and `nm-init`. If one uses `makebst` to produce the docstrip batch job, then it is impossible to give mutually exclusive options unless one edits the batch file oneself afterwards. (Anything is possible with computer freaks!)

Most mutually exclusive options have the same prefix before the hyphen.

Citation style: whether or not a numerical or author–year system is to be used.

`--`	default is numerical, standard LaTeX, as for `plain.bst`. `\bibitem{key}...`
`cite`	special for listing entire databases; the cite key is used as the label so it may be listed. `\bibitem[key]{key}...`
`ay`	for author–year style of citations. Various forms of `\bibitem` are provided under this option, to support different types of LaTeX styles for interfacing with the author–year system.
`alph`	for `alpha.bst` style of citations; essentially numerical but an abbreviation of the author names plus year is used as the label. First three letters of single author, or first letters of first three authors.
`alf-1`	with `alph`, uses first three letters of first author's name, regardless of how many authors.
`alf-f`	with `alph`, uses first author's whole name.

For numerical style, one can select the HTML option, to output a hypertext file instead of a LaTeX one.

`--`	normal LaTeX output;
`html`	for HTML output, one reference per paragraph
`htlist`	(with `html`) outputs to a numbered list;
`htdes`	(with `html`) outputs description list, with the key.

If `ay` has been selected, then the type of author–year interface is selectable. Some of these, like `natbib` and `harvard` exist in two versions because of updates in these systems.

`--`	default is the system I invented for my `natbib.sty`. `\bibitem[author(year)]{key}...`
`nat`	for extended format of `natbib.sty` version 5.3 `\bibitem[author(year)full author]{key}...`
`alk`	for the `apalike.sty` of Oren Patashnik and related systems `\bibitem[author, year]{key}...`
`har`	for the Harvard family of styles (with `harvard.sty`). `\harvarditem[short]{long}{year}{key}...`
`harnm`	for the extended Harvard family, containing some extra commands used by LaTeX 2_ε version 2.0.3 of `harvard.sty`
`ast`	for astronomy family of styles (with `astron.sty`). `\bibitem[\protect\astroncite{author}{year}]{key}...`
`cay`	for the Chicago family of styles (with `chicago.sty`). `\bibitem[\protect\citeauthoryear{long}{short}{year}]{key}...`
`nmd`	for the 'named' variant of Chicago (with `named.sty`). `\bibitem[\protect\citeauthoryear{author}{year}]{key}...`
`cn`	for the "author–date" group of styles (with `authordate1-4.sty`) `\bibitem[\protect\citename{author, }year]{key}...`

Sequence: the order in which the references are listed.

`--`	default is alphabetical by all authors, date, title
`seq-yr`	order by year (ascending), authors, title
`seq-yrr`	order by year (descending), authors, title
`seq-no`	sequence by citation order
`seq-lab`	(author–year) by label, date, title (means that Daly precedes Daly and Williams, precedes Daly et al.)
`seq-labc`	(author–year) like `seq-lab` but the Daly et al.'s come in citation order
`seq-key`	(author–year) like `seq-lab` except that for identical authors and year, the cite keyword is used instead of the title or cite order
`xintls`	(use with `seq-` options) to sort on surname only without the initials or first names
`vonx`	ignore *von* part of name when ordering (default is to consider *von* as part of the whole surname)

Note on the `seq-lab` option and it variants: it orders the list of references by *label*, which is what the `\cite` command prints. The ordering rules are:

1. the first author, with name or initials (so P. Daly is different from E. Daly)
2. by number of co-authors: single author, double author, multiple authors
3. by year
4. by co-authors
5. by title

Variations are: with `seq-key`, the last item becomes the BibTeX citation keyword; with `seq-labc`, the co-author is still used for two-author papers, but not for multiple authors, and the final criterion is the order of citation in the document. These references will have identical labels (First *et al*, year) and are distinguished by additional letters, which are assigned in the order in which the first citations are made. The list of references conforms to this order.

With `xintls` as well, first names or initials are ignored for sorting, so all Daly's are mixed together.

Language selection: the translations of certain explicit words.

`--`	default is English, for *and*, *chapter*, *editor*, etc.;
`babel`	replace words with LaTeX commands that are defined in the file `babelbst.tex`;
`lang`	adds the `language` field for switching language for one reference only by means of the `\setlanguage` command in `babel`.

If one of the external language definition files is used, then the name of its language should be in the list of active options. Many other language names are already included as options in this main file simply for the purpose of adding a comment at the start of the `.bst` file.

The `language` field is intended to allow the hyphenation patterns to be switched temporarily so that titles can be set in the original language.

Annotation: annotations are added either by means of the `annote` field, or with a `.tex` file of the same name as the citation key.

`--`	no annotations
`annote`	annotations enabled, with `annote` field.

Presentations: add a non-standard type to handle talks (presentations). This is similar to the `inproceedings` but without `booktitle` and with the presenting author in bold face. This author is specified by the `key` entry, which is that author's position in the author list (1, 2, . . .). The type of presentation (oral or poster) is specified by the entry `type`. The date without year is given in `month`, which must be present.

`--`	no presentations
`pres`	include a `presentation` type
`pres-bf`	(with `pres`) to put speaker in bold face
`pres-it`	(with `pres`) to put speaker in italics
`pres-sc`	(with `pres`) to put speaker in small caps

Without any of the extra font options, the speaker's name is not highlighted.

Missing names: If the author and/or editor is missing, the standard `.bst` files use the `key` field in place of the names for purposes of ordering the entries.

For author–year styles, the `key` field is even inserted in the reference list and in the label in place of the authors. Optionally, one can suppress the year in this case, which causes `natbib` (version 7) to print only that key text as a code designation for the work.

`--`	year is inserted in the labels when `key` replaces authors
`keyxyr`	year is left blank in this case

Names formatting: how initials and surnames are to be combined.

`--`	default is full names, given names first
`nm-revf`	full names, surname first
`nm-init`	initials plus surname
`nm-rev`	surname plus initials
`nm-rev1`	surname plus initials (1st name only) then initials plus surname
`nm-revv1`	same as `nm-rev1` but with full names
`nm-rv`	as `nm-rev`, but initials without dots
`nm-rvvc`	as `nm-rev`, but initials without spaces
`nm-rvv`	as `nm-rev`, but initials without spaces or comma
`nm-rvx`	as `nm-rev`, but initials without dots or spaces
`nm-rvcx`	as `nm-rvx`, but with comma after surname
`ed-rev`	editors' names in collections are reversed the same as authors'
`ed-au`	editors are formatted with same routine as authors; this is an alias for `ed-rev`, which is kept only for compatibility
`aunm-semi`	a semi-colon is placed between author names instead of a comma
`aunm-sl`	a slash is placed between author names instead of a comma

`nmdash`	repeated author/editor names replaced by dash
`nmd-2`	with `nmdash`, uses 2 em dashes
`nmd-3`	with `nmdash`, uses 3 em dashes
`jnrlab`	include the junior part of name in citations (normally appears only in reference listing)
`jnrlst`	with one of the `nm-rev` type options, puts the junior part last, after the (reversed) first name

Number of names in bibliography: normally all names listed (in reference list)

`nmlm`	limit number of names
`x1...x90`	(with `nmlm`) maximum number of names to appear; for over 9, give the tens and units separately, as `x20,x5` for 25
`m1...m90`	(with `nmlm`) minimum number before *et al.* written; no check for consistency is taken; one `x` and one `m` number must be given, and `x`$\leq$`m`

Number of names in citation: before *et al.*

The default is to cite one or two names at most, but for three or more, to cite only one name with *et al.*

`mcite`	to change the default
`mct-1...mct-6`	(with `mcite`) number of names preceding *et al.*
`mct-x2...mct-x6`	(with `mcite`) max number of authors without truncating

The default is equivalent to `mct-1` and `mct-x2`.

Names font: in the reference list

`--`	default is names in normal typeface
`nmft`	names are in some special font
`nmfted`	editors' names in collections also get special fonts
`nmft-sc`	names in small caps
`nmft-it`	names in italics
`nmft-bf`	names in bold
`nmft-def`	names in user defined font `\bibnamefont{}`.
`nmand-rm`	'and' in normal font, not same as authors'.
`fnm-rm`	(with `nmft`) first names are in regular font

`fnm-def` (with `nmft`) first names are in user defined font `\bibfnamefont{}`.

`--` first names are in same font as the surnames.

Citation font: what is written by the `\cite` command

`--` default is no special font

`lab-it` cited names in italics

`lab-sc` cited names in small caps

`lab-bf` cited names in bold face

`lab-def` cited names in user defined font `\bibnamefont{}`.

`and-rm` word ‘and’ in cited names in normal font

`xlab-it` extra label (letter after year) in italics

Block punctuation: between logical sections (not mutually exclusive)

`--` default is period after each logical section, including end

`blk-com` use commas, except at very end (changes *In* to *in*)

`blk-tit` like `blk-com` except period follows titles of articles and books

`blk-tita` like `blk-com` except period follows article title

`tit-col` with `blk-tit` or `blk-tita`, for colon instead of period

`com-semi` with `blk-com`, uses semi-colon instead of comma

`com-blank` with `blk-com`, uses blanks instead of comma

`in-col` puts a colon after *In* or *in* for edited works

`in-it` puts word *in* in italics (may be used with `in-col`)

`in-x` suppresses the word *in* for edited works

`fin-bare` no punctuation at the very end

`au-col` puts a colon after the author/editor block

`blknt` puts period before note

Date: if missing

`--` Missing date replaced by ???? (author–year)

`blkyear` Missing date left blank, even in label.

