Homework 3: X-Bar Theory & Binding Theory

Due Friday, September 30th, 2016

1 Practice with X-Bar Theory

In class, we introduced the idea of the “X-Bar Schema” which is meant to reduce our phrase structure rules. They are as follows:

\[
\begin{align*}
XP &\rightarrow YP \text{ X'} \\
X' &\rightarrow X \text{ ZP} \\
X' &\rightarrow WP \text{ X'} \\
\{W, X, Y, Z\} &\in \{N, V, A, P, D, \ldots\}
\end{align*}
\]

There are several principles about the X-Bar Schema that you should keep in mind:

• **Complements** are sister to X and daughter of X'.
• **Specifiers** are sister to X' and daughter of XP.
• **Adjuncts** are sister and daughter to X'
• Every well-formed XP has a unique head X.
• Every head X must be contained within a well-formed XP.

When it is all said and done, you should get a tree that looks something like this:

```
XP
   / \  
  Specifier X'
     /   \
    Adjunct X'
      /   \    
     X    Complement
```

The ordering of the X-bar schema (i.e. whether things appear on the left or the right of each other) are subject to parametrization. We demonstrated in class the difference between English and Japanese with respect to these parameters.

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1 Many thanks to Laura Kalin for her helpful handouts on X-Bar Theory and exercises.
2 The letters W, X, Y, Z are variables that signify different phrases from each other. You can use any letter you want really.
Exercise 1

For the data below from Malagasy, draw a tree that characterizes the X-bar schema of this language. In other words, just how the ordering of phrases in English can be characterized by the tree above, what would a tree in Malagasy look like? Draw a tree with the sentences below as well. ¹

(1) Mihira ny mpianatra hendry.
sings the student smart
‘The smart student sings.’

(2) Manasa ny lamba amin’ ny savony Rakoto.
wash the clothes with the soap Rakoto
‘Rakoto washes the clothes with soap.’

(3) Efa nanasa lamba Rakoto.
already washed clothes Rakoto.
‘Rakoto already washed (some) clothes.’

Exercise 2

For the labels in bold in the tree below, identify whether they are Phrases, Heads, Specifiers, Adjuncts, and/or Complements given the rules that I gave above. They may hold multiple positions (e.g. both a phrase and a complement), give all possible options.

(4)
2 Preview to Binding Theory

If you’ve watched The Ling Space video on Binding Theory, you’ve been introduced to three types of noun phrases that need a referent: *pronouns*, *reflexives*, and *referential expressions (R-expressions)*.

**Exercise 3**

For the following sentences, identify and label all of the referential noun phrases.

(5) John thinks he will win.
(6) I don’t like them.
(7) Mary saw herself in the mirror.
(8) Robert went to the store to meet his sister.
(9) We cheered for our team on game day.

**Exercise 4**

When analyzing sentences, one way of specifying the referent of a noun phrase is through *indexation*. This is just a subscript on the word. *Co-indexation* is when two noun phrases share the same indexation. This is an indication that the noun phrases have the same referent. So when two (or more) noun phrases are *co-indexed*, we know that those noun phrases are *co-referential*. On the flip side, when two noun phrases *aren’t* co-indexed, they are *non-co-referential*.

For the same sentences as in Exercise 3, indexation has now been added. Identify whether the noun phrases are co-referential and whether the sentence is acceptable given the indexation. Explain your answer.

(10) John\(_J\) thinks he\(_E\) will win.
(11) I\(_A\) don’t like them\(_B\).
(12) Mary\(_M\) saw herself\(_M\) in the mirror.
(13) Robert\(_R\) went to the store to meet his\(_C\) sister.
(14) We\(_D\) cheered for our\(_D\) team on game day.