0.1 Bibliography with LaTeX

Bibliographies often pose a great technical challenge when writing academic works. Not only do they take a long time to format, but are often times difficult to keep track of. The potential variability in styles also proves to be an issue, if the formatting requirements are changed midway through the process.

LaTeX solves this problem by having its own built in systems that can do in text citations and automatically format bibliographies of effectively any kind of style, using basic premade input (E.G. author name, book title, date etc.).

This can significantly save time when making in text citations (especially when you are making Chicago Style citations, where footnotes are required for every in-text reference).

There are multiple "engines" that can be used to format bibliographies, each with slightly different syntax. Here we will only consider BibLaTeX.

0.1.1 The Overall Structure

A BibLaTeX bibliography consists of 3 elements.

1. A definition of the type of bibliography you will be using

2. A separate file that contains the information about your sources

3. The actual citations and print bibliography statement within your document

0.1.1.1 Setting your Bibliography style

To be able to use BibLaTeX, you must load it into your document as a package with a \usepackage statement (This is placed before the begin document statement). The details of the bibliography style are then passed as "optional" parameters in square brackets to this command.

For APA citations I use the following:

```
\usepackage[style=apa,autolang=other, bibencoding
=utf8,backend=biber,url=true,firstinits=true,language=auto,sorting=none]
{biblatex}
```

Figure 1: Autolang and language options allow to use other languages in your bibliography. url=true, makes sure links to online sources are added within your bibliography. The style is set to "APA".

For Chicago citations I use the following declaration:

```
▌\usepackage[notes,backend=biber, dashed=false]{biblatex-chicago}
```
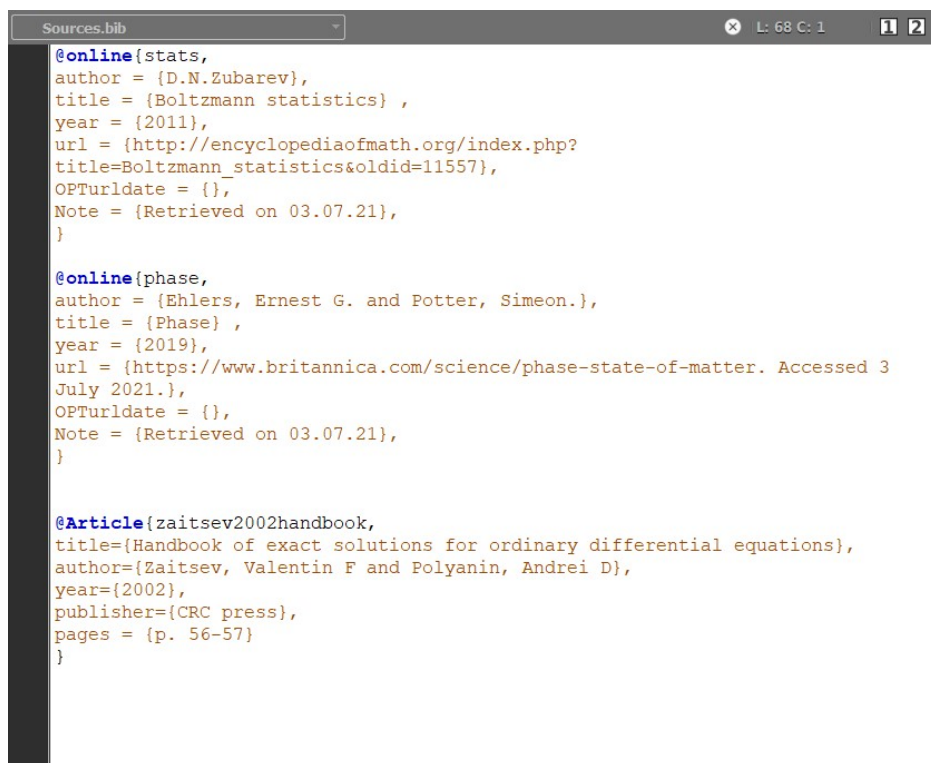
Figure 2: This loads in a special BibLaTeX package made specifically for Chicago style citations. The Notes option, will make sure to add footnotes for every instance of an in text citation. The dashed=false option removes dashes in front of Author name in bibliography.

