

Typing Linguistics with covingtn.sty

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8 NOVEMBER 1992

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Introduction

This file, `covingtn.tex`, is the documentation for the November 1992 version of `covingtn.sty`, which is a L^AT_EX style option for typing many of the special notations common in linguistics.

To use `covingtn.sty`, you should have a copy of it in either your current directory or the directory where L^AT_EX styles are kept on your system; then include `covingtn` among the optional parameters of `\documentstyle`, like this:
`\documentstyle[12pt,covingtn]{article}`
Note the spelling `covingtn` (8 letters, not `covington`).

In what follows I presume that you know how to use L^AT_EX and have access to the L^AT_EX manual. Note that `covingtn.sty` does not provide any special fonts or character sets. However, it can be used in combination with other style sheets that do.

If you are using `covingtn.sty` and `uga.sty` (UGa thesis style) together, you should mention `uga` before `covingtn` in the `\documentstyle` command.

1 Example numbers

Linguistics papers often include numbered examples. The macro `\exampleno` generates a new example number and can be used anywhere you want the number to appear. For example, to display a sentence with a number at the extreme right, do this:

```
\begin{flushleft}
This is a sentence. \hfill (\exampleno)
\end{flushleft}
```

Here's what you get:

This is a sentence. ()

The example counter is actually the same as L^AT_EX's equation counter, so that if you use equations and numbered examples in the same paper, you get a single continuous series of numbers. If you want to access the number without changing it, use `\theequation`.

Also, you can use `\label` and `\ref` with example numbers in exactly the same way as with equation numbers. See the L^AT_EX manual for details. This applies to the `example` and `examples` environments, described next, as well as to `\exampleno` itself.

2 The example environment

The `example` environment displays a single example with a generated example number to the left of it. If you type

```
\begin{example}
This is a sentence.
\end{example}
```

you get:

```
[Sorry. Ignored \begin{example} ... \end{example}]
```

The `example` environment is a lot like `flushleft`. The example can be of any length; it can consist of many lines (separated by `\\`), or even whole paragraphs.

One way to number sub-examples is to use `itemize` or `enumerate` within an example, like this:

```
\begin{example}
\begin{itemize}
\item[(a)] This is the first sentence.
\item[(b)] This is the second sentence.
\end{itemize}
\end{example}
```

This prints as:

```
[Sorry. Ignored \begin{example} ... \end{example}]
```

However, the `examples` environment, described next, is usually more convenient.

3 The examples environment

To display a series of examples together, each with its own example number, use `examples` instead of `example`. The only difference is that there can be more than one example, and each of them has to be introduced by `\item`, like this:

```
\begin{examples}
\item This is the first sentence.
\item This is the second sentence.
\end{examples}
```

This prints as:

```
[Sorry. Ignored \begin{examples} ... \end{examples}]
```

4 Glossing sentences word-by-word

To gloss a sentence is to annotate it word-by-word. Most commonly, a sentence in a foreign language is followed by a word-for-word translation (with the words lined up vertically) and then a smooth translation (not lined up), like this:¹ Dit is een Nederlands voorbeeld. This is a Dutch example. ‘This is an example in Dutch.’ That particular example would be typed as:

```
\gll Dit is een Nederlands voorbeeld.
```

¹ The macros for handling glosses are adapted with permission from `gloss.tex`, by Marcel R. van der Goot.

```

        This is a Dutch example.
\glt `This is an example in Dutch.'
\glend

```

Notice that the words do not have to be typed lining up; instead, $\text{T}_{\text{E}}\text{X}$ counts them.

If the words in the two languages do not correspond one-to-one, you can use curly brackets to show the intended grouping. For example, to print *Dit is een voorbeeldje* in het Nederlands. This is a little example in Dutch. ‘This is a little example in Dutch.’ you would type:

```

\gll Dit is een voorbeeldje in het Nederlands.
      This is a {little example} in {} Dutch.
\glt `This is a little example in Dutch.'
\glend

```

All together, `covingtn.sty` gives you five macros for dealing with glosses:

- `\gll` introduces two lines of words vertically aligned, and activates an environment very similar to `flushleft`.
- `\glll` is like `\gll` except that it introduces *three* lines of lined-up words (useful for cited forms, morphology, and translation).
- `\glt` ends the set of lined-up lines and introduces a line (or more) of translation.
- `\gln` is like `\glt` but does not start a new line (useful when no translation follows but you want to put a number on the right).
- `\glend` ends the special `flushleft`-like environment.

Here are several examples. First, a sentence with three lines aligned, instead of just two: *Hoc est aliud exemplum. n.sg.nom 3.sg n.sg.nom n.sg.nom* This is another example. ‘This is another example.’ This is typed as:

```

\glll Hoc est aliud exemplum.
      n.sg.nom 3.sg n.sg.nom n.sg.nom
      This is another example.
\glt `This is another example.'
\glend

```

Next, an example with a gloss but no translation, with an example number at the right: *Hoc habet numerum. This has number ()* That one was typed as:

```

\gll Hoc habet numerum.
      This has number
\gln \hfill (\exampleno)
\glend

```

Finally we'll put a glossed sentence inside the `example` environment, which is a very common way of using it:

```
[Sorry. Ignored \begin{example} ... \end{example}]
```

This last example was, of course, typed as:

```
\begin{example}
\gll  Hoc habet numerum praepositum.
      This has number preposed
\glt  `This one has a number in front of it.'
\glend
\end{example}
```

Notice that every glossed sentence begins with either `\gll` or `\glll`, then contains either `\glt` or `\gln`, and ends with `\glend`. Layout is critical in the part preceding `\glt` or `\gln`, and fairly free afterward.

