# Exercises - 0

## Setting up a Typesetting system

The current workflow uses:

- Pandoc (https://pandoc.org/installing.html, v. 3.1.11.1),
- LaTeX(or, actually, xelatex) (https://www.latex-project.org/get/),
- makefiles (that are native to Unix systems, but can be ported in windows using Cygwin)

The typical file hierarchy is:

```
├─── bib
│    └─── bib.bib
├─── img
├─── info.md
├─── main.md
├─── makefile
└─── templates
     ├─── head.tex
     └─── theoretical-computer-science.csl
```

Where

- `bib.bib` is a file containing references, using the bibtex formatting, often used with LaTeX.
- `img/` contains potential images loaded in the main document,
- `info.md` contains some meta-data and instructions for the formatting (they could be in `main.md` as well, it is just to keep that later file as small as possible, and to be able to re-use this templating easily),
- `makefile` gives instructions on how to generate `.tex` and `.pdf` files from `main.md`, using commands such as

  ```
  pandoc --pdf-engine=xelatex --metadata-file=info.md \
      --citeproc -M date="`date "+%B %e, %Y"`" \
      --include-in-header templates/head.tex $< -o $@
  ```

  that means:

  - Tell pandoc to process main.md (the `$<` parameter, which denotes in makefile the source we need to construct what we are constructing),
  - using XeLaTeX as the pdf engine,
  - using info.md for the metadatas,
  - using citeproc (which is a filter that process the bibliographical references),
  - setting the date to be the value returned by the command `date "+%B %e, %Y"` (so, the current date, formatted nicely),
  - including in the header the file `templates/head.tex`
  - and outputting into a file called main.pdf (the `$@` parameter, which denotes in makefile what we are constructing).

- `templates/head.tex` contains some LaTeXtweaking (primarily about the sections, some unicode characters and the appearance of the links),

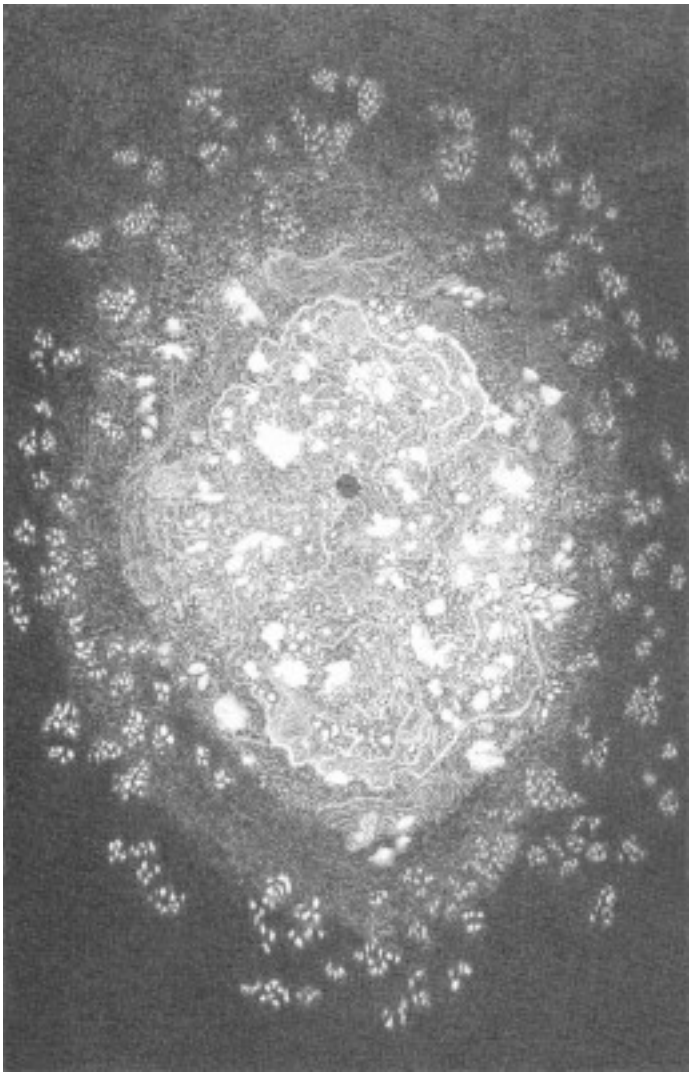
- `templates/theoretical-computer-science.csl` is the Citation Style Language file, that explains how references should be displayed. Since this is very field-sensitive, many different formatting exist, and we pick the one for theoretical computer science.

If you install entr, you can also use `make watch` that will automatically re-compile `main.md` into `main.pdf` whenever `main.md` is modified (that is, edited and saved).

**Important**: Note that this details the organization of *the current folder* (exercises_0) but that the overall repository is organized a bit differently, to avoid duplicating the bib and template files.

## Examples

Here is a reference [1], and here is an image, courtesy of Jérôme Minard:



## References

[1] C. Aubert, Categories for Me, and You?, Augusta University, 2019. https://hal.science/hal-02308858.