You can learn about more bibliography BibLaTeX styles **_here_**.

0.1.1.2 Defining your sources

Before you can start actually making citations, you need to provide BibLaTeX information about your sources (E.G. Title, author, date of publication).

This is done in a separate .bib file, where each csource has its own dedicated "entry". Let's look at the syntax based on an example:

```
Sources.bib                                          L: 68 C: 1      1 2
@online{stats,
author = {D.N.Zubarev},
title = {Boltzmann statistics} ,
year = {2011},
url = {http://encyclopediaofmath.org/index.php?
title=Boltzmann_statistics&oldid=11557},
OPTurldate = {},
Note = {Retrieved on 03.07.21},
}

@online{phase,
author = {Ehlers, Ernest G. and Potter, Simeon.},
title = {Phase} ,
year = {2019},
url = {https://www.britannica.com/science/phase-state-of-matter. Accessed 3
July 2021.},
OPTurldate = {},
Note = {Retrieved on 03.07.21},
}


@Article{zaitsev2002handbook,
title={Handbook of exact solutions for ordinary differential equations},
author={Zaitsev, Valentin F and Polyanin, Andrei D},
year={2002},
publisher={CRC press},
pages = {p. 56-57}
}
```

Figure 3: Contents of a .bib file

Each entry for a source begins with an @ statement, which defines the type of source this is. In Figure (3), there are two online sources and one article.

The rest of the information about the source is then enclosed in curly brackets.

The first element, is the name you assign to your source. This will be the name that you will use to refer to your source later in the document and does not need to be the same as the actual title of the work.

After a comma, you can finally introduce all of the details of your source. Each detail entry is

separated by a comma. The value for the entry is also surrounded in curly brackets. They do not need to be entered in any specific order or even be filled out at all (you can have sources without a date, and BibLaTeX will format them accordingly).

Note that there are a lot more possible specifications than what is shown in Figure (3). You can easily learn more online.

Once you made this file, save it on your computer. You now have to "link it" to the document where you would like to use these sources. This is done by placing the following command before the begin document statement :

$$\textbf{\textbackslash addbibresource\{ file path \}}$$

*Note that if your .bib file is placed in the same folder as your .tex file, you can simply write the name of the .bib file, rather than specifying the entire path.

The process of creating and linking this file is the same for all citation styles.

0.1.1.3 Embedding citations

Now we are ready to start making in text citations.

To do so for an APA style, simply add the following command, where ever you would to have your citation:

$$\textbf{\textbackslash cite\{ Internal Source Title \}}$$

*Note that this uses the source name you assigned in your .bib file. E.G. to cite the Boltzmann Statistics online source from Figure (3), i will type:

\cite{stats}

This however, will not create our in text citation yet. Compile the document once. Then we must tell LaTeX to compile our bibliography (so that it generates all of the references). On most desktop IDEs, you can do this by hitting F11. Then you will need to compile your document once more.

For example, the output for the \cite{stats} will print:

D.N.Zubarev, 2011

For the Chicago style shown above, the following command is required:

$$\textbf{\textbackslash autocite\{ Internal Source Title\}}$$

This will create a footnote citation. Here is an example of a page, with multiple such citations

detail on the nature of the reforms from 1700 to 1725.

[158 words]

