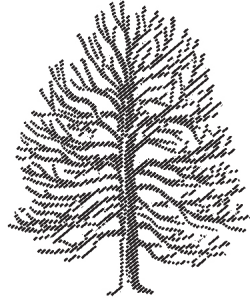


T_EX and Linguistics

Steve Peter

Beech Stave Press
and T_EX Users Group

Who we are



Beech Stave
Press

The field of Linguistics

synchronic vs. diachronic

The field of Linguistics

synchronic vs. diachronic

theoretical vs. applied

The field of Linguistics

synchronic vs. diachronic

theoretical vs. applied

traditional

1. philology
2. phonology
3. phonetics
4. syntax
5. semantics
6. “hyphenated”
 - (a) psycholinguistics
 - (b) sociolinguistics
 - (c) biolinguistics
 - (d) discourse analysis

Notation

Philology

transliteration (ā, ē, ī, ō, ū, š, ʒ)

manuscripts/paleography

critical editions

Greek (PSGreek/Teubner)

Hebrew/Arabic/Nagari, etc.

Semantics

(7.57)a. I have told one friend of mine all those stories.

b. I have told all of those stories to one friend of mine.

(7.58)a. $\exists x [\forall y [(x \in \text{friends of mine} \wedge y \in \text{those stories}) \rightarrow \text{I have told } x]]$

b. $\forall y [\exists x [(x \in \text{friends of mine} \wedge y \in \text{those stories}) \rightarrow \text{I have told } x]]$

Phonetics

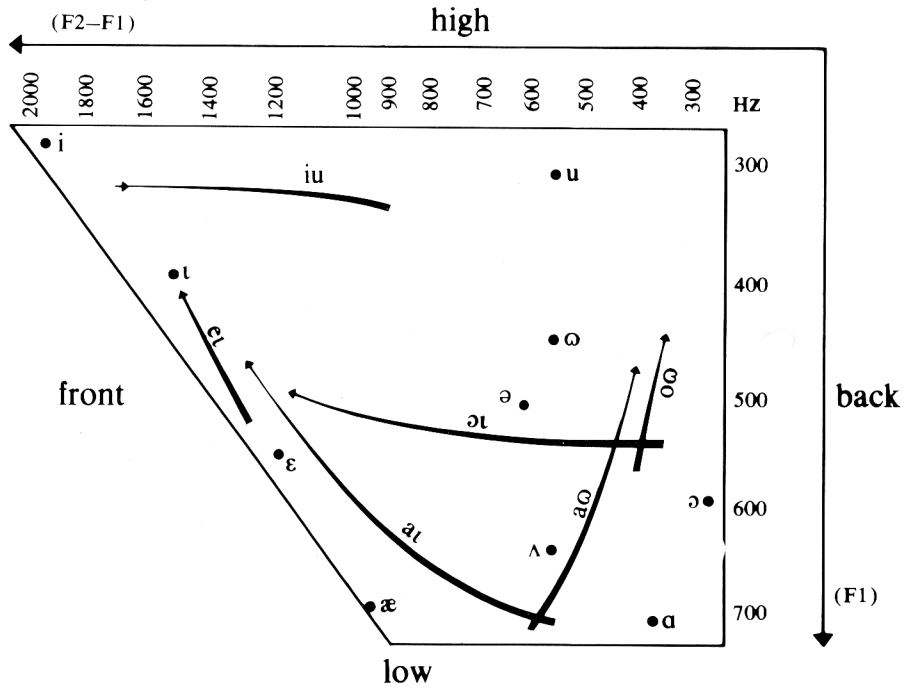
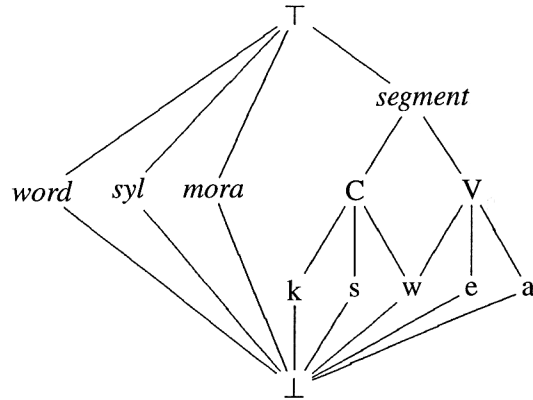


Figure 9.1 A combined acoustic and auditory representation of some of the vowels of American English. (Compare Figures 4.2 and 8.7.)

Phonology

IPA (ex)

computational phonology



OT (ex)

