

# L<sup>A</sup>T<sub>E</sub>X for linguists

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Today

- The dissertation . . .

- (1) So far we've looked at ways of typesetting relatively short articles. In a larger piece of work, like a dissertation or a book, it's advisable to split the document up into different files and access them through a master file. You'll typically edit your book a chapter at a time.
- (2) First create a new project folder in `/mytex`, calling it something like **dissertation**.
- (3) Create a new document called **master.tex** in `/dissertation`. Give it a preamble and a body as follows:

```
\documentclass{book}
```

```
\usepackage{linguex}
```

```
\begin{document}
```

```
\end{document}
```

- (4) Create three files called `chapter1`, `chapter2` and `chapter3`. Write some text for each file including some linguistic examples using the `linguex` package. (Don't include a preamble or body this time.) At the beginning of each of these files give a chapter title with the command

```
\chapter{ }
```

- (5) After you've put some text in your chapter files. Go back to `master.tex` and include the following lines in the body of the file.

```
\input{chapter1}
```

```
\input{chapter2}
```

```
\input{chapter3}
```

- (6) Typeset `master.tex` and view the `.dvi` file.

- (7) A disadvantage of using `\input` is that automatic numbering (page numbers, examples, sections, etc.) is reset as each new file is read in. This problem goes away if we use `\include` as below. We will come back to uses of `\input` in a moment.

```
\include{chapter1}  
\include{chapter2}  
\include{chapter3}
```

- (8) Note that `\input` does not begin a new page, but `\include` does.
- (9) Now suppose you have your dissertation draft and you're going to go through it chapter by chapter and make revisions. Obviously, you don't want to print out the entire dissertation. The solution is to use the command `\includeonly{file list}` in your preamble in `master.tex`. TeX will generate the `.dvi` file for the relevant chapter *with the correct page numbering as it would appear in the complete document*. Include the following line to typeset and view Chapter Three only.

```
\includeonly{chapter3}
```

- (10) `\input` may be used not only to read in text. If you use many packages, or if you have customized many of your own commands, it's a good idea to put these in a separate file, then you don't have to reedit these for each new book or article. Create the files **mypackages** and **mycommands** in the `/dissertation` folder. In **master.tex** delete lines specifying any packages. In **mypackages** include instead the following lines.

```
\usepackage{linguex}  
\usepackage{tipa}
```

- (11) In **mycommands** include the following line

```
\newcommand{\ipa}{\textipa}
```

(12) Go to `master.tex` and include the following line in you preamble:

```
\input{mypackages}
```

(13) Also include the following line somewhere in `master.tex` wherever you want T<sub>E</sub>X to start reading in the commands you've customized.

```
\input{mycommands}
```

(14) In one of your chapter files, include the following line and typeset `master.tex`.

```
\ipa{blA:blA:blA:}
```

- (15) Books and dissertations consist of three obligatory parts
- a. front matter  
title page, acknowledgments, preface, table of contents
  - b. main matter  
main body of text
  - c. back matter  
bibliography, index

- (16) Our chapters come under the main matter of the book so, in `master.tex`, include the following lines of code:

```
\frontmatter
```

```
\mainmatter
```

```
\include{chapter1}
```

```
\include{chapter2}
```

```
\include{chapter3}
```

```
\backmatter
```

- (17) The control sequences `\frontmatter`, `\mainmatter` and `\backmatter` are declarations which change certain global formatting options. Thus, `\frontmatter` changes the page numbering to Roman numerals and suppresses the numbering of any chapters you might include in the front matter, such as preface or acknowledgments.
- (18) `\mainmatter` resets the page numbering to 1 with Arabic numerals and activates chapter numbering. `\backmatter` switches *off* chapter numbering again.

- (19) Title pages may be freely generated using the `titlepage` environment, but the design of titlepage is then solely in your hands. Under the front matter, generate a title page like this:

```
\begin{titlepage}
\begin{center}
\vspace*{4cm}
{\Huge Non-cosmological red shift and \\
the theory of functional heads: \\
A view from nanotechnology}\\
\vspace{1cm}
{\Large I. M. Misunderstood\\
\vspace{.5cm}
University of Troms\o }
\end{center}
\end{titlepage}
```

- (20) If you want something more standard, specify `[titlepage]` as a documentclass option:

```
\documentclass[titlepage]{book}
```

- (21) Then the title is formatted in the usual way, using `\title`, `\author` and `\maketitle`.