0.2 Investigation

From 1700 to 1725, under the rule of Peter the Great, the Russian empire was involved in series of expansive imperialist conquests against Sweden and the Ottoman Empire. Throughout these years, Peter carried out major reforms in all fields of work, aimed at modernizing Russia into a competitive European state, with schools and technical institutions opening across the country. This raises the question: "**What were the causes of education reforms in Russia from 1700-1725?**". The common approach to the problem is a holistic structuralist perspective of all of changes in Russia, a great person interpretation of which was explored by T.M.Bogoslovskiy, who stated that all of the reforms were a radical turn from policy taken by previous Tsars, caused by Peter the Great's vision of an "absolute' government.[1] This is challenged by a response to crisis historiography proposed by S.M. Soloviev, exploring the reforms as a reaction to Russia's social, technological and political weaknesses.[2] For the specific case of education, a structuralist historiography proposed by N.M.Karamzin, is most balanced.[3] The education reforms from 1700 to 1725, were caused primarily due Russia's expansionist wars, but also due to the inability of the existing system of schooling to self-modernize. Peter the Great was not the cause of changes to education, but rather the change in the approach to eliminating state weakness through radical and rapid adoption of western scientific frameworks.

[227 words]

Educational reforms in Russia from 1700 to 1725, were primarily caused by a need to develop and support a modern, well trained navy and land army to sustain its imperialist expansion towards the Baltic and Black seas. In in the Azov campaign of 1695, the Russian army failed to take the fortress of Azov, due to its inability to prevent Ottoman reinforcements by water.[4] As a result, a consilium of Generals ordered the Tsar "to build galleys for the future war".[5] Through mass involvement of international shipbuilders, a fleet was constructed, ensuring success in the second Azov campaign.[6] The policy of war continued with importing foreign specialists for needs of war with the government providing German carpenters to all shipbuilding enterprises.[7]This shows Russia's dependence on alien professionally trained workers. This weakness further presented itself at early stages of the Northern War against Sweden, with the army suffering a major defeat at Narva as foreign officers could not to efficiently communicate with Russian speaking troops.[8] Military origins of education reforms are also visible in their purely utilitarianistic nature. For example,

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1. Соловьев, Евгений Александрович, «Автореферат Петр I в отечественной историографии конца XIX - начала XX вв.», In Russian (2006), 32.
2. Соловьев, Евгений Александрович, 23.
3. Соловьев, Евгений Александрович, 16-17.
4. Б. Кафенгаузен, ВНЕШНЯЯ ПОЛИТИКА РОССИИ ПРИ ПЕТРЕ I, In Russian (Государственное издательство политической литературы, 1942), 10.
5. Петр Первый, «Письмо к Федору Матвеевичу Апраксину», in Письма и Бумаги императора Петра Великого. Т.1 1688-1701 (С.Петербургъ. ГОСУДАРСТВЕННАЯ ТИПОГРАФИЯ, November 1695).
6. Б. Кафенгаузен, ВНЕШНЯЯ ПОЛИТИКА РОССИИ ПРИ ПЕТРЕ I, 11-12.
7. Петр Первый, «Правила для строения частных судов», in Бычков, А.Ф. et al., Письма и Бумаги императора Петра Великого. Т.1 1688-1701.
8. Овчинников, М.В., БИОГРАФИЯ ПЕТРА И ВЕЛИКАГО (Печатный Дом П.П. Меркулова, 1876), 46-47.

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Figure 4: Yes. Those footnotes are entirely auto generated using your .bib file and autocite commands

Finally, you would want to have a final bibliography shown at the end. This uses a very simple command:

$$\textbf{\textbackslash printbibliography\}}$$

LATEXwill only include sources that have been used in your document in the bibliography. If you would like all sources from your .bib file to be included, you should add the following command to your document:

$$\textbf{\textbackslash nocite\{*\}}$$

Within our document, we only had 1 citation (the stats one on page 3). So the printbibliography command will output the following:

Bibliography

D.N.Zubarev. (2011). *Boltzmann statistics* [Retrieved on 03.07.21]. http://encyclopediaofmath.
org/index.php?title=Boltzmann_statistics&oldid=11557

It is possible to change the bold bibliography title with the following option after your print bibliography command:

\printbibliography[title = Your Own Title]

This will produce the following output:

Your Own Title

D.N.Zubarev. (2011). *Boltzmann statistics* [Retrieved on 03.07.21]. http://encyclopediaofmath.
org/index.php?title=Boltzmann_statistics&oldid=11557

The heading is a bit smaller this time, because I used a work around to make this fit all on the same page, by adding the heading=subbibliography option.