The Joys of LATEX

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Our Path Today

1. Overview of LATEX
   - Why LATEX?
   - Why Not LATEX?
   - A Few LATEX Features

2. Bibliography/ Reference Management
   - BibTeX and Biber
   - Mendeley, Zotero and Biber

3. Presentations and Posters
   - Beamer/Tikz

4. LATEX for Linguists
   - Trees
   - Symbols
   - Glosses

5. Extensive Online Support

Portability of Code

- Overleaf.com has made real-time / collaboration simple

Logistics

Why LaTeX

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- Easy to transfer between templates, layouts and operating systems
    - **What You See Is What You Get...Everywhere!**

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- Dynamic section, figure, item numbering etc.

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- Dynamic section, figure, item numbering etc.
- Citations are automatically added to bibliographies

Why Not LATEX

Learning Curve

Tables

Aesthetics

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- Picture placement/sizing can be tricky

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Aesthetics
- Picture placement/sizing can be tricky
- LaTeX has its fair share of quirks

A Few LaTeX Features

- Very easy to change formats (slide template demo)
  - Columns / Format
  - Line Numbers
  - Journal Template (https://www.overleaf.com/7657746tdydxffysqjg#/26800114/)

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- Dynamic numbering!!
- Equations and symbols (+Blocks +Verbatim)

Example of Denotation Function

```
\usepackage{stmaryrd}
% or
\newcommand{\sem}[2][M\!,g]{\mbox{ $[\![ #2 ]\!]^{#1}$}}
\sem[M',g]{walks}
```

becomes $[\![walks]\!]^{M',g}$

Tables

Tables can be tricky

```
\begin{table}[]
\caption{My caption}
\label{my-label}
\begin{tabular}{ll}
Name     & Date    \\
Adam     & 1/1/17  \\
Bob      & 1/2/16  \\
Charlie  & 1/3/15  \\
\end{tabular}
\end{table}
```

Table: My caption

Name	Date
Adam	1/1/17
Bob	1/2/16
Charlie	1/3/15

- Lots of tables at http://www.tablesgenerator.com/
- Tables can be made from Python and R adataframes

From PDF to citation

Adding an article from Google Scholar is simple

- Copy the BibTeX key
- Paste the key into JabRef
- Download the PDF and rename it with the citation key
- Add the BibTeX key to the BibTeX file

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Easy Citations

Typing the `\cite` command within LaTeX:
```
This statement requires citation \cite{p1}.
```
Automatically produces

- This statement requires citation [Smith, 2012].
- And adds it to the bibliography

📄 John Smith (2012)
Title of the publication
Journal Name 12(3), 45 − 678.

Mendeley, Zotero and Biber

- Mendeley, Zotero, EndNote etc. all support BibTeX
- Changing reference styles can be done with a single line
- Supposed to use `biber` instead now
    - Offers more stability
    - Supports more character types
    - Doesn't work with all bibliography packages, such as `natbib`

Posters and Presentations

- Going between presentations and posters is easy
- Can use tikz and beamer packages
- A slide is a block
- Useful if including lots of technical details
- Not always useful for more straightforward presentations
- But often less headaches than Microsoft

LATEX For Linguists

<u>Lots</u> of resources for linguists
`\includegraphics[scale=0.2]{LatexForLinguists.png}`

Easy Tree Diagrams

This code:

```
\usepackage{qtree}
\Tree [.S
        [.NP LaTeX ]
            [.VP [.V is ] [.NP fun ] ] ]
```

Produces:

Lots of Pretty Math

Short title

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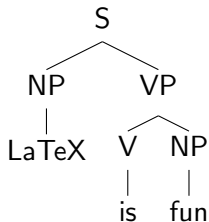
Presentations and Posters
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LATEX for Linguists
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Sets

`\setof{a,b,c}`	which produces	$\{a, b, c\}$
`\setof{x : walk'(x)}`	which produces	$\{x : walk'(x)\}$
`\tuple{a,b,c}`	which produces	$\langle a, b, c \rangle$

Symbols

$\neg$	`\neg`	$\equiv$	`\equiv`
$\&$	`\&`		
$\rightarrow$	`\rightarrow`	$\Rightarrow$	`\Rightarrow`
$\vee$	`\vee`	$\wedge$	`\wedge`
$\exists$	`\exists`	$\forall$	`\forall`
$\vdash$	`\vdash`	$\models$	`\models`
$\in$	`\in`	$\times$	`\times`
$\cup$	`\cup`	$\cap$	`\cap`
$\subset$	`\subset`	$\subseteq$	`\subseteq`
$\supset$	`\supset`	$\supseteq$	`\supseteq`

Greek Letters

α	`\alpha`	β	`\beta`
γ	`\gamma`	ϵ	`\epsilon`
λ	`\lambda`	π	`\pi`
ρ	`\rho`	σ	`\sigma`
τ	`\tau`	ψ	`\psi`
ϕ	`\phi`	ω	`\omega`

Glosses and Numbering Are Super Easy

- Example numbers can be continued throughout a document, and modified on-the-fly

- Aligning glosses is easy
  ```
  \usepackage{gb4e}
  \begin{exe}
  \ex
  \gll Stolz ist er auf seine Kinder gewesen. \\
  proud is he of his children been\\
  \trans 'He was proud of his children.'
  \end{exe}
  ```

  (1) Stolz ist er auf seine Kinder   gewesen.
       proud is   he of   his   children been
       'He was proud of his children.'

Support is Everywhere!

Short title

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- Ask Anything (General Support)
    - `tex.stackexchange.com`
    - `reddit.com/r/LaTeX`
    - `en.wikibooks.org/wiki/LaTeX`
- For Linguists
    - `http://www.essex.ac.uk/linguistics/external/clmt/latex4ling/`
    - `https://en.wikibooks.org/wiki/LaTeX/Linguistics`
- Symbols Galore (Complete Lists)
    - `http://tug.ctan.org/info/symbols/comprehensive/symbols-a4.pdf`
    - Draw! `http://detexify.kirelabs.org/classify.html`
    - Pretty `http://zelmanov.ptep-online.com/ctan/symbols.pdf`
- Table Generator `http://www.tablesgenerator.com/`
- Task Management with `todonotes`

The End

Slides & code available at
https://github.com/angoodkind/LaTeXTutorial