Bibliographies and LaTeX

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Overview

Dealing with Bibliographies in LaTeX

- There are three general concerns
  - Generating (and maintaining) a "Bib" file
  - Entering citations into your document
  - Getting LaTeXto turn the first two concerns into something usable
- Other tweaks
  - Specific formatting requirements

The Bib File

What is a “Bib” File?

- A bib file, noted with a `.bib` extension, is a plain text file that contains a list of your citations
  - These entries include
    - Author
    - Title
    - Etc.
    - Citekey

Example Bib File

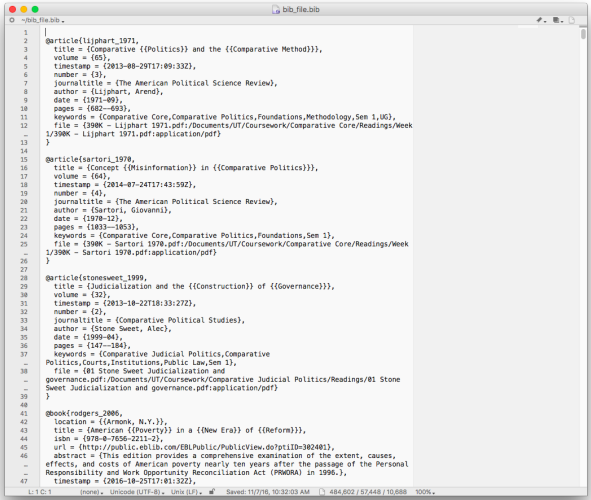


Figure 1

How to Make a bib file

- Do it by hand
  - Google Scholar makes getting the citation easy
  - But it means that all you end up with is this goofy file
- Use a .bib file app manager like BibDesk
  - Relatively easy to use
  - Adds tools like keywords and groups

BibDesk

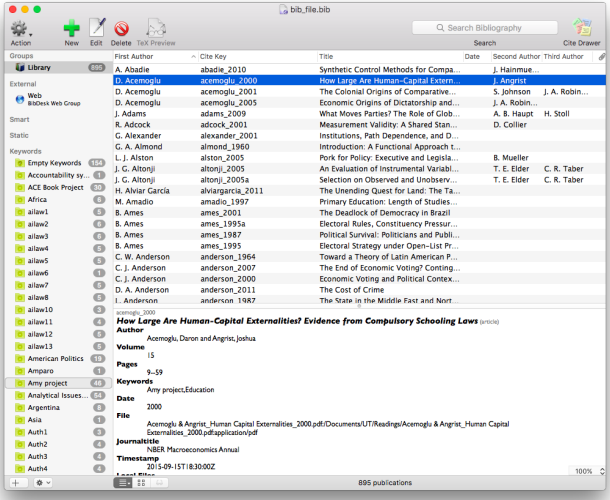
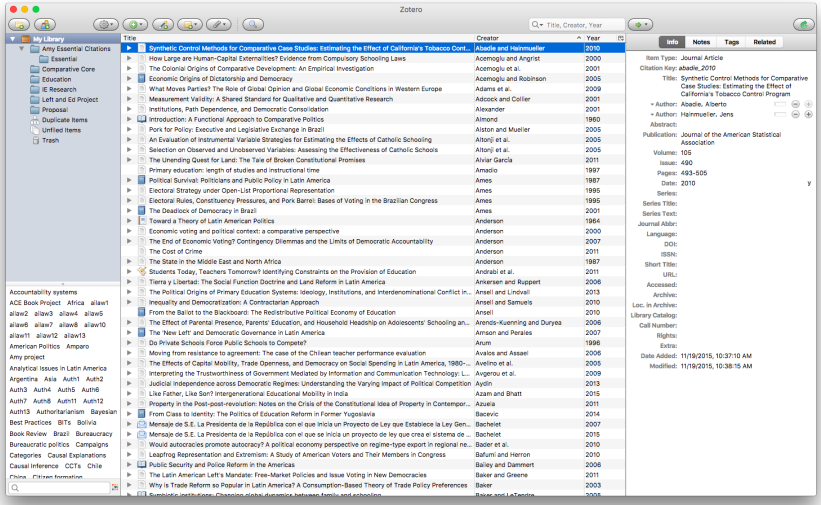


Figure 2

How to Make a bib file

- Use a full “point-and-click” manager like Zotero or Mendeley

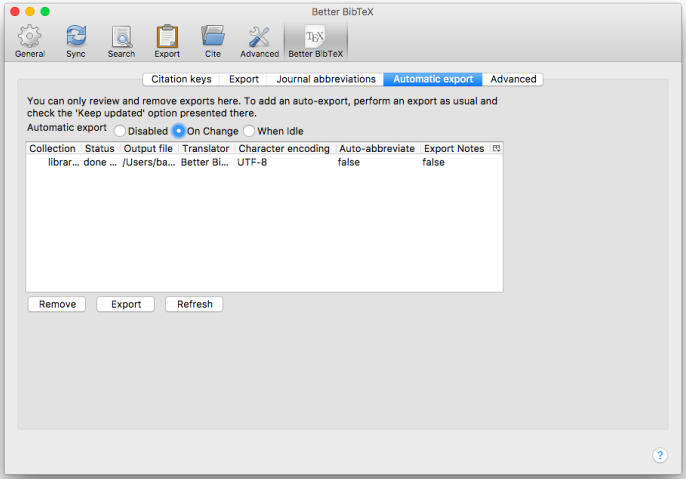
Zotero


Zotero
My Library
Amy Essential Citations
Essential
Comparative Core
Education
IE Research
Left and Ed Project
Proposal
Duplicate Items
Unfiled Items
Trash
Title
Creator
Year
Info
Notes
Tags
Related