Date: position and enclosure

`--`	default is date at end, before notes; for author–year, date consists only of year, no month
`dt-jnl`	date at end as for default, except for journal articles where it follows the journal name as part of specification
`dt-end`	date goes after any notes
`dt-beg`	date goes after authors' names
`yr-par`	date in parentheses ()
`yr-brk`	date in brackets []
`yr-com`	date preceded by comma and space
`yr-col`	date preceded by colon and space
`yr-per`	date preceded by period and space
`yr-blk`	date preceded by space
`dtrev`	date as year month instead of month year
`dtbf`	date bold face
`aymth`	include month even for author-year
`xmth`	suppress month for numerical mode
`yrp-x`	suppresses punctuation following month, year when date is just after authors
`yrp-col`	adds colon and space after date when just after authors
`yrp-semi`	adds semi-colon and space after date when just after authors
`yrp-per`	adds period and space after date
`yrpp-xsp`	removes blank following year punctuation
`note-yr`	permits text (like "in press") in the `year` field

Article in journal: style of title, volume, pages

`--`	default is: Title. *Journal*, vol(num):p1–p2
`injnl`	adds word *in* before journal name, same style as for incollections
`volp-sp`	as above, but with a space, vol(num): p1–p2
`volp-semi`	semi-colon instead of colon: vol(num); p1–p2
`volp-com`	comma and space instead of colon: vol(num), p1–p2
`volp-blk`	only space instead of colon: vol(num) p1–p2
`vol-bf`	volume in bold

`vol-it`	volume in italics
`vol-2bf`	volume and number bold
`vnum-x`	no number for journals, only volume
`vnum-sp`	space between, as vol (num)
`vnum-cm`	replace vol(num) with vol, num
`vnum-nr`	replace vol(num) with vol, no. num
`vnum-h`	replace vol(num) with vol, #num
`vnum-b`	replace vol(num) with vol num
`jdt-v`	year in parentheses attached to volume: vol(year) num
`jdt-vs`	as above, with space: vol (year) num
`jdt-p`	year precedes pages: vol(num), (year) p1–p2
`jdt-pc`	as above, with comma: vol(num), (year), p1–p2
`jpg-1`	only starting page given
`pgsep-c`	page numbers over 10,000 have comma
`pgsep-s`	page numbers over 10 000 have space
`pgsep-p`	page numbers over 10.000 have period
`jwdpg`	include ‘page’ or ‘pp’ for articles
`jwdvol`	include ‘volume’ or ‘vol’ for articles
`jnm-x`	no punctuation after journal name
`tit-it`	article title in italics
`tit-qq`	article title in quotes
`bt-rm`	booktitle in upright font, not italic (this will be issued with `btit-rm` normally; separate options allow for more control if wanted
`bt-qq`	booktitle of incollection and inproceedings in quotes
`qt-s`	(with `tit-qq`) single instead of double quotes
`qt-g`	(with `tit-qq`) guillemets instead of quotes
`qx`	(with `tit-qq`) comma outside quotes
`jtit-x`	no article title (applies only to journals and collections)
`atit-u`	article title capitalized as in entry, default is sentence capitalization (first word and words following colons)
`jxper`	abbreviated journal names have periods removed, as ‘Phys Rev’

`jttl-rm`	name of journal not in italics
`pp-last`	pages appear at end, before any notes

Number and series: for collections and inproceedings

This is a confusing issue. The standard wants to print something like "number 123 in Collected Works", and issues a warning if there is a number without a series. However, for many such works, there is an identification number for the collection, such as ESA SP-123. Giving this as the number without a series results in "number ESA SP-123" and a warning. Setting the series to this code number produces desired results, but is illogical.

Another problem is that this code number should often should appear just before the publisher name, whereas the standard places it elsewhere.

`--`	default, number must have series, *number* is printed
`num-xser`	default behaviour if both number and series present, but if only number is there, it is printed without the word *number* and without a warning
`numser`	moves the number/series to just before the publisher/organization
`ser-vol`	for a book in a series with volume number, appears as "*Series-Name*, vol. 23" rather than "vol. 23 of *Series-Name*"
`ser-ed`	for incollection, inproceedings, the series and volume appear between the booktitle and the editors

Thesis title: formatted like a book or article

`--`	default is like a book title
`thtit-a`	titles of PhD and Master theses formatted like articles
`thtit-x`	no thesis title

Technical Report title: formatted like book or article

`--`	default is like an article title
`trtit-b`	titles of technical reports formatted like books
`trnum-it`	*technical report* and number italic

Books: title font style, pages, and address location

`--`	default is italicized
`btit-rm`	book title plain
`bkpg-par`	pages in books places in parentheses
`bkpg-x`	pages in books bare without word *pages*

`add-pub`	publisher's address before name, colon separated
`pub-par`	publisher and address in parentheses
`pub-date`	publisher with address and date in parentheses
`pub-xc`	with `pub-date`, suppresses comma before date
`pub-xpar`	with `pub-date` to suppress parentheses
`pre-pub`	publisher placed before chapter and page information
`pre-edn`	edition before publisher
`pg-bk`	add number of pages for books and booklets
`pg-pre`	with `pg-bk`, total pages comes before publisher

Abbreviations: of various words, default is no abbreviations

`pp`	abbreviate *page(s)* as *p.* and *pp.*
`ppx`	no word *page(s)* or abbreviation
`ed`	abbreviate *editor(s)* as *ed.* and *eds.*
`ednx`	abbreviates *edition* as *ed.* instead of *edn.*
`abr`	abbreviate *volume*, *edition*, *technical report*, etc.
`mth-bare`	months abbreviated without dots
`jabr`	abbreviate names of prestored journals
`ord`	write edition numbers as 1st, 2nd, instead as words.
`xedn`	suppress conversion of editions (for English) to avoid overflowing some BibTeX installations

Editor: alternative for *in edited* book, inbook, or proceedings.

`--`	"in *names*, editors, *title*"
`edpar`	"in *names* (editors), *title*"
`edparc`	"in *names*, (editors) *title*"
`edparxc`	"in *names* (editors) *title*"
`bkedcap`	capitalizes "Editor"

Editor: alternative for *in edited* incollection or inproceedings. If none of these are selected, they are treated the same as an edited book.

`--`	"in *names*, editors, *title*"
`edby`	"in *title*, edited by *names*"

`edby-par`	"in *title* (edited by *names*)"
`edby-parc`	"in *title*, (edited by *names*)"
`edcap`	(with `edby-par`) capitalizes "Edited by" or "Editor"
`edbyx`	(with `edby` or `edby-par`) replaces text *edited by* by *editor(s)* before the names,
`edbyw`	same as `edbyx` but with word *editor* only in parentheses
`edbyy`	(with `edby` or `edby-par`) replaces text *edited by* by *editor(s)* after the names, as "in *title*, *names*, editors".

ISBN, ISSN numbers: include or not

`--`	default is no ISBN number, ignore this field,
`isbn`	include an ISBN number as optional entry for books, booklets, incollections, inproceedings
`issn`	include an ISSN number for periodicals

URL address: include or not, and how

`--`	ignore URL field,
`url`	process URL field (needs one of next options too),
`url-blk`	(with `url`) URL text as regular blocked item,
`url-nt`	URL text treated as a note
`url-nl`	URL text added as new line below reference (Harvard style)

DOI number: include or not

`--`	default is not to include the Digital Object Identifier
`doi`	include the DOI number
`agu-doi`	(with `doi`) place DOI number AGU style, as part of page designation
`url-doi`	(with `url` options) write DOI as a URL

With the `url-doi` option, the DOI is formatted to be a URL, i.e. as `//dx.doi.org/`*doi*; if there is a URL entry as well, it is ignored. If this option is given without the `url` options, it behaves like `doi`.

The `agu-doi` option is for the special usage of the American Geophysical Society.

REVTEX data fields: for use with `revtex.bst`.

`--`	Do not include extra fields for REVTEX

`revdata` Include fields `collaboration`, `eid`, `numpages` for REVTEX.

Eprint field: used by REVTEX but can be used on its own.

`--` Do not include `eprint` and `archive` fields

`eprint` Include `eprint` and `archive` fields.

Reference component tagging: apply structure to the `\bibitem` contents.

`--` no tagging.

`bibinfo` apply tags like `\bibinfo`, and `\eprint` to the fields of data in the content of the `\bibitem` statement.

Emphasis: defines what 'italicized' really means

`--` default is `\em` (can switch between `\it` and `\rm`

`em-it` use `\it` instead (always italic)

`em-x` no emphasis

`em-ul` underline for emphasis (with or without `ulem`)

Special punctuation:

`amper` use & in place of *and*

`varand` use command `\BIBand` in place of *and*

`and-xcom` no comma before last *and* of an author list (citations and references)

`and-com` add comma before *and* even for two authors (in list of references)

`and-com-ed` the same as `and-com` but for editors in collections

`xand` no *and* in an author list (references)

`etal-it` *et al.* in italics

`etal-rm` *et al.* in roman even if authors in different font

`etal-xc` no comma before *et al.*

Font commands:

`--` use Plain TEX (also LATEX 2.09) font commands

`nfss` use `\textbf`, `\textit`, `\emph` in place of `\bf`, `\it`, and `\em`; only works then with LATEX 2_ε

Plain TEX compatibility:

`--` use LATEX 2_ε commands for testing, redefining commands

`plntx` use TEX for maximum compatibility

10 The Menu Information

Here I describe the options and menu information for this particular master file `merlin.mbs`. To construct a `docstrip` driver file to generate a desired `.bst` file, simply process `makebst.tex` with TeX or LaTeX, and give

```
merlin.mbs
```

when prompted for the name of the master file. Then answer the questions in the menus that follow. The menu information is extracted from here.

All the menu information is nested between `docstrip` guard options `%<*options>` ... `%</options>`, and the last command is `\endoptions`. The rest of the file is nested between

```
%<*!options&!driver&!bblbst>... </!options&!driver&!bblbst>
```

in order to exclude it if `docstrip` is used to extract the menu information, the documentation driver, or the `babelbst.tex` file.

The main coding is divided into two sections, the *head* and *tail*; in between come any external language or journal name support files. The head part is marked with the `docstrip` guard option `<!tail>` and the tail with `<!head>`. This roundabout means of doing things makes it possible to process `merlin.mbs` with `.dbj` files that were generated for the older `genbst.mbs` file by simply changing the name of the source file as shown in Section 7. If both `head` and `tail` (and `exlang`) options are omitted, as they are in the older `.dbj` files, `merlin.mbs` is processed completely in one pass. To include external files, two passes are needed, one for each part, with the external file(s) coming in between.

Note too that if the internal language commands are taken (i.e., if `exlang` option is not given) then the default language is English, which is tested for as `<!babel>`. This too permits the simple update of older `.dbj`, at least for English.

Selecting Language

Explicit words in the bibliography style, such as *and*, *editor*, etc., are represented by functions `bbl.and`, `bbl.editor`, and so on. By default these functions translate to the normal English text, but other languages are also possible.

The definitions of these functions for other languages are contained in external files. At this point, we can make use of features in `makebst` (version 3.0 or later) to ask for the name of such a definition file, and store it in `\cfile`. If no external file is specified, then the internal definitions are taken, for which there are two possibilities: English or LaTeX commands (Babel).

The commands `\MBswitch`, `\mes`, `\MBaskfile`, `\wr`, `\pc`, `\spsp` are defined in `makebst.tex`.