- (22) To generate the table of contents, type the command `\tableofcontents` in your front matter. Typeset twice. Once to read the section titles into the `.toc` file, twice to read the contents of the `.toc` file into the document.
- (23) Other lists (figures, tables, user-defined) work the same way. `\listoffigures` reads/writes a file with extension `.lof`, `\listoftables` reads/writes a file with extension `.lot`.

- (24) Let's equip the dissertation with a couple of appendices. Since this is a book, we want the appendices to be chapter-like. (In articles, appendices are sections.) Create two new files called `appendix1` and `appendix2` in `/dissertation`. Give both a title using the `\chapter{}` command.
- (25) Now go back to `master.tex` to declare the files for inclusion under the back matter. The declaration `\appendix` has the effect of resetting the chapter counter for books and reports and the section counter for articles. The word 'Chapter' in the title is replaced by 'Appendix', and each appendix is numbered with an uppercase letter. (Sub)sections in appendices are numbered normally.

```
\backmatter  
\include{appendix1}  
\include{appendix2}
```

- (26) Indices in L<sup>A</sup>T<sub>E</sub>X are generated in a manner which is similar to the way bibliographies are generated. The best way to do this is to use a program called MakeIndex. In your preamble, load the package `makeidx` and issue the command `\makeindex`. This will activate the `\index` commands and force index entries to be written to a file called an `.idx` file. This is analogous to the `.aux` file read by BibT<sub>E</sub>X. The output of BibT<sub>E</sub>X is a `.bbl` file containing your bibliography environment. Similarly, MakeIndex outputs a `.ind` file containing the complete index environment.
- (27) So far we haven't specified where the index is to appear. Under backmatter, include the declaration `\printindex`.

```
\backmatter
\include{appendix1}
\include{appendix2}
\printindex
```

- (28) We don't have anything to put in our index just yet, so go to your chapter files and make index entries like this. Suppose you're talking about pronouns and you want an entry for that. Go to where you mention pronouns in your text and write

```
\index{pronouns}
```

- (29) Typeset `master.tex`. Now this will generate a file called `master.idx` which contains your index entries. Now call `MakeIndex`. This will read the contents of the `.idx` file into the `.ind` file. When you typeset the document a second time, the contents of the `.ind` file will appear correctly positioned in your `.dvi` file.

- (30) Indices may also contain sub-entries and sub-sub-entries. Say you're talking about second person pronouns for hunchbacks in Nootka, you might want a sub-entry for second person pronouns and a sub-sub-entry for second person pronouns used specifically to address hunchbacks. Go to the relevant portion of text and write the following, typesetting `master.tex` when you're done.

```
\index{pronouns!second person}
```

```
\index{pronouns!second person!hunchback}
```

- (31) Multiple indices are an advantage if you want to have separate indices for, say, subjects, languages and authors. To do so you need to load the package **multind** in the preamble or in **mypackages**. Specify the name of each index in the back matter as the second argument of `\printindex`, the syntax of which now becomes `\printindex{mnemonic}{name}`.

```
\printindex{n}{Index of Names}  
\printindex{l}{Index of Languages}  
\printindex{s}{Index of Subjects}
```

- (32) Under **multind**, `\index` takes two obligatory arguments.

```
\index{s}{pronouns}  
\index{n}{Sapir, Edward}  
\index{l}{Nootka}
```

- (33) So far we've only addressed how to do isolated entries on a single page. What about if your entry runs on for more than one page? In this case it is possible to specify both the beginning and end point using the following pipe syntax:

```
\index{pronouns|}  
Here I go on and on about pronouns for page after page  
\index{pronouns|)}
```

- (34) Finally, a common function in indices is reference to another entry. Try the following in your text. Typeset.

```
\index{pronouns|seealso{nominals}}
```

```
\index{second person|see{pronouns}}
```