New in this version: In the November 1992 version, all glosses are single-spaced (even if you are using `doubleSPACE.sty`), and there is a small amount of extra vertical space between the gloss and the translation.

5 Phrase structure rules

To print the phrase structure rule `SNP VP` you can type `\psr{S}{NP~VP}`, and likewise for other phrase structure rules.

6 Feature structures

To print a feature structure such as:

case:nom

person:P

you can type:

```
\fs{\it case:nom \ \ \it person:P}
```

(here `\it` is optional specifies true italics; without it you get “math italics,” a slightly different font).

The feature structure can appear anywhere — in continuous text, in a displayed environment such as `flushleft`, or inside a phrase-structure rule, or even inside another feature structure.

To put a category label at the top of the feature structure, like this,

Ncase:nom

person:P

here's what you type:

```
\lfs{N}{\it case:nom \ \ \it person:P}
```

And here is an example of a PS-rule made of labeled feature structures:

Stense:T NPcase:nom

number:N VPtense:T

number:N

which was of course typed as:

```
\psr{\lfs{S}{\it tense:T}}
      {\lfs{NP}{\it case:nom \ \ \it number:N}
       \lfs{VP}{\it tense:T \ \ number:N} }
```

7 Discourse representation structures

Several macros in `covingtn.sty` facilitate display of discourse representation structures (DRSes) in the box notation originally used by Hans Kamp. The simplest is `\drs`, which takes two arguments: a list of discourse variables joined by `~`, and a list of DRS conditions separated by `\`. Nesting is permitted. Note that the `\drs` macro itself does not give you a displayed environment; you must use `flushleft` or the like to display the DRS. Here are some examples:

```
\drs{X}{donkey(X)\green(X)}
```

Xdonkey(X)
green(X)

```
\drs{X}
{named(X,`Pedro') \
 \drs{Y}{donkey(Y)\owns(X,Y)}~
   {\large $\Rightarrow$}~
   \drs{~}{feeds(X,Y)}
}
```

X named(X,`Pedro')
Y donkey(Y)
owns(X,Y) \Rightarrow feeds(X,Y)

To display a sentence above the DRS, use `\sdrs`, like this:

```
\sdrs{A donkey is green.}{X}{donkey(X)\green(X)}
```

A donkey is green.Xdonkey(X)
green(X)

Some DRS connectives are also provided (normally for forming DRSes that are to be nested within other DRSes). The macro `\negdrs` forms a DRS preceded by a negation symbol:

```
\negdrs{X}{donkey(X)\green(X)}
```

Xdonkey(X)
green(X)

Finally, `\ifdrs` forms a pair of DRSes joined by a big arrow, like this:

```
\ifdrs{X}{donkey(X)\hungry(X)}
```

```
{~}{feeds(Pedro,X)}
```

```
Xdonkey(X)  
hungry(X) feeds(Pedro,X)
```

If you have an “if”-structure appearing among ordinary predicates inside a DRS, you may prefer to use `\alifdrs`, which is just like `\ifdrs` but shifted slightly to the left for better alignment.

8 Exercises, reference lists, and miscellany

The `exercise` environment generates an exercise numbered according to chapter, section, and subsection (suitable for use in a large book; in this example, the subsection number is going to come out as 0).

```
[Sorry. Ignored \begin{exercise} ... \end{exercise}]
```

This was typed as

```
\begin{exercise}[Project]  
Prove that the above assertion is true.  
\end{exercise}
```

and the argument `[Project]` is optional (actually, any word could go there).

To type an LSA-style hanging-indented reference list, use the `reflist` environment. (*Note:* `reflist` is not presently integrated with Bib \TeX in any way.)

For example,

```
\begin{reflist}  
Barton, G. Edward; Berwick, Robert C.; and Ristad, Eric  
Sven. 1987.  
Computational complexity and natural language.  
Cambridge,  
Massachusetts: MIT Press.  
  
Chomsky, Noam. 1965. Aspects of the theory of syntax.  
Cambridge,  
Massachusetts: MIT Press.  
  
Covington, Michael. 1993. Natural language processing  
for Prolog  
programmers. Englewood Cliffs, New Jersey: Prentice--  
Hall.  
\end{reflist}
```

prints as:

```
[Sorry. Ignored \begin{reflist} ... \end{reflist}]
```

Notice that within the reference list, “French spacing” is in effect — that is, spaces after periods are no wider than normal spaces. Thus you do not have to do anything special to avoid excessive space after people’s initials.

The macro `\sentence` displays an italicized sentence (it is a combination of `flushleft` and `\em`). If you type

```
\sentence{This is a sentence.}
```

you get: *This is a sentence.*

Last of all, the 2–argument macro `\either` expresses alternatives within a sentence or PS–rule:

```
the \either{big}{large} dog = the biglarge dog
```

```
\psr{A}{B~\either{C}{D}~E} = AB CD E
```

That’s all there is. Suggestions for improving `covingtn.sty` are welcome, and bug reports are actively solicited. Please note, however, that this is free software, and the author makes no commitment to do any further work on it.