

Introduction to Syntax, LINGUIST 401
Midterm Exam
October 27, 2005
Due: November 1, 2005

Midterm Exam

You are not allowed to co-operate with your fellow classmates on this exam. Clarification questions should be sent to me. In evaluating your responses, I will grade you on correctness, clarity, and precision. Your answers should present clearly the logic behind your choices.

1. Consider the following set of data:

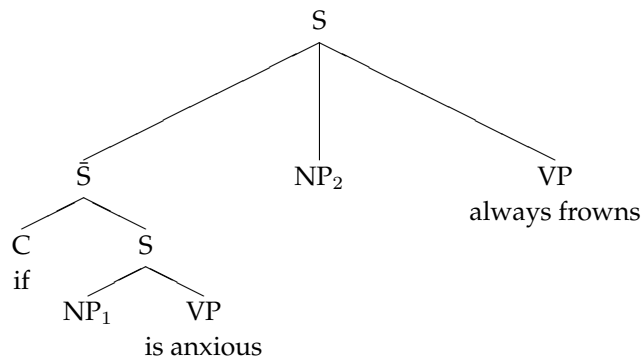
- (1) a. [If John_i is anxious], he_{i/j} always frowns.
- b. [If he_{i/j} is anxious], John_i always frowns.
- c. He_{j/*i} always frowns [if John_i is anxious].
- d. John_i always frowns [if he_{i/j} is anxious].

a. Setting aside the evidence from binding theory, what trees are possible for the examples in (1)? Provide all the trees for (1a/b) and all the trees for (1c/d). (24 pts.) You should make the following assumptions:

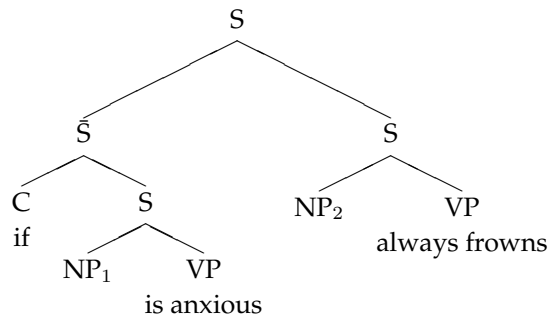
- (2) a. Treat *if* as a C, and the entire *if*-clause as an S-bar.
- b. To handle attachment of the *if*-clause S-bar, we can assume the following phrase structure rules in addition to the ones we already have:
 - i. $S \rightarrow \bar{S} NP VP$
 - ii. $S \rightarrow \bar{S} S$
 - iii. $S \rightarrow NP VP \bar{S}$
 - iv. $S \rightarrow S \bar{S}$
 - v. $VP \rightarrow V (NP) \bar{S}$
 - vi. $VP \rightarrow VP \bar{S}$

(1a/b) have two options: the *if*-clause S-bar can combine with the main clause S using (2b.i) or (2b.ii). The other rules are irrelevant here.