If `\MBswitch` does not exist, then the version of `makebst` cannot support external files.

```
⟨*options⟩
\expandafter\ifx\csname beginoptiongroup\endcsname\relax
 \mes{^^J******************^^J%
       !!!!!! VERSION CLASH !!!!!!!!!^^J%
       This mbs file requires makebst version 4.0 or more^^J%
       You must update makebst to run it with this mbs file^^J%
       No docstrip batch file can be produced on this run^^J%
        ******************}
 \let\temp\endinput\else\let\temp\relax\fi\temp

\newif\ifnumerical
\newif\ifmytemp
\mes{<<< For more information about the meanings of^^J%
     <<< the various options, see the section on ^^J%
     <<< Menu Information in the .mbs file documentation.}

\umes{EXTERNAL FILES:}
\expandafter\ifx\csname MBswitch\endcsname\relax
 \mes{^^J**************^^J%
       Makebst version is less than 3.0^^J%
       Cannot add external file for language definition^^J%
       **************}
 \umes{No included files.}%
 \def\cfile{}\def\jfile{}%
\else
 \MBaskfile{^^JName of language definition file}(\mroot.\mext)i\cfile
 \edef\ctemp{\mroot.\mext}
 \ifx\ctemp\cfile\def\cfile{}\fi
 \umes{Name of language file: \string\cfile=\cfile.}%
```

A second type of external file that can be added is one containing names of journals that are to be prestored into the `.bst` file. Several file names are allowed here, with the root names separated by commas, and with the common extension added at the end. To assist later parsing of the names, an additional comma is added before the extension.

Note that in this case `\MBaskfile` treats the file(s) as output, i.e., it does not check if the file(s) actually exist.

The macro `\Mgetnext` allows the root names to be extracted from the list of file names.

```
 \def\jfile{}
 \ask{\yn}{^^JInclude file(s) for extra journal names? (NO)}
 \mytempfalse
 \if!\yn!\else\if\yn n\else\if\yn N\else\mytemptrue\fi\fi\fi
 \ifmytemp
  \MBaskfile{^^JFile to include}(physjour,geojour,photjour.mbs)o\jfile
  \edef\jfile{\froot,.\fext}
  \umes{Name of included files: \string\jfile=\jfile.}%
 \else
  \umes{No included files.}%
 \fi
\fi%MBswitch
\def\Mgetnext#1,#2.#3??{\def\froot{#1}\def\Mrest{#2}\def\fext{#3}}
```

If no external files are specified, then both `\cfile` and `\jfile` are empty. In this case, do *not* set the options `head` and `tail`, which control the docstrip passes through `filename`. Now only one pass is made.

If there is an external definition file, or if an external list of journal names, then some extra text must be written to fit in with that already written by `makebst`. This is explained in that documentation. The `\MBswitch` command turns the curly braces `{..}` into normal characters, and the parentheses `(..)` take on their grouping functionality. This permits unbalances braces to be written to the output file.

```
\if!\cfile\jfile!\else
 \begingroup\MBswitch
  \wr(\spsp head,\string\MBopta})
  \if!\cfile!\else
   \wr(\string\from{\cfile}{\string\MBopta})
  \fi
  \if!\jfile!\else
   \let\jxfile\jfile
   \loop
```

Parse the list of journal name files, adding a new `\from` for each one.

```
    \expandafter\Mgetnext\jxfile??
    \wr(\string\from{\froot.\fext}{\string\MBopta})
    \edef\jxfile(\Mrest.\fext)
    \if!\Mrest!\def\Mtst(1)\else\def\Mtst()\fi
   \if!\Mtst!
   \repeat
  \fi
  \wr(\string\from{\mroot.\mext}{tail,\string\MBopta}})
  \wr(\string\def\string\MBopta{\pc)
 \endgroup
\fi
```

Ask whether explicit English words wanted or LaTeX commands whose definitions are to be found in the file `babelbst.tex`.

```
\beginoptiongroup{INTERNAL LANGUAGE SUPPORT
 (if no external language file)}%
 {\if!\cfile!\relax*\fi}%
\optdef{*}{}{English}{words used explicitly}
\optdef{b}{babel}{Babel}
    {(words replaced by commands defined in babelbst.tex)}
\getans
\endoptiongroup
\if!\cfile!\relax\else
\wr{\spsp\spsp exlang,\pc: External language file}
\fi
```

Author–year or numerical

The first question is whether a numerical or author–year citation style is to be used. If the latter, the supporting system is my `natbib.sty`, which expects

`\bibitem` to have an optional argument containing the short form of the authors, plus year in parentheses. E.g.,

```
\bibitem[Daly et al.(1990)]{key}...
```

There is now a newer version of `natbib.sty` (v5.3) that supports an optional full author list too, as

```
\bibitem[Daly et al.(1990)Daly, Keppler, and Williams]{key}...
```

Other systems are also supported, such as the Harvard family of bibliography styles (with `harvard.sty`), which have entries in the form

```
\harvarditem[Daly et al.]{Daly, Keppler,
       and Williams}{1990}{key}...
```

or the astronomy family (with `astron.sty`) with entries like

```
\bibitem[\protect\astroncite{Daly et al.}{1990}]{key}...
```

or the Chicago family (with `chicago.sty`) with entries like

```
\bibitem[\protect\citeautheryear{Daly, Keppler, and
      Williams}{Daly et al.}{1990}]{key}...
```

or the 'named' variant of Chicago (with `named.sty`) with entries like

```
\bibitem[\protect\citeauthoryear{Daly et al.}{1990}]{key}...
```

or the so-called "author–date" group (with `authordate1-4.sty`) with entries of the form

```
\bibitem[\protect\citename{Daly et al.}1990]{key}...
```

Finally, there is the `apalike` format of Oren Patashnik, for use with `apalike.sty` that has entries of the form

```
\bibitem[Daly et al., 1990]{key}...
```

In addition to numerical or author–year citation styles, there is also a `cite` style available in which the label is the same as the cite key. This is for listing entire contents of databases with the cite key visible.

A flag `\ifnumerical` is established because some of the following menu features depend on which system is to be used.

The `alph` option produces labels as in `alpha.bst`; options `alf-1` and `alf-f` modify these. Standard is: first three letters of the single author (Dal90 for Daly, 1990) and first letters of first three authors (DK90 for Daly and Kopka, 1990). Alternatives are first three letters of the first author, no matter how many authors there are, and full name of first author.

```
\beginoptiongroup{STYLE OF CITATIONS:}{}
\optdef{*}{}{Numerical}{as in standard LaTeX}
\optdef{a}{ay}{Author-year}{with some non-standard interface}
\optdef{b}{alph}{Alpha style, Jon90 or JWB90}{for single or multiple authors}
\optdef{o}{alph,alf-1}{Alpha style, Jon90}{even for multiple authors}
\optdef{f}{alph,alf-f}{Alpha style, Jones90}{(full name of first author)}
\optdef{c}{cite}{Cite key}{(special for listing contents of bib file)}
\getans
\endoptiongroup
\if\ans a\numericalfalse\else\numericaltrue\fi
\if\ans b\mytempfalse   \else\mytemptrue   \fi
\beginoptiongroup{HTML OUTPUT
 (if non author-year citations)}
 {\ifnumerical*\fi}
\optdef{*}{}{Normal LaTeX}{output}
\optdef{h}{html}{Hypertext}{output, in HTML code, in paragraphs}
\optdef{n}{html,htlist}{Hypertext list}{with sequence numbers}
\optdef{k}{html,htdes}{Hypertext with keys}{for viewing databases}
\getans
\endoptiongroup
\beginoptiongroup{AUTHOR--YEAR SUPPORT SYSTEM
 (if author-year citations)}
 {\ifnumerical\else*\fi}
\optdef{*}{nat}{Natbib}{for use with natbib v5.3 or later}
\optdef{o}{}{Older Natbib}{without full authors citations}
\optdef{l}{alk}{Apalike}{for use with apalike.sty}
\optdef{h}{har}{Harvard}{system with harvard.sty}
\optdef{a}{ast}{Astronomy}{system with astron.sty}
\optdef{c}{cay}{Chicago}{system with chicago.sty}
\optdef{n}{nmd}{Named}{system with named.sty}
\optdef{d}{cn}{Author-date}{system with authordate1-4.sty}
\getans
```

The `harvard` family has been extended for LaTeX 2_ε, and the new `.bst` files allow the word *and* and the brackets around years to be variable with commands. These features may be added too. The URL field used to be exclusively part of Harvard, but now exists independently of it too.

```
\beginoptiongroup{HARVARD EXTENSIONS INCLUDED
 (if Harvard support selected)}
 {\if\ans h*\fi}%
\optdef{*}{harnm}{With Harvard extensions}{for LaTeX2e version of harvard.sty}
\optdef{n}{}{Older Harvard}{style, for LaTeX 2.09}
\getans
\endoptiongroup
\endoptiongroup
```

Language switching

A `language` field can be present to specify the original language of the reference; with `\setlanguge`, the hyphenation patterns are set for setting the title in that language.

```
\beginoptiongroup{LANGUAGE FIELD}{}
```

```
\optdef{*}{}{No language field}{}
\optdef{l}{lang}{Add language field}{to switch hyphenation patterns temporarily}
\getans
\endoptiongroup
```

Annotations

Annotations to a reference are additional information not normally printed out in the list of references. They are used for listing databases. The coding here was offered by Soren Dayton.

```
\beginoptiongroup{ANNOTATIONS:}{}
\optdef{*}{}{No annotations}{will be recognized}
\optdef{a}{annote}{Annotations}{in annote field or in .tex file of citekey name}
\getans
\endoptiongroup
```

Presentations

Presentations are talks at meetings, oral or poster, that are not otherwise published. The author making the presentation is indicated with the `key` entry, which is the speaker's number within the author list. The font used to highlight the speaker is either bold or italics, depending on the secondary option, otherwise not highlighted.

```
\beginoptiongroup{PRESENTATIONS:}{}
\optdef{*}{}{Do not add presentation type}{for conference talks}
\optdef{p}{pres}{Add presentation, speaker not highlighted}{}
\optdef{b}{pres,pres-bf}{Presentation, speaker bold face}{}
\optdef{i}{pres,pres-it}{Presentaion, speaker italic}{}
\optdef{c}{pres,pres-sc}{Presentaion, speaker in small caps}{}
\getans
\endoptiongroup
```

Ordering of the listed references

Choices here depend on citation style. The default in both cases is alphabetical order of all authors. For numerical style, one may also choose an unsorted order, which means the order is the same as the original citations. This corresponds to `unsrt.bst`. Order of citation is also offered for author–year for `natbib`-type styles that can also be used for numerical listings.

Another possibility is to order first by year, then authors. This too only makes sense for numerical citations. However, it is offered for author–year in the event that a `natbib`-type style is used for numerical listings.

For the alpha style, the ordering is by label only, so no option is offered here (`\ifnumerical` is ⟨*true*⟩ and `\ifmytemp` is ⟨*false*⟩).