Zotero (or similar)

- Advantages
  - Easy to use
  - Complex groups/collections/tags
  - Notes
  - Attach files and index them for search
  - Has options for Word, if you ever need to go that route
- Disadvantages
  - Can slow down with larger bibliographies
  - "Point-and-click" convenience is ultimately slower
  - Possibly not future-proof

My Zotero Use



My Zotero Use

- Adjust my citation key default
- Automatic export to bib file

Citations - Overview

Natbib vs BibLaTeX

- There are two citation packages options: “natbib” and “biblatex”
  - They use different backend programs to process the citations (bibtex and biber, respectively)
  - The differences are pretty small between the two, but there are some incompatibilities
- You have to make a choice up front when generating your bib file
  - The choice will affect what you put into your LaTeXfile, but other than that it shouldn't matter very much

Citations Using natbib

The Preamble

- `\usepackage{natbib}`
- Well that's easy!

Citations in the Document

- `\citep{<citekey>}` for an parenthetical citation
- `\citep[<pages>]{<citekey>}` for parenthetical with a page citation
- `\citet{<citekey>}` for a text citation
- `\citeyear{<citekey>}` for just the year citation
- There are some other options, but these are the most common

References Page

```
\clearpage % to add a page break
\bibliographystyle{apsr} % assuming you have apsr.bst saved in the corre
\bibliography{<your_bib_file>}
```

Compiling into a pdf

- To compile within TeXworks (or similar):
  - Compile once as pdfLaTeX
  - Compile a second time as BibTeX
  - Compile a third time as pdfLaTeX
  - Compile a fourth time as pdfLaTeX

Some Notes on natbib

- There are lots of style files out there
  - You can save it in the working directory for your document or `~/Library/texmf/bibtex/bst` for global access (on Mac, not sure about Windows)
- The bib file should also be placed in the working directory for your document
  - If it's not, you can use an absolute path to direct LaTeXto it
- But it struggles with foreign characters

Citations Using biblatex

The Preamble

- `\usepackage[style=authoryear, url=false, doi=false]{biblatex}`
- `\addbibresource{<your_bib_file>}`
- Also pretty easy!
  - Note the second line implies you could use multiple bib files

Citations in the Document

- `\autocite{<citekey>}` for almost everything
- `\textcite{<citekey>}` for a text citation
- `\autocite[<page_no>]{<citekey>}` also works for page numbers
- You can also use things like `\citeyear{}` if you need

References Page

```
\clearpage % to add a page break
\printbibliography
```

Compiling into a pdf

- To compile within TeXworks (or similar):
  - Compile once as pdfLaTeX
  - Compile a second time with biber (may require extra setup)
  - Compile a third time as pdfLaTeX
  - Compile a fourth time as pdfLaTeX

Some Notes on biblatex (ht: JAB)

- Although it solves problems with foreign/unicode characters, it has some limitations/quirks
- No deep library of citation style files (but, honestly, who cares?)
- Default is to put "In:" before the journal name; solve with (one line)
  - `\renewbibmacro{in:}{\ifentrytype{article}{}{\printtext{\bibstring{in}\intitlepunct}}}`

Also this:

- Inconsistent period placement with quotation marks; solve with:
  - `\usepackage[american]{babel}`
  - And to avoid a warning, also add `\usepackage{csquotes}`

Other Considerations

Isn't there an easier way to compile!?

- If you happen to be using a .Rnw file in RStudio, then when you "knit" that, it will do all four steps for you in one fell swoop
- If you compile from the command line, you can run `latexmk <yourfile.tex>`
  - This allows you to set extra flags like `-xelatex` or `-c`

Some cool tricks (ht: JAB)

- Load the hyperref package at the very end of your preamble to automatically link your text citations with your reference list
  - `\usepackage{hyperref}`
  - Fix its ugly box default and make links colored words instead by adding this immediately after:
    - `\hypersetup{colorlinks=true}`

One more trick (thanks again Alex)

- If you keep a DOI in your bib file for your entries, you can link the title of each entry to the DOI

```
\newbibmacro{string+doi}[1]{%
  \iffieldundef{doi}{#1}{\href{http://dx.doi.org/\thefield{doi}}{#1}}}
\DeclareFieldFormat{title}{\usebibmacro{string+doi}{\mkbibemph{#1}}}
\DeclareFieldFormat[article]{title} % should be one line with next
{\usebibmacro{string+doi}{\mkbibquote{#1}}}
```

There are lots of options for everything

- JFGI