(3) Tree 1: $S \rightarrow \bar{S} NP VP$

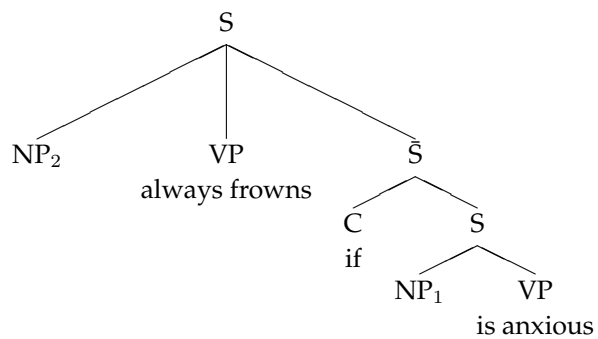


(4) Tree 2: $S \rightarrow \bar{S} S$

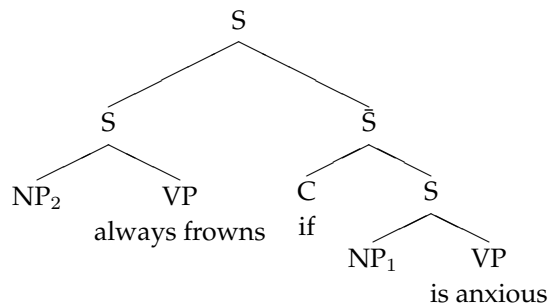


(1c/d) have three or four options depending upon certain further assumptions: the *if-clause* S-bar can combine with the main clause S using (2b.iii) or (2b.iv). The first two rules are irrelevant here.

(5) Tree 3: $S \rightarrow NP VP \bar{S}$

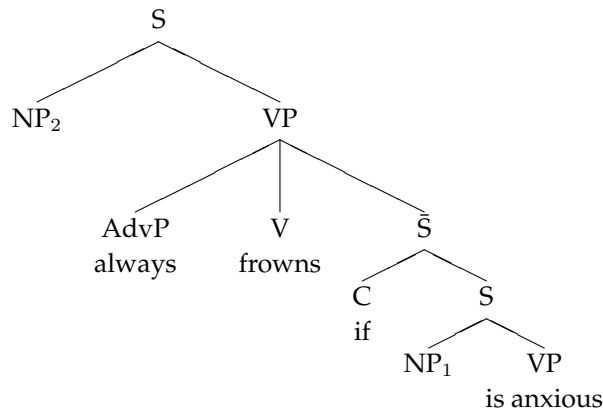


(6) Tree 4: $S \rightarrow S \bar{S}$

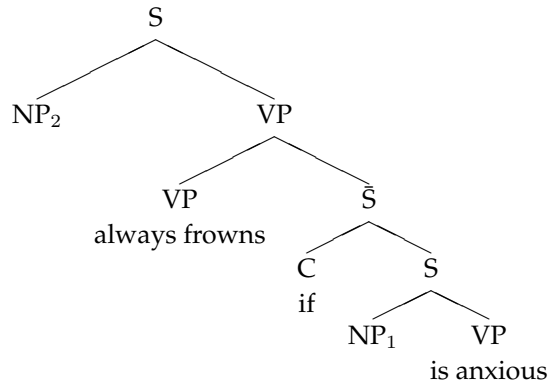


Next we turn to the VP-attachment trees. Due to the presence of the adverb *always*, if we go strictly by the rules provided, we can only use the $(VP \rightarrow VP \bar{S})$ rule, but I will also consider an additional rule $(VP \rightarrow AdvP V \bar{S})$. If you didn't consider this rule, it's ok. No points were deducted here.

(7) Tree 5: $VP \rightarrow AdvP V \bar{S}$



(8) Tree 6: $VP \rightarrow VP \bar{S}$



b. Which of the trees generated by the rules in (2) are ruled out by the evidence from binding theory? Consequently, which of the rules given above must be rejected? You must provide the reasoning behind your answer for this question. No credit will be awarded for merely providing the answer. (18 pts.)

The coreference facts about (1) can be summarized as follows: a pronoun subject of the main clause (*always frowns*, call it NP₂) can refer to a name inside the *if*-clause when the *if*-clause precedes it (see 1a) but cannot do so when the *if*-clause follows it (see 1c). Further a pronoun subject of the *if*-clause (call it NP₁) can always refer to a name in the main clause irrespective of whether the main clause follows it (see 1b) or precedes it (see 1d).

From the coreference facts, we can now conclude the following:

- (9) a. NP₂ c-commands NP₁ when NP₂ precedes the *if*-clause but not when NP₂ follows the *if*-clause.
- b. NP₁ never c-commands NP₁ irrespective of whether the main clause precedes the *if*-clause or follows it.

Now we can evaluate our six trees and see how well they do with respect to (9).