For author–year, the second choice is by label. (The label is the optional `\bibitem` argument, and is what is printed in place of the `\cite` command.) With this option, all the papers with the same first author are ordered so that the one-author papers come first, followed by the two-author papers, followed by the multiple-author papers. This is a more sensible system for author–year citations, and is demanded by some journals (like JGR).

One problem that can arise here is when two or more references have the same set of authors and year; normally they are then ordered by the title, ignoring initial words like *the* and *a*, with the letters a, b, c, . . . , added to the year. This can mean that a set of references with a natural sequence will be put into a different order. An alternative is to order them by the citation keyword instead of by title. This of course assumes that the keywords in this case reflect that natural sequence.

```
\let\ans\relax
\beginoptiongroup{ORDERING OF REFERENCES
 (if non-author/year and non-alph)}
 {\ifnumerical\ifmytemp*\fi\fi}%
\optdef{*}{}{Alphabetical}{by all authors}
\optdef{c}{seq-no}{Citation order}{(unsorted, like unsrt.bst)}
\optdef{d}{seq-yr}{Year ordered}{and then by authors}
\optdef{r}{seq-yrr}{Reverse year ordered}{and then by authors}
\getans
\endoptiongroup
%
\beginoptiongroup{ORDERING OF REFERENCES
 (if author-year citations)}
 {\ifnumerical\else*\fi}%
\optdef{*}{}{Alphabetical}{by all authors}
\optdef{l}{seq-lab}{By label}%
   {(Jones before Jones and James before Jones et al)}
\optdef{m}{seq-labc}{By label and cite order}%
   {(like above but all Jones et al ordered as cited)}
\optdef{k}{seq-key}{By label and cite key}{instead of label and title, as above}
\optdef{d}{seq-yr}{Year ordered}{and then by authors (for publication lists)}
\optdef{r}{seq-yrr}{Reverse year ordered}{and then by authors (most recent first)}
\optdef{c}{seq-no}{Citation order}{(unsorted, only meaningful for numericals)}
\getans
\endoptiongroup
```

The standard BibTeX styles consider the *von* part of the name to be a fixed part of the surname. European usage tends to alphabetize ignoring these honorifics.

```
\beginoptiongroup{ORDER ON VON PART
 (if not citation order)}
 {\if\ans c\else*\fi}%
\optdef{*}{}{Sort on von part}{(de la Maire before Defoe)}
\optdef{x}{vonx}{Sort without von part}{(de la Maire after Mahone)}
\getans
\endoptiongroup
```

Sorting normally treats authors with the same surname but different initials or first name separately; but a strict ordering by cite label would lump all Smiths together.

```
\beginoptiongroup{IGNORE FIRST NAMES (if author-year citations)}
  {\ifnumerical\else*\fi}%
```

```
\optdef{*}{}{Respect first names}{or initials, treat as different authors}
\optdef{x}{xintls}{Sort on surname only}{and treat all Smiths as one}
\getans
\endoptiongroup
```

Formatting author names

The default is that the full names of the authors are listed, given names first, unabbreviated. Of course, if only the initials have been given in the `.bib` file, then that is all that can appear in the list. Other possibilities are to use initials (even if full names in the `.bib` file) either before or after the surnames. A specialty of the journals of the American Geophysical Union is to have only the first name with reversed initials.

If the reference is part of a larger work with editors, then the editor names appear later in the reference text, usually as "edited by ..." or as "*names* (editors)". In these cases, the editor names are not usually reversed (surname first) even if the authors' names are. An option is provided to format such editor names exactly as the authors'.

```
\beginoptiongroup{AUTHOR NAMES:}{}
\optdef{*}{ed-au}{Full, surname last}{(John Frederick Smith)}
\optdef{f}{nm-revf}{Full, surname first}{(Smith, John Frederick)}
\optdef{i}{nm-init,ed-au}{Initials + surname}{(J. F. Smith)}
\optdef{r}{nm-rev}{Surname + initials}{(Smith, J. F.)}
\optdef{s}{nm-rv}{Surname + dotless initials}{(Smith J F)}
\optdef{w}{nm-rvvc}{Surname + comma + spaceless initials}{(Smith, J.F.)}
\optdef{x}{nm-rvx}{Surname + pure initials}{(Smith JF)}
\optdef{y}{nm-rvcx}{Surname + comma + pure initials}{(Smith, JF)}
\optdef{z}{nm-rvv}{Surname + spaceless initials}{(Smith J.F.)}
\optdef{a}{nm-rev1}{Only first name reversed, initials}%
   {(AGU style: Smith, J. F., H. K. Jones)}
\optdef{b}{nm-revv1}{First name reversed, with full names}%
   {(Smith, John Fred, Harry Kab Jones)}
\getans
\endoptiongroup
\mytempfalse
\if\ans f\mytemptrue\fi
\if\ans r\mytemptrue\fi
\if\ans s\mytemptrue\fi
\if\ans x\mytemptrue\fi
\if\ans y\mytemptrue\fi
\if\ans a\mytemptrue\fi
\if\ans b\mytemptrue\fi
\beginoptiongroup{EDITOR NAMES IN COLLECTIONS
 (if author names reversed)}
 {\ifmytemp*\fi}
\if\ans r
\optdef{*}{}{Editor names NOT reversed}{as edited by J. J. Smith}
\fi
\if\ans s
\optdef{*}{}{Editor names NOT reversed}{as edited by J J Smith}
\fi
```

```
\if\ans a
\optdef{*}{}{Editor names NOT reversed}{as edited by J. J. Smith}
\fi
\if\ans x
\optdef{*}{}{Editor names NOT reversed}{as edited by JJ Smith}
\fi
\if\ans f
\optdef{*}{}{Editor names NOT reversed}{as edited by John James Smith}
\fi
\if\ans y
\optdef{*}{}{Editor names NOT reversed}{as edited by J.J. Smith}
\fi
\if\ans b
\optdef{*}{}{Editor names NOT reversed}{as edited by John James Smith}
\fi
\optdef{r}{ed-rev}{Editor names reversed}{just like authors'}
\getans
\beginoptiongroup{POSITION OF JUNIOR
  (if author names reversed)}
  {}
\optdef{*}{jnrlst}{Junior comes last}{as Smith, John, Jr.}
\optdef{m}{}{Junior between}{as Smith, Jr., John}
\getans
\endoptiongroup
\endoptiongroup

\beginoptiongroup{JUNIOR PART IN THE CITATION
 (if author-year citations)}
 {\ifnumerical\else*\fi}%
\optdef{*}{}{No `junior' part in the citations}{but in the ref listing}
\optdef{j}{jnrlab}{`Junior' in citations}{as well as in ref listing}
\getans
\endoptiongroup

\beginoptiongroup{PUNCTUATION BETWEEN AUTHOR NAMES:}{}
\optdef{*}{}{Author names separated by commas}{}
\optdef{s}{aunm-semi}{Names separated by semi-colon}{}
\optdef{h}{aunm-sl}{Names separated by slash}{/}
\getans
\endoptiongroup

\beginoptiongroup{ADJACENT REFERENCES WITH REPEATED NAMES:}{}
\optdef{*}{}{Author/editor names always present}{}
\optdef{d}{nmdash}{Repeated author/editor names replaced by dash}{}
\optdef{2}{nmdash,nmd-2}{Repeated author/editor names replaced by 2 dashes}{}
\optdef{3}{nmdash,nmd-3}{Repeated author/editor names replaced by 3 dashes}{}
\getans
\endoptiongroup
```

Number of authors

Normally the complete list of authors as given in the `.bib` file is presented in the reference list. However, some journals prefer to limit them to a maximum.

If there are more than this maximum number of author names, then a minimum number plus *et al.* are listed.

Because no test for consistency of the numbers is carried out in the `.bst` file itself (it might be possible, but I found it too complex), this is done here.

```
\beginoptiongroup{NUMBER OF AUTHORS IN BIBLIOGRAPHY:}{}
\optdef{*}{}{All authors}{included in listing}
\optdef{l}{nmlm}{Limited authors}{(et al replaces missing names)}
\getans
\endoptiongroup
\if\ans l
\loop
  \ask{\num}{Maximum number of authors (1-99)}
  \ifnum\num>99\relax
  \mes{*** Must be between 1 and 99}
\repeat
\def\parsenum#1#2{\if#2\relax\wr{\spsp\spsp x#1,\pc: Maximum of #1\space authors}
  \else\wr{\spsp\spsp x#10,x#2,\pc: Maximum of #1#2\space authors}\fi}
\expandafter\parsenum\num\relax
\mes{\spsp You have selected maximum \num\space authors}
\edef\numx{\num}
\loop
  \ask{\num}{Minimum number (before et al given) (1-\numx)}
  \ifnum\num>\numx
  \mes{*** Must be between 1 and \numx}
\repeat
\def\parsenum#1#2{\if#2\relax\wr{\spsp\spsp m#1,\pc: Minimum of #1\space authors}
  \else\wr{\spsp\spsp m#10,m#2,\pc: Minimum of #1#2\space authors}\fi}
\expandafter\parsenum\num\relax
\mes{\spsp You have selected minimum \num\space authors}
\fi

```

Something that I finally add after being asked many times, is to allow for more than one name in the citation before inserting *et al.* to allow more than 2 authors before truncating

```
\beginoptiongroup{AUTHORS IN CITATIONS:}{}
\optdef{*}{}{One author et al}{for three or more authors}
\optdef{m}{mcite}{Some other truncation scheme}{}
\getans
\endoptiongroup
\mytempfalse
\if\ans m\mytemptrue\fi
\beginoptiongroup{MAX AUTHORS BEFORE ET AL:
 (if regular cite not selected)}
 {\ifmytemp*\fi}%
\optdef{*}{mct-1}{One et al}{}
\optdef{2}{mct-2}{One, Two et al}{}
\optdef{3}{mct-3}{One, Two, Three et al}{}
\optdef{4}{mct-4}{One, Two, Three, Four et al}{}
\optdef{5}{mct-5}{One, Two, Three, Four, Five et al}{}
\optdef{6}{mct-6}{One, Two, Three, Four, Five, Six et al}{}
\getans
```

```
\endoptiongroup
\beginoptiongroup{MAX AUTHORS WITHOUT ET AL:
 (if regular cite not selected)}
 {\ifmytemp*\fi}%
\optdef{*}{mct-x2}{Two authors without truncating}{}
\optdef{3}{mct-x3}{Three authors}{without truncating}
\optdef{4}{mct-x4}{Four authors}{without truncating}
\optdef{5}{mct-x5}{Five authors}{without truncating}
\optdef{6}{mct-x6}{Six authors}{without truncating}
\getans
\endoptiongroup
```

Typeface of names

The author names in the list of references normally appear in the current typeface. This may be changed to small caps, bold, or italics.

