Ling 566
Oct 18, 2007
Review
Overview

- Homework tips
- SPR and COMPS
- Technical details (lexical entries, trees)
- Cascades of identities in Wambaya
- Analogies to other systems you might know
- Your questions...
- Problems
Homework tips/requests

• Type whenever possible

• Answer each part of each question separately

• Be sure to answer each part of each question, and follow the directions!

• Look over the problems early and ask questions

• Check your work

• Monitor GoPost

• WORK TOGETHER
SPR value on AP/PP?

- Kim grew fond of baseball.
- Kim and Sandy ate lunch in the park.
- Kim and Sandy are in the park.
COMPS on PP?

- Kim put the books here.
- Here, have a cookie.
- Kim put the books here have a cookie.
- Kim put the books on the table.
COMPS on D?

\[
\begin{array}{c}
\langle \text{iniyaga} , \\
\text{HEAD} \\
\text{VAL}
\end{array}
\begin{array}{c}
\text{word} \\
\text{det} \\
\text{AGR} \\
\text{CASE} \\
\text{SPR} \\
\text{COMPS}
\end{array}
\begin{array}{c}
\text{GEND masc} \\
\text{acc} \\
\langle \rangle \\
\langle \text{NP[masc, acc]} \rangle
\end{array}
\]

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Which grammar does this tree go with?

```
NP
  D   NOM
  the  N
    cat
```
What’s wrong with this?

⟨
here,


word
HEAD
prep
COMPS ⟨ ⟩
SPR ⟨ ⟩


⟩
What’s wrong with this?

\[ \langle \text{out}, \begin{bmatrix} \text{word} & \text{prep} \\ \text{HEAD} & \text{VAL} \end{bmatrix} \begin{bmatrix} \text{SPR} & \langle \text{VP} \rangle \\ \text{COMPS} & \langle (\text{PP} \mid \text{NP}) \rangle \end{bmatrix} \rangle \]
What’s wrong with this?

\[
\langle \text{grew}, \begin{bmatrix}
\text{word} \\
\text{HEAD} \\
\text{VAL}
\end{bmatrix}
\begin{bmatrix}
\text{verb} \\
\text{AGR} \ 3\text{sing}
\end{bmatrix}
\begin{bmatrix}
\text{SPR} \langle \text{NP} \rangle \\
\text{COMPS} \langle \text{AP} \rangle
\end{bmatrix}\rangle
\]
What’s wrong with this?

\[
\langle \text{out,} \begin{bmatrix}
\text{word} \\
\text{HEAD} \\
\text{val} \\
\text{COMPS}
\end{bmatrix}
\begin{bmatrix}
\text{preposition} \\
\text{SPR} \\
\text{COMPS}
\end{bmatrix}
\rangle
\]
What’s wrong with this?

\[
\langle \text{out,} \rangle \left[ \begin{array}{c}
\text{word} \\
\text{HEAD prep} \\
\text{VAL} \\
\text{COMPS ( NP | PP )}
\end{array} \right]
\]
What’s wrong with this?
Tags & lists

• What’s the difference between these two?

\[
\begin{align*}
\text{[SPR } & \text{ 1⟨ NP ⟩] } \\
\text{[SPR } & \text{ 〈1NP 〉] }
\end{align*}
\]

• When does it matter?
What’s wrong with this tree?

NP
  D
    the
  COMPS ⟨ (1 PP) ⟩
    photos

NOM
  1 PP
    of the suspect
What’s wrong with this tree?
What’s wrong with this tree?

