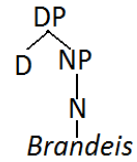


## Homework 7: Syntactic structure

Phrase Structure Rules to use in Q2 and Q3.

- |  |  |                                    |  |
|--|--|------------------------------------|--|
| a. $S \rightarrow DP \text{ AuxP}$         | b. i. $NP \rightarrow \text{AdjP NP}$                | ii. $NP \rightarrow NP \text{ PP}$ | iii. $NP \rightarrow N$                |
| g. $CP \rightarrow C S$                    | c. i. $VP \rightarrow \text{AdvP VP}$                | ii. $VP \rightarrow VP \text{ PP}$ | iii. $VP \rightarrow V (DP) (PP) (CP)$ |
| h. $\text{AuxP} \rightarrow \text{Aux VP}$ | d. $PP \rightarrow P \text{ DP}$                     | c'. $VP \rightarrow \text{BE AP}$  |  |
| j. $DP \rightarrow D (NP)$                 | e. $AP \rightarrow (\text{AdvP}) (\text{Deg}) A$     |                                    |  |
|  | f. $\text{AdvP} \rightarrow (\text{Deg}) \text{Adv}$ |                                    |  |



NOTE: for names, mass nouns, and plurals, it's ok to have a silent Determiner, as in this tree:

**Lexicon** (remember that you can add new words to existing categories freely)

**N** → owl, table, ball, man, cookie, telescope, eggs, hams, candies, leaders, tomatoes, kittens, old, Sam, Brandeis...

**D** → I, we, you, this, the, more, some, my, his, your, every, no ...

**Adj** → tall, nice, green, little, intelligent, old ...

**P** → on, from, with, in ...

**Aux** → should, might, can, be, do

**V** → see, like, hit, be, need, tell, eat, help, kiss, grow, man, run, sleep, grow...

**Deg** → more, very, so...

**Adv** → slightly, suddenly, totally, ...

**Conj** → and, or ...

**C** → that

### Question 1. Constituency tests

In the lecture we discussed three tests for constituency (pro-form substitution test, movement test, stand-alone/question test).

- Are the underlined word strings in the following sentences constituents? (answer yes or no)
- Which tests are applicable for each? Provide the test sentences (whenever using the stand-alone test, give the question as well).

- Marge read the old newspaper.
- Marge read the old newspaper.
- Three silly white sheep dance.
- Three silly white sheep dance.
- The clouds roll across the sky.
- The thieves opened the door with a credit card.

### Question 2. Improving the theory

Draw a tree for the following sentence, according to the rules above. Make sure to label every node.

- My intelligent students from Intro can tell you that syntax is very easy in no time.

Now, consider the following sentences:

- Intelligent and eloquent students from Intro may talk about this.
- My students and advisees can and do solve phonology problems.
- My students and their TAs like Turkish morphology.
- Each and every student can tell you that syntax is easy and semantics is fun.
- \*My and intelligent students like the class.
- \*Sophia can dance the tango and in the woods.
- \*We did our homework and see this. (*Intended meaning: We did our homework and we did see this*)

A. What is structurally (syntactically) different about sentences (2-5) compared to (1)? Make sure you discuss the constituency of sentences (2-5) (remember to try constituency tests!)

- B. What changes to the rules in **a-f** above (tree-building rules) are needed to account for sentences (2-5)? Propose a new rule or rules (HINT: you won't need to add new part-of-speech categories to the lexicon, since I already provide one for *and*). (NB: make sure your rule system STILL accounts for (1) also!)
- C. Draw trees for 2 of the grammatical sentences above (your choice which ones).
- D. Explain exactly what causes the ungrammaticality in (6-8) in your system.

### Question 3. Structural ambiguity

All but one of the following sentences has a structural ambiguity.

1. Sam likes green eggs and ham.
  2. I ate red candies and a cookie.
  3. We need more intelligent leaders.
- A. Provide complete labeled tree diagrams for both interpretations of each ambiguous sentence (that's four trees total) – use the phrase structure rules in the beginning of HW and additional one(s) from Question 2!
  - B. Identify by paraphrasing which interpretation corresponds to which structure. Make sure that your paraphrases are not ambiguous!
  - C. For the sentence that is not ambiguous, draw the one appropriate tree, and explain what rules out interpretation as a different structure, using trees and rules to illustrate.