Alternatively, the surnames only can be formatted, with the first names in the regular font. One can also specify that the words ‘and’ and ‘et al.’ should be in the regular font, or that ‘et al.’ be italic.

Another possibility is that the names be put into a command `\bibnamefont{..}`, which must be defined in the LaTeX document. By default, this command does not format its argument. There is also a `\bibfnamefont` command for the first names, to be user-defined.

Editor names in a collection or in a book will not normally have these fonts applied to them; this may be additionally selected.

```
\beginoptiongroup{TYPEFACE FOR AUTHORS IN LIST OF REFERENCES:}{}
\optdef{*}{}{Normal font for author names}{}
\optdef{s}{nmft,nmft-sc}{Small caps authors}{(\string\sc)}
\optdef{i}{nmft,nmft-it}{Italic authors}{(\string\it\space or \string\em)}
\optdef{b}{nmft,nmft-bf}{Bold authors}{(\string\bf)}
\optdef{u}{nmft,nmft-def}{User defined author font}{(\string\bibnamefont)}
\getans
\endoptiongroup
\mytempfalse
\if\ans i\mytemptrue\fi
\if\ans s\mytemptrue\fi
\if\ans b\mytemptrue\fi
\if\ans u\mytemptrue\fi
\beginoptiongroup{FONT FOR FIRST NAMES
 (if non-default font for authors)}
 {\ifmytemp*\fi}%
\optdef{*}{}{First names same font as surnames}{}
\optdef{r}{fnm-rm}{First names in normal font}{}
\optdef{u}{fnm-def}{First names in user defined font}{(\string\bibfnamefont)}
\getans
\beginoptiongroup{EDITOR NAMES IN INCOLLECTION ETC:}{}
\optdef{*}{}{Editors incollection normal font}{}
\optdef{a}{nmfted}{Editors incollection like authors}{font}
\getans
\endoptiongroup
```

```
\beginoptiongroup{FONT FOR ‘AND’ IN LIST:}{}
\optdef{*}{}{‘And’ in author font}{(JONES AND JAMES)}
\optdef{r}{nmand-rm}{‘And’ in normal font}{(JONES and JAMES)}
\getans
\endoptiongroup
\endoptiongroup
```

Names in Citation label

This applies to author–year style only. The label is the text written by the `\cite` command, and for author–year style, this is something like ‘Daly et al. (1990b)’. One may select italics for the authors and for the extra label attached to the year. The year always remains plain.

This parallels the font selection for the names in the list of references except that there no choice for the first names, since only surnames are used in the labels. A user-defined `\citefontname` may also be selected, but this *must* be defined by the user since there will be no default definition for it.

If a font is selected for the cited authors, then the word ‘and’ may be optionally put in the normal font.

It is not possible to select the type of brackets for the year, since this is determined by the LaTeX style option that manages the author–year citations. This is not standard LaTeX, so that there are a number of private style files for achieving this.

```
\beginoptiongroup{FONT OF CITATION LABELS IN TEXT
 (if author-year citations)}
 {\ifnumerical\else*\fi}%
\optdef{*}{}{Cited authors plain}{as result of \string\cite\space command}
\optdef{i}{lab,lab-it}{Cited authors italic}{}
\optdef{s}{lab,lab-sc}{Cited authors small caps}{}
\optdef{b}{lab,lab-bf}{Cited authors bold}{}
\optdef{u}{lab,lab-def}{User defined citation font}{(\string\citenamefont)}
\getans

\mytempfalse
\if\ans i\mytemptrue\fi
\if\ans s\mytemptrue\fi
\if\ans b\mytemptrue\fi
\if\ans u\mytemptrue\fi
\beginoptiongroup{FONT FOR ‘AND’ IN CITATIONS
 (if non-default font for citation lables)}
 {\ifmytemp*\fi}%
\optdef{*}{}{Cited ‘and’ in author font}{}
\optdef{r}{and-rm}{Cited ‘and’ in normal font}{}
\getans
\endoptiongroup
\beginoptiongroup{FONT OF EXTRA LABEL
 (The extra letter on the year)}{}
\optdef{*}{}{Extra label plain}{}
\optdef{i}{xlab-it}{Extra label italic}{}
```

```
\getans
\endoptiongroup
\endoptiongroup
```

Label for missing author names

If the author and/or editor is missing, the standard `.bst` files use the `key` field in place of the names for purposes of ordering the entries.

For author–year styles, the `key` field is even inserted in the reference list and in the label in place of the authors. Optionally, one can suppress the year in this case, which causes `natbib` (version 7) to print only that key text as a code designation for the work. Thus if `KEY = "CS1-345"` and there are no authors, then `\citep` produces (CS1-345) and `\citet` simply CS1-345. That is, they behave like `\citeauthor`. If `natbib` did not recognize the blank year, one would get (CS1-345,) and CS1-345 (). (Earlier versions of `natbib` crash on a blank year.)

```
\beginoptiongroup{LABEL WHEN AUTHORS MISSING
 (if author-year citations)}
 {\ifnumerical\else*\fi}%
\optdef{*}{keyxyr}{Year blank when KEY replaces missing author}{(for natbib 7.0)}
\optdef{y}{}{Year included when KEY replaces missing author}{}
\getans
\endoptiongroup
```

Missing date

A missing date can be set to ???? or simply left blank. In the latter case, `natbib` version 7 will print only the authors without any year punctuation or brackets.

```
\beginoptiongroup{MISSING DATE
 (if author-year citations)}
 {\ifnumerical\else*\fi}%
\optdef{*}{}{Missing date set to ????}{in label and text}
\optdef{b}{blkyear}{Missing date left blank}{}
\getans
\endoptiongroup
```

Position of date

This applies to author–year style only. It makes sense to put the date immediately after the author list, since the two items (author and year) are the identifiers of the reference. Default position is at the end of the references, before any notes. It is also possible to place it even after the notes.

Medical journals have a system where the date is part of the journal specification, as Lancet 1994;45(2):34–40. Otherwise the date appears at the end.

```
\beginoptiongroup{DATE POSITION:}{}
\optdef{*}{}{Date at end}{}
```

```
\optdef{b}{dt-beg}{Date after authors}{}
\optdef{j}{dt-jnl}{Date part of journal spec.}{(as 1994;45:34-40) else at end}
\optdef{e}{dt-end}{Date at very end}{after any notes}
\getans
\endoptiongroup
\if\ans b\mytemptrue\else\if\ans j\mytemptrue\else\mytempfalse\fi\fi
```

Format of date

The year may be enclosed in parentheses, brackets, or preceded by a colon. If none of these are selected, the date (month plus year) appears. For author–year, the date normally consists only of the year, no month, but this may be overridden.

If the date comes just after the authors, then one might want special punctuation following it, like a colon, or space only. The latter is probably desirable if the date is brackets or parentheses.

The date can even be put into bold face.

```
\beginoptiongroup{DATE FORMAT
 (if non author-year citations)}
 {\ifnumerical*\fi}%
\optdef{*}{}{Plain month and year}{without any brackets}
\optdef{p}{yr-par}{Date in parentheses}{as (May 1993)}
\optdef{b}{yr-brk}{Date in brackets}{as [May 1993]}
\optdef{c}{yr-col}{Date preceded by colon}{as ‘: May 1993’}
\optdef{d}{yr-per}{Date preceded by period}{as ‘. May 1993’}
\optdef{m}{yr-com}{Date preceded by comma}{as ‘, May 1993’}
\optdef{s}{yr-blk}{Date preceded by space}{only, as ‘ May 1993’}
\getans
\beginoptiongroup{SUPPRESS MONTH:}{}
\optdef{*}{}{Date is month and year}{}
\optdef{x}{xmth}{Date is year only}{}
\getans
\endoptiongroup
\beginoptiongroup{REVERSED DATE
 (if including month)}
 {\if\ans x\else*\fi}%
\optdef{*}{}{Date as month year}{}
\optdef{r}{dtrev}{Date as year month}{}
\getans
\endoptiongroup
\endoptiongroup

\beginoptiongroup{DATE FORMAT
 (if author-year citations)}
 {\ifnumerical\else*\fi}%
\optdef{*}{}{Year plain}{without any brackets}
\optdef{p}{yr-par}{Year in parentheses}{as (1993)}
\optdef{b}{yr-brk}{Year in brackets}{as [1993]}
\optdef{c}{yr-col}{Year preceded by colon}{as ‘: 1993’}
\optdef{d}{yr-per}{Year preceded by period}{as ‘. 1993’}
\optdef{m}{yr-com}{Date preceded by comma}{as ‘, 1993’}
```

```
\optdef{s}{yr-blk}{Year preceded by space}{only, as ‘ 1993’}
\getans
\beginoptiongroup{INCLUDE MONTHS:}{}
\optdef{*}{}{Date is year only}{without the month}
\optdef{m}{aymth}{Include month in date}{}
\getans
\endoptiongroup
\beginoptiongroup{REVERSED DATE
 (if including month)}
 {\if\ans m*\fi}%
\optdef{*}{}{Date as month year}{}
\optdef{r}{dtrev}{Date as year month}{}
\getans
\endoptiongroup
\endoptiongroup

\beginoptiongroup{DATE PUNCTUATION
 (if date not at end)}
 {\ifmytemp*\fi}%
\optdef{*}{}{Date with standard block punctuation}{(comma or period)}
\optdef{c}{yrp-col}{Colon after date}{as 1994:}
\optdef{s}{yrp-semi}{Semi-colon after date}{as 1994;}
\optdef{p}{yrp-per}{Period after date}{even when blocks use commas}
\optdef{x}{yrp-x}{No punct. after date}{}
\getans
\beginoptiongroup{BLANK AFTER DATE:}{}
\optdef{*}{}{Space after date}{and punctuation}
\optdef{x}{yrpp-xsp}{No space after date}{as 1994:45}
\getans
\endoptiongroup
\endoptiongroup
\beginoptiongroup{DATE FONT:}{}
\optdef{*}{}{Date in normal font}{}
\optdef{b}{dtbf}{Date in bold face}{}
\getans
\endoptiongroup
```

Normally in author–year citations, the `year` entry is truncated to the last 4 characters, which should be the 4 digits of the year. Some users have requested the possibility of suppressing this truncation so that they may put text in the `year` field, such as “in press.” Another use for it is when years are given as “1968–72”. Actually, I have no idea why the year should be truncated at all.

```
\beginoptiongroup{TRUNCATE YEAR
 (if author-year citations)}
 {\ifnumerical\else*\fi}%
\optdef{*}{note-yr}{Year text full}{as 1990--1993 or ‘in press’}
\optdef{t}{}{Year truncated}{to last 4 digits}
\getans
\endoptiongroup
```

Article title in journal

The title of an article in a journal or in a collection (a book, or conference proceedings) may appear plain, in italics, within single or double quotes or even in guillemets. The last is best with T1 coding; a poor man's version for OT1 is provided; LaTeX 2_ε is required in both cases.