Syntax

aligned examples

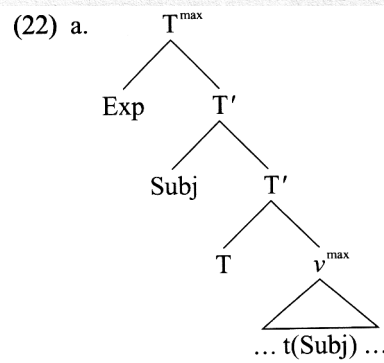
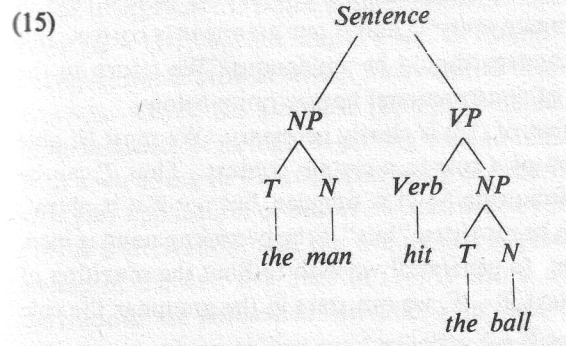
- (1) I invited Fred for dinner.
- (2) ? I invited for dinner Fred.
- (3) * I for invited Fred dinner.
- (4) Den Fritz₁ habe ich *e*₁ zum Essen
the Fred have I to the eating
eingeladen.
invited.
I invited Fred for dinner.

```

\begin{exe}
  \ex  I invited Fred for dinner.
  \ex[?]{I invited for dinner Fred.}
  \ex[*]{I for invited Fred dinner.}
  \ex \gll Den Fritz$_1$ habe ich $_e_1$ zum Essen eingeladen
        the Fred      have I  {}    {to the} eating in
        \glt I invited Fred for dinner.
\end{exe}

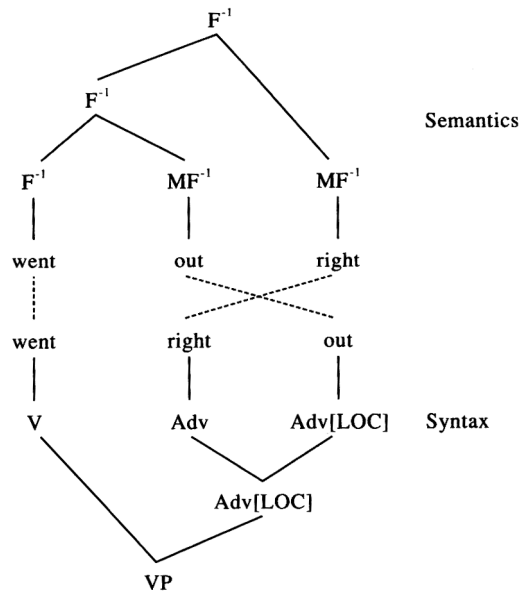
```

trees (QTree, SyntTree, TreeDVIPS, PST-JFTree)

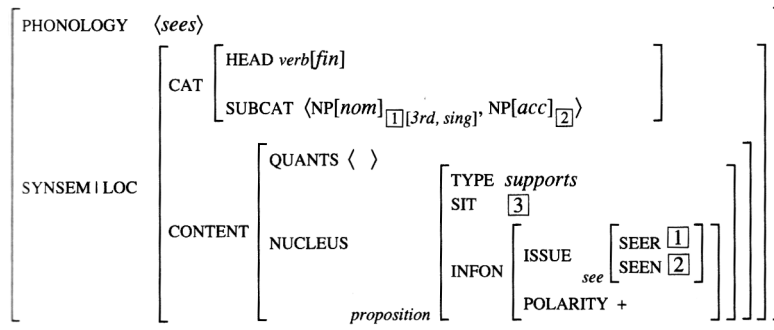


(13) a. *I gave t to a student [a copy of *LGB*] [who didn't have much money].

b. *I gave a student t last night [who didn't have much money] [a
copy of *LGB*].



AVMs



```

\newbox\matrixsynsem \newbox\headdtr
\newbox\compdtrone \newbox\compdtrtwo

{\scriptsize
\avmoptions{center}
\setbox\matrixsynsem=\hbox{\begin{avm}
\osort{synsem}{\[local & \[cat & \[ \] \[
content & \[ \] \] \]}
\end{avm}}

\setbox\headdtr=\hbox{\begin{avm}
\osort{word}{\[ phon\;\<\rm likes\>\[
synsem\;\[local\[ cat\;\[ head \; \@{5}\[
arg-s\;\< \@{1},\@{2}\>\] \[
content\;\@{6} \] \] \]} \end{avm}}

\setbox\compdtrone=\hbox{\begin{avm}
\osort{phrase}{\[ phon\;\<\rm fido\>\[
synsem\;\@{1}\;\[local\[ cat\;\[ head\;noun\
arg-s\;\< \>\] \[
content\;\@{3} \] \] \]} \end{avm}}

\setbox\compdtrtwo=\hbox{\begin{avm}
\osort{phrase}{\[ phon\;\<\rm bones\>\[
synsem\;\@{2}\;\[local\[ cat\;\[ head\;noun\
arg-s\;\< \>\] \[

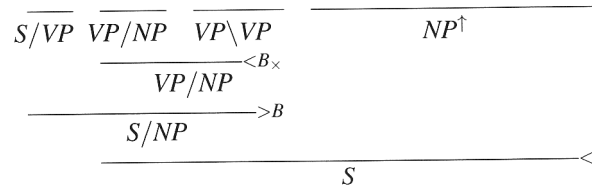
```

```
content\;\@{4} \]\]\]} \end{avm}}
```

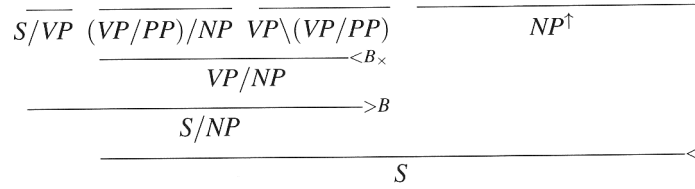
```
\avmoptions{active,sorted}
\begin{avm} \hspace{-1in}
[{\phrase} phon\;\<\rm fido likes bones\> \\\
  synsem\;[{\synsem} local [{} cat & [{} head & @{5}\\\
    arg-s & \< \; \>] \\\
    content & @{6}[{\psoa} reln\;like \\\
    arg1\;@{3} \\\
    arg2\;@{4} ]]\]\\\
  dtrs\;\sort{head-struct}[{} head-dtr\;\box\headdtr \\\
  comp-dtrs\;< \box\compdtrone , \\\ \hspace{.5in}
    \box\compdtrtwo>]]]
\end{avm}}
```

Categorial Grammar

(58) I will buy tomorrow an engraving by Rembrandt



(59) I will give to Chapman an engraving by Rembrandt



PSTricks stuff