- (10) a. Tree 1: NP₂ c-commands NP₁ even though the *if*-clause precedes NP₂. Given the acceptability of coreference in (1a), this structure must be wrong. **Hence we can eliminate: (S → \bar{S} NP VP).**
- b. Tree 2: the *if*-clause precedes NP₂, hence it is ok that NP₂ does not c-command NP₁. We can keep: (S → \bar{S} S).
- c. Trees 3, 5, and 6: since the *if*-clause follows NP₂, we want structures where NP₂ c-commands NP₁. This is the case in these trees. We get to keep (S → NP VP \bar{S} ; VP → VP \bar{S} ; VP → AdvP V \bar{S}).
- d. Tree 4: the *if*-clause follows NP₂ but NP₂ does not c-command NP₁. Since (1c) is bad with coreference between NP₂ and NP₁, this is not good. **We must eliminate: (S → S \bar{S}).**

(In none of the trees does NP₁ ever c-command NP₂. So (9b) doesn't actually help us make any choices.)

2. The following examples involve four Noun Phrases and are all ungrammatical for reasons pertaining to binding theory. Construct trees for each example and identify the source of the ungrammaticality.

- (11) (24 pts. overall) Violations have been boldfaced:
 - a. *He_i thinks that [his_i podiatrist]_j likes **John**_i.
John, an R-expression, is bound by *he*. By Condition C, R-expressions cannot be bound. Hence we get ungrammaticality.
 - b. *[Paula's_i sister]_j believes that [her_i taxidermist]_k likes **herself**_j.
herself, an anaphor, must be bound locally according to Condition A. It is bound by *Paula's sister*, but this binding is not local as *Paula's sister* is not in the minimal S that contains *herself*. (= *her taxidermist likes herself*)
 - c. *[The seamstress]_i doubts that she_j likes [**her**_i **fishmonger**]_j.
her fishmonger is an R-expression and by Condition C, it must not be bound. But sadly it is, by *she*. Hence ungrammaticality.
 - d. *[[The cook's]_i wife]_j suspects that [[the thief's]_k lover]_l loathes **him**_l.
 This is a violation of Condition B according to which *him*, a pronoun, cannot be bound locally, which it is - by *the thief's lover*.

(3 pts. for each tree, 3 for the source of the ungrammaticality)

3. The following example is many-ways structurally ambiguous.

(12) They decided that they should read this book on the moon.

a. Identify the ambiguities, construct trees for each interpretation, and indicate which interpretation goes with which tree. (15 pts., 3 pts. for each tree, 2 pts. for the interpretation)

1. NP-attachment: the book is about the moon
2. Low VP-attachment: the decision was the book-reading would take place on the moon
3. High VP-attachment: the decision-making took place on the moon

Some of you also considered coreference ambiguity such as whether the decision-makers were the book-readers. This is indeed an ambiguity, but it is not a structural ambiguity, which is what is relevant here.

b. The following minimal variation of (12) cannot be interpreted in all of the ways possible for (12).

(13) They decided on the moon that they should read this book.

Indicate which readings are available, which ones are absent, and draw trees for the available reading(s). (9 pts.)

Only the reading that corresponds to the high VP-attachment, where the decision-making took place on the moon is available.

c. Explain why (12) and (13) differ in the way they do. (10 pts.)

In (12), the PP *on the moon* is on the right frontier. This location is compatible with it being attached to the NP, the lower VP, and the higher VP. Each of these attachments yields a distinct reading - one where the PP modifies the NP, the lower VP, and the higher VP respectively.

In (13), however, the PP is not on the right frontier. It can straightforwardly be attached to the highest VP (using a rule of the sort: $(VP \rightarrow V PP \bar{S})$), yielding the decision-making on the moon interpretation. To get the other two interpretations, we would need to attach the PP to the lower VP or the NP but this would lead to crossing of branches. This is therefore not an option. Hence only one attachment - the one to the highest VP - and consequently only one interpretation - the decision-making on the moon one - is available.