Furthermore, it may have sentence capitalization (first word and word following colon) or be capitalized as in the `.bib` file entry. That is why it is recommended to capitalize the entry text as it should appear when fully capitalized, putting words that are always capitalized in braces. Example:

```
TITLE="The Results of the {Giotto} Mission"
```

which produces either "The results of the Giotto mission" or "The Results of the Giotto Mission", depending on option.

Additionally, the article titles may be fully suppressed.

```
\beginoptiongroup{TITLE OF ARTICLE:}{}
\optdef{*}{}{Title plain}{with no special font}
\optdef{i}{tit-it}{Title italic}{(\string\em)}
\optdef{q}{tit-qq,qt-s}{Title and punctuation in single quotes}{(`Title,' ..)}
\optdef{d}{tit-qq}{Title and punctuation in double quotes}{(``Title,'' ..)}
\optdef{g}{tit-qq,qt-g}{Title and punctuation in guillemets}{(<<Title,>> ..)}
\optdef{x}{tit-qq,qt-s,qx}{Title in single quotes}{(`Title', ..)}
\optdef{y}{tit-qq,qx}{Title in double quotes}{(``Title'', ..)}
\optdef{z}{tit-qq,qt-g,qx}{Title in guillemets}{(<<Title>>, ..)}
\getans
\endoptiongroup
\mytempfalse
\if\ans q\mytemptrue\fi
\if\ans d\mytemptrue\fi
\if\ans g\mytemptrue\fi
\if\ans x\mytemptrue\fi
\if\ans y\mytemptrue\fi
\if\ans z\mytemptrue\fi
\beginoptiongroup{COLLECTION/PROCEEDINGS TITLES
 (if quoted title)}
 {\ifmytemp*\fi}%
\optdef{*}{bt-qq}{Quote collection and proceedings titles}{too}
\optdef{x}{}{Collection and proceedings titles not in quotes}{}
\getans
\endoptiongroup
\beginoptiongroup{CAPITALIZATION OF ARTICLE TITLE:}{}
\optdef{*}{}{Sentence style}{(capitalize first word and those in braces)}
\optdef{t}{atit-u}{Title style}{(just as in bib entry)}
\getans
\endoptiongroup

\beginoptiongroup{ARTICLE TITLE PRESENT:}{}
\optdef{*}{}{Article title present}{in journals and proceedings}
\optdef{x}{jtit-x}{No article title}{}
\getans
\endoptiongroup
```

Journal names

Abbreviated journal names normally contain periods; the periods may be removed with this option. In fact, only letters, numbers, and spacing are retained.

```
\beginoptiongroup{JOURNAL NAMES:}{}
\optdef{*}{}{Periods in journal names}{are retained, as ‘Phys. Rev.’}
\optdef{x}{jxper}{Dotless journal names}{as ‘Phys Rev’}
\getans
\endoptiongroup
```

Journal name is normally printed in italics; can be left in normal font.

```
\beginoptiongroup{JOURNAL NAME FONT:}{}
\optdef{*}{}{Journal name italics}{}
\optdef{r}{jttl-rm}{Journal name normal}{font}
\getans
\endoptiongroup
```

Title of Theses and Technical Reports

The title of a these (PhD or Master’s) is normally treated the same as that of a book. Optionally, it may be formatted like that of an article.

The title of a technical report is normally treated the same as that of an article. Optionally, it may be formatted like that of a book.

```
\beginoptiongroup{THESIS TITLE:}{}
\optdef{*}{}{Thesis titles like books}{}
\optdef{a}{thtit-a}{Thesis title like article}{}
\optdef{x}{thtit-x}{No thesis title}{}
\getans
\endoptiongroup

\beginoptiongroup{TECHNICAL REPORT TITLE:}{}
\optdef{*}{}{Tech. report title like articles}{}
\optdef{b}{trtit-b}{Tech. report title like books}{}
\getans
\endoptiongroup

\beginoptiongroup{TECHNICAL REPORT NUMBER:}{}
\optdef{*}{}{Tech. report and number plain}{as ‘Tech. Rep. 123’}
\optdef{i}{trnum-it}{Tech. report and number italic}%
      {as ‘{\string\it\space Tech. Rep. 123’}}
\getans
\endoptiongroup
```

Journal reference

Great diversity of opinion exists as to how a journal reference is to be formatted. It consists of a volume, possibly a number, and page limits. The number is really only necessary if the page numbers within one volume start at 1 for each physical 'number'. Since journals are often bound together in one volume later, it makes more sense to number the pages continuously through the whole volume.

I am only aware of one journal that used to reset the pagination for each 'number', in which case the number was part of the page designation. I had erroneously provided an option `vnum-pg` to achieve this, but I now realize that instead, for this one journal, the database entries must contain `pages="(2)33--2(55)"`. This option has been removed at version 3.84.

A number of styles for journal specifications are

21(2):33–55	21, no. 2: 33–55
21(2):33–55	**21**, #2, 33–55
21(2), 33–55	*21* (2); 33–55
21(2) (1995) 33–55	21(1995), 33-55
21(2) 33–55	vol. 21 (2), pp. 33–55

Here both start and stop page numbers have been given; often only the start page is wanted.

It is also possible to include the year as part of the journal specification, in which case the year is always in parentheses, attached snugly or with space to the volume, or preceding the pages.

```
\beginoptiongroup{JOURNAL VOLUME:}{}
\optdef{*}{}{Volume plain}{as vol(num)}
\optdef{i}{vol-it}{Volume italic}{as {\string\em\space vol}(num)}
\optdef{b}{vol-bf}{Volume bold}{as {\string\bf\space vol}(num)}
\optdef{d}{vol-2bf}{Volume and number bold}{as {\string\bf\space vol(num)}}
\getans
\endoptiongroup
```

The form of the 'number' is also given: in parentheses, with 'no.', with #, or omitted. The `vnum-b` option is meant to be used with `jdt-v` and `jdt-vs` but could be used alone.

```
\beginoptiongroup{JOURNAL VOL AND NUMBER:}{}
\optdef{*}{}{Journal vol(num)}{as 34(2)}
\optdef{s}{vnum-sp}{Journal vol (num)}{as 34 (2)}
\optdef{c}{vnum-cm}{Journal vol, num}{as 34, 2}
\optdef{n}{vnum-nr}{Journal vol, no. num}{as 34, no. 2}
\optdef{h}{vnum-h}{Journal vol, \string\# number}{as 34, \string\#2}
\optdef{b}{vnum-b}{Journal vol number}{as 34 2}
\optdef{x}{vnum-x}{Journal vol, without number}{as 34}
\getans
\endoptiongroup

\beginoptiongroup{VOLUME PUNCTUATION:}{}
\optdef{*}{}{Volume with colon}{as vol(num):ppp}
\optdef{s}{volp-sp}{Volume with colon and space}{as vol(num): ppp}
\optdef{h}{volp-semi}{Volume with semi-colon}{as vol(num); ppp}
\optdef{c}{volp-com}{Volume with comma}{as vol(num), ppp}
\optdef{b}{volp-blk}{Volume with blank}{as vol(num) ppp}
\getans
\endoptiongroup
```

```

\beginoptiongroup{YEAR IN JOURNAL SPECIFICATION:}{}
\optdef{*}{}{Journal year like others}{as given by date position}
\optdef{v}{jdt-v}{Journal vol(year)}{as 34(1995)}
\optdef{s}{jdt-vs}{Journal vol (year)}{as 34 (1995)}
\optdef{p}{jdt-p}{Year with pages}{as 34(2), (1995) 1345--1387}
\optdef{c}{jdt-pc}{Year, comma, pages}{as 34(2), (1995), 1345--1387}
\getans
\endoptiongroup

\beginoptiongroup{PAGE NUMBERS:}{}
\optdef{*}{}{Start and stop page numbers}{given}
\optdef{f}{jpg-1}{Only start page number}{}
\getans
\endoptiongroup

\beginoptiongroup{LARGE PAGE NUMBERS:}{}
\optdef{*}{}{No separators for large page numbers}{}
\optdef{c}{pgsep-c}{Comma inserted over 9999}{as 11,234}
\optdef{s}{pgsep-s}{Thin space inserted over 9999}{as 11 234}
\optdef{p}{pgsep-p}{Period inserted over 9999}{as 11.234}
\getans
\endoptiongroup

\beginoptiongroup{WORD ‘PAGE’ IN ARTICLES:}{}
\optdef{*}{}{Article pages numbers only}{as 234-256}
\optdef{p}{jwdpg}{Include ‘page’ in articles}{as pp. 234--256}
\getans
\endoptiongroup
```

Some journals want page numbers at the end, even for books, proceedings, as well as for journals.

```
\beginoptiongroup{POSITION OF PAGES:}{}
\optdef{*}{}{Pages given mid text}{as is normal}
\optdef{e}{pp-last}{Pages at end}{but before any notes}
\getans
\endoptiongroup

\beginoptiongroup{WORD ‘VOLUME’ IN ARTICLES:}{}
\optdef{*}{}{Article volume as number only}{as 21}
\optdef{p}{jwdvol}{Include ‘volume’ in articles}{as vol. 21}
\getans
\endoptiongroup
```

Fiddle with the format and location of the number/series for collections and inproceedings.

```
\beginoptiongroup{NUMBER AND SERIES FOR COLLECTIONS:}{}
\optdef{*}{num-xser}{Allows number without series}{and suppresses word "number"}
\optdef{s}{}{Standard BibTeX}{as: "number 123 in Total Works"; error if number and no series}
\getans
\endoptiongroup

\beginoptiongroup{POSITION OF NUMBER AND SERIES:}{}
```

```
\optdef{*}{}{After chapter and pages}{as in standard BibTeX}
\optdef{t}{numser}{Just before publisher}{or organization}
\getans
\endoptiongroup
```

Fiddle with the format and location of series and volume with books and collections.

```
\beginoptiongroup{VOLUME AND SERIES FOR BOOKS/COLLECTIONS:}{}
\optdef{*}{}{Vol. 23 of Series}{as in standard BibTeX}
\optdef{s}{ser-vol}{Series, vol. 23}{}
\getans
\endoptiongroup

\beginoptiongroup{POSITION OF VOLUME AND SERIES FOR INCOLLECTIONS:}{}
\optdef{*}{}{Series and volume after the editors}{}
\optdef{e}{ser-ed}{Series and volume after booktitle}{and before editors}
\getans
\endoptiongroup
```

It is possible to decide whether the journal name should be separated from the following specifications with a blank or comma.

```
\beginoptiongroup{JOURNAL NAME PUNCTUATION:}{}
\optdef{*}{}{Comma after journal}{name}
\optdef{x}{jnm-x}{Space after journal}{name}
\getans
\endoptiongroup
```

Books

The title of a book (as opposed to an article in a book or journal) is normally italicized. This may be set to the regular font.

