

L^AT_EX and Linguistics

How to make your research pretty

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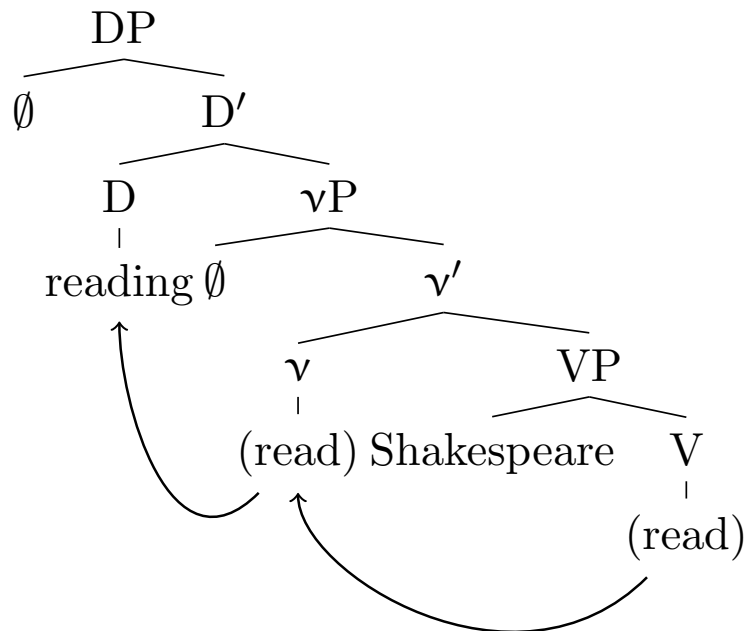
Introduction

What is L^AT_EX ?

- ▶ A document preparation system built on top of the T_EX formatting system
- ▶ Allows you to focus on content, not formatting
 - Also allows for fine-grained control over formatting
- ▶ Used to typeset equations, trees, diagrams, etc.
- ▶ Fully customizable, free, standardized, and infinitely more powerful than MSWord, OpenOffice.org, etc.

Examples

Some things that L^AT_EX makes beautifully & easily:

$$\llbracket \mathbf{Every} \rrbracket^{\mathcal{M},g} \left(\llbracket \mathbf{deputy} \rrbracket^{\mathcal{M},g} \right) \left(\llbracket \mathbf{likes} \rrbracket^{\mathcal{M},g} \left(\llbracket \mathbf{Lucy} \rrbracket^{\mathcal{M},g} \right) \right)$$


(1) I saw Jane.

(2) * I Jane saw.

The Benefits of L^AT_EX

Why L^AT_EX over Word or OpenOffice.org?

- ▶ Print-ready .pdf output looking exactly the way you want
- ▶ No compatibility issues .doc, .docx, .rtf, etc.
- ▶ Quick and efficient formatting
 - No dragging those little margin nubs to set indentation!
- ▶ Looks 1,000,000 times more professional
- ▶ Make equations, trees, glosses without 3rd party programs
- ▶ Automated numbering, references, bibliographies, TOCs
- ▶ Small document size, quick access
- ▶ 100% free, massive support community worldwide
- ▶ Zero bloatware, zero editing restrictions
- ▶ T_EX templates provided by publishers, conferences

Seriously, it's great.

Installation

L^AT_EX is free and available for every operating system.

- ▶ PC: MiK_TE_X (miktex.org)
- ▶ Mac: Mac_TE_X (tug.org/mactex)
- ▶ Linux: T_EX Live (tug.org/texlive) (often pre-installed)
- ▶ Online: ShareLaTeX.com, writeLaTeX.com

On any of these platforms, you have your choice of T_EX editor.

- ▶ What an IDE is to programming languages, T_EX editors (IWEs) are to L^AT_EX.
- ▶ https://en.wikipedia.org/wiki/Comparison_of_TeX_editors

Use

Writing in L^AT_EX involves a pseudo-programming language

- ▶ Special commands and symbols introduced by a backslash
 - `\u` ü `\c{c}` ç `\v{z}` ž
- ▶ Some commands only work in “math” environment
 - `λx` λx `$\pi \neq \frac{42}{7}$` $\pi \neq \frac{42}{7}$
- ▶ Parameters and options use curly, square brackets
 - `\begin{tabular}{ccc}` begins 3-column table with center-aligned cells
- ▶ Manual spacing with `\hfill`, `\hskip[]`, `\vspace[]`, etc.
 No more playing around with TAB indentation!

You can also define your own symbols with `\newcommand`

Use

Several built-in structures called by `\begin{environment}`

```
\begin{tabular}{|r|c|} \hline
Subfield & Coolness \\ \hline
  Phonology & 4/10 \\ \hline
  Semantics & 6/10 \\ \hline
  Syntax & 10/10 \\ \hline
\end{tabular}
```

Subfield	Coolness
Phonology	4/10
Semantics	6/10
Syntax	10/10

```
\begin{enumerate}
\item A is for Anaphora
\item B is for  $\beta$ 
\end{enumerate}
```

1. A is for Anaphora
2. B is for β

```
\begin{itemize}
\item A is for Awesome
\item B is for Bulleted List
\end{itemize}
```

- ▶ A is for Awesome
- ▶ B is for Bulleted List

Document Types

L^AT_EX offers a variety of pre-configured and customizable document classes called by `\documentclass{}`

- ▶ `{article}` for papers
- ▶ `{beamer}` for presentations
- ▶ `{report}` for chaptered books, theses, etc.
- ▶ several more

These may be modified with packages, themes, custom parameters, etc.

Packages

Additional structures and symbols are available with *packages*

If it has been thought of, it has an associated package

Common packages used in linguistics:

- ▶ `stmaryrd`, `amssymb`, `bbding` for symbols
- ▶ `tipa` for IPA symbols
- ▶ `covington`, `gb4e` for glosses, numbered examples
- ▶ `natbib` for reference management
- ▶ `qtree`, `tikz-qtree`, `xy-ling` for syntax trees
- ▶ `tikz` for diagrams/drawings
- ▶ `ot-tableau` for OT tableau

Online Resources

L^AT_EX discussion dominates StackOverflow, has its own WikiBook, and is the subject of innumerable blogs

- ▶ en.wikibooks.org/wiki/LaTeX - Full documentation
- ▶ detexify.kirelabs.org - Draw a symbol, get a L^AT_EX code
- ▶ madebyevan.com/fsm - Generate a Finite State Machine
- ▶ tex.stackexchange.com/ - Q&A
- ▶ Google.com - Answers almost every question ever

Departmental Resources

L^AT_EX is also used by the majority of the department. Some will be more open to helping you than others.

- ▶ Sarah Murray - L^AT_EX champion, gives out .tex copies of homework, developed several useful custom document classes and templates
- ▶ Feel free to pester Anca, Dave, Mia, Robin, Todd, Zac, many others

Things You'll Never Have to Worry About Again

- ▶ Kerning
- ▶ Ligatures
- ▶ Did I remember to re-number those example references when I added a new example?
- ▶ How do I format article citations again?
- ▶ Will this look different when I print it?
- ▶ Will they be able to open it? (Will they have the right fonts?)
- ▶ Does this look professional enough?

That's it!

Thanks!

Any questions?