

L^AT_EX for Economics and Business Administration

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Why this workshop?

- In the *social sciences* few attention to what tools to use (and why they make sense)
- L^AT_EX is used very much in the scientific world and can *work* together with
 - Stata/R
 - Markdown/HTML
 - Reference managers
- Why / want to give this workshop
 - intrinsic interest
 - my goal: pre-conferences workshops / courses

What I want (and don't want) with this workshop

- Give a general introduction of why some tools work together
 - Why L^AT_EX
 - Why reference managers
- Give an introduction to L^AT_EX
 - First the basics
 - Next workshop: some advanced stuff
- What I do not want
 - Tell you what applications to use (**you** need to decide and make a **well-informed** decision)

Background

- T_EX has been devised by Donald E. Knuth in the late 70's
- L^AT_EX is a set of macro's around TeX and devised in the 80's
- L^AT_EX is a *typesetting program*, not a *Word processor*
 - It is actually some code that needs to be compiled
 - Code is typed in by an editor
- So,
 - Huge differences between Word and L^AT_EX
 - for L^AT_EX you need an editor:
 - Specific editors: TexStudio, TexShop, RStudio
 - General editors: Sublime, TextMate, Notepad++, Vim, Emacs

Disadvantages

- Not WYSIWYG
- You need to learn (quite) some commands
 - Learning curve, but
 - hurray for cheat sheets and Google
- Difficult to cooperate with people that went to the *dark side*
- *Basic* L^AT_EX has *difficulties* with incorporating new fonts (Hoefler, minion pro)
 - XeTeX
 - For the purists: L^AT_EX does it right (L^AT_EX vs Word)

Advantages

- Free (as in beer) and ubiquitous
- WYSIWYM
- Consistent lay-out throughout the whole document (including tables, appendices, formulas, source code, etc)
- Internal references are a breeze (references, tables of . . . , indices)
- Forced to structure documents
- Macros, thus scriptable
- Large community, thus a package for almost everything (books, articles, presentation, posters, exams, musicscores)
- Superior typography & output
- Large publishers (i.e., Elsevier and Springer) have L^AT_EX templates for their articles

How does it work in practice?

- You edit a `.tex` file without thinking about how it looks
 - distraction free writing (yeah right)
- You then compile it
 - L^AT_EX is unforgiving: if there is an error, usually it does not compile
 - Typically, errors are missing brackets or parentheses.
- Typically, source `.tex` file is compiled into `.pdf`

A process diagram

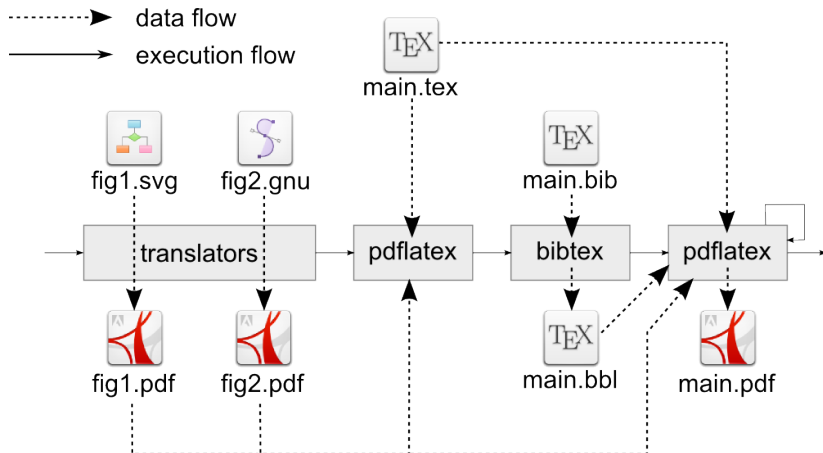


Figure: Process diagram

Code, documentation and output

- ❶ Synonyms
- ❷ All based on `.txt` files
- ❸ Encompasses almost anything
 - data itself (`.csv`, `.txt`)
 - set of commands for data cleaning and statistical analysis (`.do`, `.R`)
 - database with references (`.bib`)
 - text for articles, presentations or websites (`.tex`, `.html`)
- ❹ Only output is displayed/interpreted differently (e.g., in a browser or pdf viewer)

Folder structure of your new project (theses, paper & research)

- Think *a priori* about project set-up
 - Separate analysis, data and output files
- Be careful with source data!
 - Separate source and derived data files
 - Typically
 - you get/collect data
 - transform data
 - analyse data
 - Keep track of all these stages!

Document structure

```
\documentclass{article}
% a % indicates line is a comment
% This area is called preamble
\title{This is brilliant}
\author{Thomas de Graaff}

\begin{document}

\maketitle

\section{Introduction}

lorem ipsum ...

\end{document}
```