The page numbers in books may be set in parentheses, as (pp. 345–350).

```
\beginoptiongroup{BOOK TITLE:}{}
\optdef{*}{}{Book title italic}{(\string\em)}
\optdef{p}{btit-rm,bt-rm}{Book title plain}{(no font command)}
\getans
\endoptiongroup

\beginoptiongroup{PAGES IN BOOKS:}{}
\optdef{*}{}{Pages in book plain}{as pp. 50-55}
\optdef{p}{bkpg-par}{Pages in book in parentheses}{as (pp. 50-55)}
\optdef{x}{bkpg-x}{Pages in book bare}{as 50-55}
\getans
\endoptiongroup
\beginoptiongroup{TOTAL PAGES OF A BOOK:}{}
\optdef{*}{}{Total book pages not printed}{}
\optdef{p}{pg-bk}{For book: 345 pages}{or pp.}
\optdef{a}{pg-bk,pg-pre}{Total book pages before publisher}{}
\getans
\endoptiongroup
```

Some psychology journals wish to have the publisher's address preceding the name, separated by colon, as

> New York: Wiley and Sons

Some journals (e.g. Nature) put publisher in parentheses with date, as (Wiley and Sons, New York, 1983). These normally put the date in parentheses at the end anyway, so this is a merging of the two sets of parentheses.

```
\beginoptiongroup{PUBLISHER ADDRESS:}{}
\optdef{*}{}{Publisher, address}{as Harcourt, New York}
\optdef{a}{add-pub}{Address: Publisher}{as New York: Harcourt}
\getans
\endoptiongroup

\beginoptiongroup{PUBLISHER IN PARENTHESES:}{}
\optdef{*}{}{Publisher as normal block}{without parentheses}
\optdef{p}{pub-par}{Publisher in parentheses}{}
\optdef{d}{pub-date}{Publisher and date in parentheses}{(Oxford, 1994)}
\optdef{c}{pub-date,pub-xc}{Publisher and date in parentheses, no comma}{(Oxford 1994)}
\optdef{f}{pub-date,pub-xpar}{Publisher and date without parentheses}{Oxford, 1994}
\optdef{k}{pub-date,pub-xpar,pub-xc}{Publisher and date, no parentheses, no comma}{Oxford 1994}
\getans
\endoptiongroup

\beginoptiongroup{PUBLISHER POSITION:}{}
\optdef{*}{}{Publisher after chapter, pages}{}
\optdef{p}{pre-pub}{Publisher before chapter, pages}{}
\optdef{e}{pre-edn}{Publisher after edition}{}
\getans
\endoptiongroup
```

ISBN, ISSN, DOI numbers

Books normally possess an ISBN number. This may be included as an optional entry for `book`, `inbook`, `booklet`, `incollection`, `proceedings`, `inproceedings`. However, it should be suppressed for `inbook` etc. when there is a crossref to another book with the ISBN number.

Periodicals contain an ISSN number. Add this to `article`, or course, but also to `inproceedings` and `proceedings`, since they are sometimes printed in a periodical.

Journal articles that appear online are given a DOI number, something more robust than a URL that can change as machines are upgraded. The American Geophysical Union (AGU) uses the DOI as part of the page number substitution for electronic journals, placing the number where the pages would normally appear.

```
\beginoptiongroup{ISBN NUMBER:}{}
\optdef{*}{isbn}{Include ISBN}{for books, booklets, etc.}
\optdef{x}{}{No ISBN}{}
\getans
\endoptiongroup
```

```
\beginoptiongroup{ISSN NUMBER:}{}
\optdef{*}{issn}{Include ISSN}{for periodicals}
\optdef{x}{}{No ISSN}{}
\getans
\endoptiongroup

\beginoptiongroup{DOI NUMBER:}{}
\optdef{*}{doi}{Include DOI}{as "doi: number"}
\optdef{u}{url-doi}{Format DOI as URL //dx.doi.org/doi}{(must give url options!)}
\optdef{a}{agu-doi,doi}{Insert DOI AGU style}{as part of page number}
\optdef{x}{}{No DOI}{}
\getans
\endoptiongroup
```

Editor of book without author

This is normally

> J. K. James, editor

but may also be

> J. K. James, (editor)
> J. K. James (editor),

Alternatively, the word *editor* may be capitalized and/or abbreviated.

```
\beginoptiongroup{`EDITOR' AFTER NAMES (EDITED BOOKS WITHOUT AUTHORS):}{}
\optdef{*}{}{Word `editor' after name}{}
\optdef{a}{edpar}{`Name (editor),'}{in parentheses, after name, comma after}
\optdef{b}{edpar,bkedcap}{`Name (Editor),'}{as above, editor upper case}
\optdef{c}{edparc}{`Name, (editor)'}{in parentheses, after name, comma between}
\optdef{d}{edparc,bkedcap}{`Name, (Editor)'}{as above, editor upper case}
\optdef{e}{edparxc}{`Name (editor)'}{in parentheses, after name, no commas}
\optdef{f}{edparxc,bkedcap}{`Name (Editor)'}{as above, editor upper case}
\getans
\endoptiongroup
```

Edited by

For an article within an edited collection, the normal form is

> In J. K. James, editor, *Title of Collection* ...

Alternative forms are

> In J. K. James (editor), *Title* ...
> In *Title*, edited by J. K. James ...
> In *Title* (Edited by J. K. James) ...

If none of the `edby` variations is used, then the same system is used as for edited books, i.e. `edpar` applies.

```
\beginoptiongroup{EDITOR IN COLLECTIONS:}{}
\optdef{*}{}{Same as for edited book}{(names before booktitle)}
\optdef{b}{edby}{In booktitle, edited by .. }{(where .. is names)}
\optdef{p}{edby-par}{In booktitle (edited by ..)}{}
\optdef{c}{edby-parc}{In booktitle, (edited by ..)}{}
\optdef{e}{edby,edbyx}{In booktitle, editor ..}{}
\optdef{f}{edby,edbyw}{In booktitle, (editor) ..}{}
\optdef{k}{edby-par,edbyx}{In booktitle (editor..)}{}
\optdef{g}{edby-parc,edbyx}{In booktitle, (editor..)}{}
\optdef{j}{edby,edbyy}{In booktitle, .., editor}{}
\optdef{m}{edby-par,edbyy}{In booktitle (.., editor)}{}
\getans
\endoptiongroup
\mytempfalse
\if\ans p\mytemptrue\fi
\if\ans k\mytemptrue\fi
\if\ans c\mytemptrue\fi
\if\ans f\mytemptrue\fi
\beginoptiongroup{CAPITALIZE ‘EDITOR’ OR ‘EDITED BY’
 (if editor capitalizable)}
 {\ifmytemp*\fi}%
\optdef{*}{}{‘(editor,..)’ or ‘(edited by..)’}{in lower case}
\optdef{c}{edcap}{‘(Editor,..)’ or ‘(Edited by..)’}{in upper case}
\getans
\endoptiongroup
```

Block punctuation

Blocks are logical sections of the reference specification, such as the author block, the journal block, editor block, etc. These are normally separated by periods, but alternatively a comma may be used. Another choice is to use commas except after titles where a period is given.

LaTeX offers an `openbib` option, which means that the blocks are not only new sentences, but new lines as well. This can only function when the default option here is taken, for then the command `\newblock` is placed between the blocks. This command is normally defined to do nothing, but LaTeX redefines it to issue a new line when open bibliographies are wanted.

```
\beginoptiongroup{PUNCTUATION BETWEEN SECTIONS (BLOCKS):}{}
\optdef{*}{}{\string\newblock\space after blocks}
   {(periods or new lines with openbib option)}
\optdef{c}{blk-com}{Comma between blocks}{}
\optdef{s}{blk-com,com-semi}{Semi-colon between blocks}{}
\optdef{b}{blk-com,com-blank}{Blanks between blocks}{}
\optdef{t}{blk-tit}{Period after titles of articles, books, etc}{else commas}
\optdef{u}{blk-tit,tit-col}{Colon after titles of articles, books, etc}{else commas}
\optdef{a}{blk-tita}{Period after titles of articles}{else commas}
\optdef{d}{blk-tita,tit-col}{Colon after titles of articles}{else commas}
\getans
\endoptiongroup
```

```
\mytempfalse
\if\ans c\mytemptrue\fi
\if\ans s\mytemptrue\fi
\if\ans b\mytemptrue\fi
\if\ans t\mytemptrue\fi
\if\ans a\mytemptrue\fi
\beginoptiongroup{PUNCTUATION BEFORE NOTES
 (if not using \string\newblock)}
 {\ifmytemp*\fi}%
\optdef{*}{}{Notes have regular punctuation}{like all other blocks}
\optdef{p}{blknt}{Notes preceded by period}{}
\getans
\endoptiongroup
\beginoptiongroup{PUNCTUATION AFTER AUTHORS:}{}
\optdef{*}{}{Author block normal}{with regular block punctuation}
\optdef{c}{au-col}{Author block with colon}{}
\getans
\endoptiongroup
```

In with colon

When referring to works in a collection, one begins the block describing that collection with *In*. Optionally, one may add a colon.

```
\beginoptiongroup{PUNCTUATION AFTER ‘IN’:}{}
\optdef{*}{}{Space after ‘in’}{for incollection or inproceedings}
\optdef{c}{in-col}{Colon after ‘in’}{(as ‘In: ...’)}
\optdef{i}{in-it}{Italic ‘in’}{and space}
\optdef{d}{in-col,in-it}{Italic ‘in’ and colon}{}
\optdef{x}{in-x}{No word ‘in’}{for edited works}
\getans
\endoptiongroup
\beginoptiongroup{‘IN’ WITH JOURNAL NAMES
 (if using ’in’ with collections)}
 {\if\ans x\else*\fi}
\optdef{*}{}{No ‘in’ before journal name}{}
\optdef{i}{injnl}{Add ‘in’ before journal name}{in style for incollection}
\getans
\endoptiongroup
```

Final punctuation

The punctuation at the end of the reference is normally a period. This may be suppressed.

```
\beginoptiongroup{FINAL PUNCTUATION:}{}
\optdef{*}{}{Period at very end}{of the listed reference}
\optdef{x}{fin-bare}{No period at end}{}
\getans
\endoptiongroup
```

Abbreviations

A number of words may be abbreviated: pages, editors, volume, chapter, and so on. The first two may be independently set to abbreviation, the rest with a single option.