[HEAD verb]
SPR ⟨ ⟩
COMPS ⟨ ⟩

[HEAD pronoun]
SPR ⟨ ⟩
COMPS ⟨ ⟩

[HEAD verb]
SPR ⟨ ⟩
COMPS ⟨ ⟩

[HEAD verb]
SPR ⟨ 1 ⟩
COMPS ⟨ ⟩

[HEAD verb]
SPR ⟨ 1 ⟩
COMPS ⟨ 2 ⟩

[HEAD verb]
SPR ⟨ 1 ⟩
COMPS ⟨ 3 ⟩

[HEAD prep]
SPR ⟨ ⟩
COMPS ⟨ ⟩

[HEAD prep]
SPR ⟨ 2 ⟩
COMPS ⟨ ⟩

[HEAD prep]
SPR ⟨ ⟩
COMPS ⟨ 3 ⟩

[HEAD noun]
SPR ⟨ ⟩
COMPS ⟨ ⟩

What’s wrong with this tree?
What’s wrong with this tree?
What’s wrong with this tree?

```plaintext
What’s wrong with this tree?
```

```
[HEAD 4 verb]
[SPR ⟨ ⟩]
[COMPS ⟨ ⟩]
```

```
[HEAD 6 noun]
[SPR ⟨ ⟩]
[COMPS ⟨ ⟩]
```

```
[HEAD 4 verb]
[SPR ⟨ 1 ⟩]
[COMPS ⟨ ⟩]
```

```
[HEAD 5 prep]
[SPR ⟨ ⟩]
[COMPS ⟨ 3 ⟩]
```

```
rely
[HEAD 5 prep]
[SPR ⟨ ⟩]
[COMPS ⟨ 3 ⟩]
```

```
[HEAD 6 noun]
[SPR ⟨ ⟩]
[COMPS ⟨ ⟩]
```

```
on
[HEAD 5 prep]
[SPR ⟨ ⟩]
[COMPS ⟨ 3 ⟩]
```

```
Kim
[HEAD 6 noun]
[SPR ⟨ ⟩]
[COMPS ⟨ ⟩]
```
What’s wrong with this tree?

What's wrong with this tree?
What's wrong with this?

\[
\text{word} \quad \begin{array}{c}
\text{SYN} \\
\text{VAL} \\
\text{INDEX} i \\
\text{MODE} \text{ ref}
\end{array} \\
\begin{array}{c}
\text{SEM} \\
\text{RESTR}
\end{array} \\
\begin{array}{c}
\text{HEAD} \text{ number} \\
\text{SPR} \quad \langle [\text{HEAD number}_l]\rangle \\
\text{COMPS} \quad \langle [\text{HEAD number}_j]\rangle \\
\text{RELN} \quad \text{times} \\
\text{RESULT} k \\
\text{FACTOR1} l \\
\text{FACTOR2} m \\
\text{RELN} \quad \text{plus} \\
\text{RESULT} i \\
\text{TERM1} j \\
\text{TERM2} k \\
\text{RELN} \quad \text{constant} \\
\text{INST} m \\
\text{VALUE} 100
\end{array}
\]
Better version

\[
\langle \text{hundred} , \text{,} \rangle
\]

\[
\begin{array}{c}
\text{SYN} \\
\text{VAL} \\
\text{INDEX} \\
\text{MODE}
\end{array}
\]

\[
\begin{array}{c}
\text{word} \\
\text{HEAD} \quad \text{number} \\
\text{SPR} \quad \langle \text{HEAD number} \rangle_l \\
\text{COMPS} \quad \langle \text{HEAD number} \rangle_j \\
n \quad \text{i} \\
\text{ref}
\end{array}
\]

\[
\begin{array}{c}
\text{SEM} \\
\text{RESTR}
\end{array}
\]

\[
\begin{array}{c}
\text{RELN} \quad \text{times} \\
\text{RESULT} \quad k \\
\text{FACTOR1} \quad l \\
\text{FACTOR2} \quad m \\
\text{RELN} \quad \text{plus} \\
\text{RESULT} \quad i \\
\text{TERM1} \quad j \\
\text{TERM2} \quad k \\
\text{RELN} \quad \text{constant} \\
\text{INST} \quad m \\
\text{VALUE} \quad 100
\end{array}
\]
Information passing in Wambaya
What requires this identity?
How about this one?
Is this tree really valid for Wambaya?
What’s a predication?

• A feature structure ...
• ... which appears on RESTR lists ...
• ... and has the feature RELN ...
• ... among others
Type hierarchy analogies

- How is this formalism like OOP?
- How is it different?
- How is the type hierarchy like an ontology?
- How is it different?
- How is this formalism like the MP’s formalism?
- How is it different?
3.4: Coord. & Modification

- NOM > NOM PP; VP > VP PP
  - (i) Alex walks and talks without difficulty
  - (ii) Terry likes the poetry and music on the program
- (i) and (ii) are ambiguous; draw the trees
- Should PP be able to attach to S and NP as well? Provide an argument using examples with coordination to show that they should.
4.2 Spanish NPs I

(i) a. La jirafa corrió.
   The.FEM.SG giraffe ran.3SG
   ‘The giraffe ran.’

b.*Las/El/Los jirafa corrió.

(ii) a. Las jirafas corrieron.
    The.FEM.PL giraffes ran.3PL
    ‘The giraffes ran.’

b.*La/El/Los jirafas corrieron.

(iii) a. El pingüino corrió.
     The.MASC.SG penguin ran.3SG
     ‘The penguin ran.’

b.*La/Las/Los pingüino corrió.

(iv) a. Los pingüinos corrieron.
    The.MASC.PL penguins ran.3PL
    ‘The penguins ran.’

b.*La/Las/El pingüinos corrieron.

• Do Spanish nouns obey the SHAC?

• Is GEND appropriate for 3sing only?

• Write lexical entries for *la, los, and pingüino*
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