Additionally, the edition numbers may be output as words (first, second, etc.) or as numbers (1st, 2nd, etc.). (Recall that the input in the `.bib` file is always as English words.)

```
\beginoptiongroup{ABBREVIATE WORD ‘PAGES’
 (if not using external language file)}
 {\if!\cfile!\relax*\fi}%
\optdef{*}{}{‘Page(s)’}{(no abbreviation)}
\optdef{a}{pp}{‘Page’ abbreviated}{as p. or pp.}
\optdef{x}{ppx}{‘Page’ omitted}{}
\getans
\beginoptiongroup{ABBREVIATE WORD ‘EDITORS’:}{}
\optdef{*}{}{‘Editor(s)’}{(no abbreviation)}
\optdef{a}{ed}{‘Editor’ abbreviated}{as ed. or eds.}
\getans
\endoptiongroup

\beginoptiongroup{OTHER ABBREVIATIONS:}{}
\optdef{*}{}{No abbreviations}{of volume, edition, chapter, etc}
\optdef{a}{abr}{Abbreviations}{of such words}
\getans
\endoptiongroup
\beginoptiongroup{ABBREVIATION FOR ‘EDITION’
 (if abbreviating words)}
 {\if\ans a*\fi}%
\optdef{*}{}{‘Edition’ abbreviated as ‘edn’}{}
\optdef{a}{ednx}{‘Edition’ abbreviated as ‘ed’}{}
\getans
\beginoptiongroup{MONTHS WITH DOTS:}{}
\optdef{*}{}{Months with dots}{as Jan.}
\optdef{x}{mth-bare}{Months without dots}{as Feb Mar}
\getans
\endoptiongroup
\endoptiongroup
\beginoptiongroup{EDITION NUMBERS:}{}
\optdef{*}{xedn}{Editions as in database}{saving much processing memory}
\optdef{w}{}{Write out editions}{as first, second, third, etc}
\optdef{n}{ord}{Numerical editions}{as 1st, 2nd, 3rd, etc}
\getans
\endoptiongroup
\endoptiongroup
```

The above choices about abbreviations are made only if the internal languages are taken (English or `babel`). For an external language definition file, these choices, along with possible other ones, are made in the external file, which is read in at this point.

```
\umes{Reading external language file \string\cfile=\cfile}%
\if!\cfile!\relax\else
```

```
 \input\cfile
\fi
```

This file contains the standard set of stored journal names present in the basic bibliography style files. If other files containing journal names are to be included, they may only contain the options `jabr` or `jaa` since these options are selected here. No option menus from the journal-name files will be read in.

```
\beginoptiongroup{STORED JOURNAL NAMES:}{}
\optdef{*}{}{Full journal names}{for prestored journals}
\optdef{a}{jabr}{Abbreviated journal names}{}
\optdef{s}{jabr,jaa}{Abbreviated with astronomy shorthands}{like ApJ and AJ}
\getans
\endoptiongroup
```

Variations on *and*

It is possible to replace the word *and* with an ampersand &, and to specify whether a comma is to precede *and* in a list of more than two names.

A variable *and* may be provided for with the command `\BIBand` in place of the word. In this case, the command must be defined in the document file or some other package called. (This is intended for situations where an ampersand is wanted in parenthetical citations, but the word in textual ones.)

```
\beginoptiongroup{AMPERSAND:}{}
\optdef{*}{}{Use word ‘and’}{in author lists}
\optdef{a}{amper}{Use ampersand}{in place of ‘and’}
\optdef{v}{varand}{Use \string\BIBand}{in place of ‘and’}
\getans
\endoptiongroup

\beginoptiongroup{COMMA BEFORE ‘AND’:}{}
\optdef{*}{}{Comma before ‘and’}{as ‘Tom, Dick, and Harry’}
\optdef{n}{and-xcom}{No comma before ‘and’}{as ‘Tom, Dick and Harry’}
\optdef{c}{and-com}{Comma even with 2 authors}{as ‘Tom, and Harry’}
\getans
\endoptiongroup
\beginoptiongroup{COMMA BEFORE ‘AND’ EVEN FOR COLLECTION EDITORS
 (if using comma before ‘and’ with authors)}
 {\if\ans c*\fi}%
\optdef{*}{and-com-ed}{Comma with 2 editors}{in collections}
\optdef{x}{}{Two editors without comma}{as ‘Tom and Harry’}
\getans
\endoptiongroup
\beginoptiongroup{NO ‘AND’ IN REFERENCE LIST:}{}
\optdef{*}{}{With ‘and’}{before last author in reference list}
\optdef{x}{xand}{No ‘and’}{as ‘Tom, Dick, Harry’}
\getans
\endoptiongroup

\beginoptiongroup{COMMA BEFORE ‘ET AL’:}{}
\optdef{*}{}{Comma before ‘et al’}{in reference list}
\optdef{x}{etal-xc}{No comma before ‘et al’}{}
```

```
\getans
\endoptiongroup
```

Font of *et al*

One can chose that *et al.* be put into italics. Or, if the authors are in a different font from the regular one, the *et al.* can still be Roman.

```
\beginoptiongroup{FONT OF ‘ET AL’:}{}
\optdef{*}{}{Plain et al}{}
\optdef{i}{etal-it}{Italic et al}{}
\optdef{r}{etal-rm}{Roman et al}{even when authors something else}
\getans
\endoptiongroup
```

Additional Data Fields

The American Physical Society's REVTeX package contains BibTeX support with a `bst` file generated from a variant of `merlin.mbs`. The extra fields are also available here.

- **collaboration**: A collaboration name associated with a reference.
- **eprint**: The e-print citation for the reference (Los Alamos or otherwise). E-print numbers can be turned into hyperlinks to the online article. The output is
  `\eprint{`*eprint-spec*`}`
- **archive**: is an optional argument for `\eprint`, as
  `\eprint[`*archive-des*`]{`*eprint-spec*`}`
  The *archive-des* is some code such as `arXiv` that is translated to a base URL by a class or package file. The default definition of `\eprint` ignores *archive-des* and prints *eprint-spec* as a URL.
- **url**: A URL associated with the reference. Can be turned into a hyperlink.

A collaboration appears as part of the author list and the other two appear at the end of the citaton. The URL field can be selected independently of this option.

In addition there are new fields for journals like Phys. Rev. D that no longer use page numbers.

- **eid**: Electronic article identifier.
- **numpages**: Number of pages in an article. For use in conjunction with the **eid** field when page counts are desired. Deprecated when submitting to Phys. Rev.

  The `eprint` (with `archive`) and `url` fields may be included independently of the other REVTeX fields.

  The `eid` field is now always included, although it is optional for the bibliography entries. This electronic identifier is a replacement for the page number in electronic journals: it is the sequence number in the printed volume. If present, it will be used in place of the page number.

```
\beginoptiongroup{ADDITIONAL REVTeX DATA FIELDS:}{}
\optdef{*}{}{No additional fields}{for REVTeX}
\optdef{r}{revdata,eprint,url,url-blk}{Include REVTeX data fields}
 {collaboration, eid, eprint, archive, numpages, url}
\getans
\mytemptrue
\if\ans r\mytempfalse\fi
\beginoptiongroup{E-PRINT DATA FIELD:
(without REVTeX fields)}
{\ifmytemp*\fi}
\optdef{*}{}{Do not include eprint field}{}
\optdef{e}{eprint}{Include eprint and archive fields}{for electronic publications}
\getans
\endoptiongroup
```

URL address

For electronic documents with an Internet address, add a URL entry. Harvard already has this, but here it is done for all styles. The URL text will be set with the `\url` command in the `url` package by Donald Arseneau. This package must be loaded for the command to work right. It allows line breaks at punctuations. Otherwise, `\texttt` is used instead, with no line breaks. The URL text is preceded by `\urlprefix` which defaults to "URL " but may be redefined by the user to be whatever s/he wants. The final space must be included.

Note: selecting the REVTEX fields automatically includes this, so the offer only is made if REVTEX has been rejected.

```
\beginoptiongroup{URL ADDRESS:
(without REVTeX fields)}{\ifmytemp*\fi}
\optdef{*}{}{No URL}{for electronic (Internet) documents}
\optdef{u}{url,url-blk}{Include URL}{as regular item block}
\optdef{n}{url,url-nt}{URL as note}{}
\optdef{l}{url,url-nl}{URL on new line}{after rest of reference}
\getans
\endoptiongroup
\endoptiongroup
```

Reference Component Tagging

If reference component tagging is enabled, we apply tags like `\bibinfo` and `\eprint` to the fields of data in the content of the `\bibitem` statement. We also ensure that these commands have a default meaning within the scope of the `thebibliography` environment. The default definitions simply print the field and ignore the tag. However, other programs or packages might make use of the tag information to separate authors from title, for example.

```
\beginoptiongroup{REFERENCE COMPONENT TAGS:}{}
\optdef{*}{}{No reference component tags}
```

```
 {in the \string\bibitem\space entries}
\optdef{b}{bibinfo}{Reference component tags}
 {like \string\bibinfo\space in the content of \string\bibitem}
\getans
\endoptiongroup
```

Define emphasis

In everything that been mentioned so far, italicization should be understood to mean 'emphasize' in the LaTeX sense. This means that the command `\em` is used. This is not the same as `\it`, which is always italics. Rather, with `\em`, the font style switches between `\rm` and `\it` depending on the context. Here one may choose to true italics, or to switch off italics altogether.

```
\beginoptiongroup{EMPHASIS:
 (affects all so-called italics)}{}
\optdef{*}{}{Use emphasis}{ie, \string\em, allows font switching}
\optdef{i}{em-it}{Use true italics}{ie, \string\it, absolute italics}
\optdef{x}{em-x}{No italics}{at all}
\optdef{u}{em-ul}{Underlining}{in place of italics, best with ulem package}
\getans
\endoptiongroup
```

Plain TeX compatibility

Bold face, italics, and emphasis are made with the LaTeX 2ε commands, which makes them incompatible with the obsolete LaTeX2.09, and with Plain TeX. There are also some extra testing for existing commands that best work with LaTeX 2ε syntax.

If the bibliography style file is to be fully compatible with Plain TeX, do not select the option `nfss` but do take `plntx`.

```
\beginoptiongroup{COMPATIBILITY WITH PLAIN TEX:}{}
\optdef{*}{nfss}{Use LaTeX commands}{which may not work with Plain TeX}
\optdef{t}{plntx}{Use only Plain TeX}{commands for fonts and testing}
\getans
\endoptiongroup
```

Terminate the options list. If a language definition file has been called, then we have a closing brace too many, so add another dummy opening brace.

```
\if!\cfile\jfile!\else
\begingroup\MBswitch
\wr(,{\pc)
\endgroup
\fi

\endoptions
⟨/options⟩
```