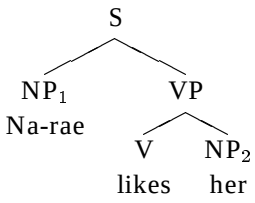
Syntax 380L
August 30, 2001

Solutions for Assignment 1

The highest grade in this assignment was 95/95. The median grade was 77/95.

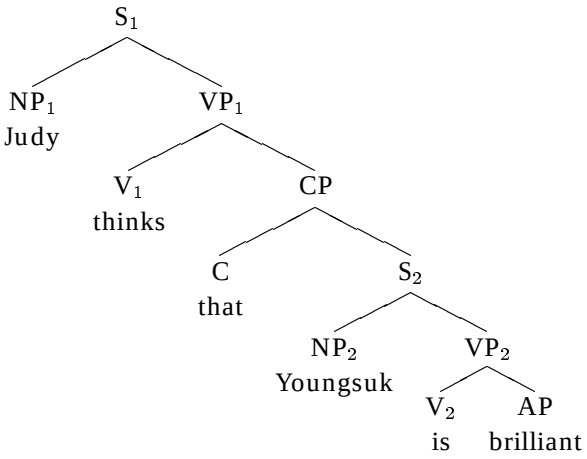
1. Draw trees for the following sentences and for each tree list the c-command relationships that hold between the nodes in the tree.

a. Na-rae likes her.



NP_1 c-commands VP, V, NP_2; VP c-commands NP_1
NP_2 c-commands V; V c-commands NP_2

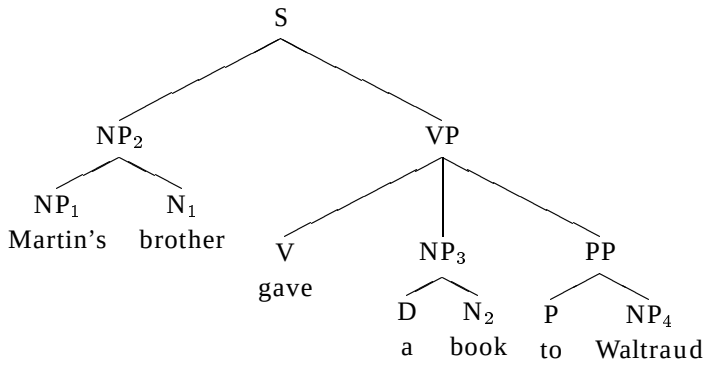
b. Judy thinks that Young-suk is brilliant.



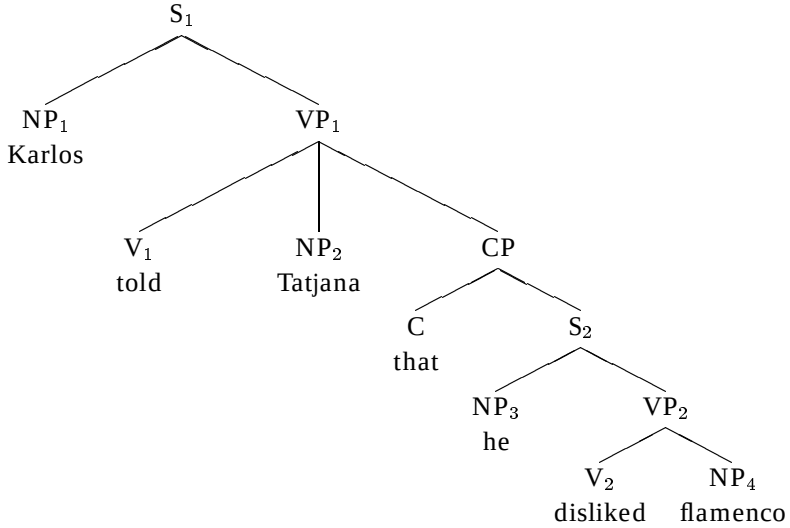
NP_1 c-commands VP_1 and everything that VP_1 dominates; VP_1 c-commands NP_1.
V_1 c-commands CP and everything that CP dominates; CP c-commands V_1.
C c-commands S_2 and everything S_2 dominates; S_2 c-commands C.
NP_2 c-commands VP_2 and everything VP_2 dominates; VP_2 c-commands NP_2.
V_2 c-commands AP; AP c-commands V_2.

c. Martin's brother gave a book to Waltraud.

NP_1 c-commands N_1 and vice versa; NP_2 c-commands VP and everything that VP dominates; VP c-commands NP_2.
V c-commands NP_3 and PP and nodes dominates by NP_3 and PP; NP_3 c-commands V, PP, and the nodes dominates by PP. PP c-commands V, NP_3, and the nodes dominates by NP_3.
P c-commands NP_3 and vice versa; D c-commands N_2 and vice versa.



d. Karlos told Tatjana that he disliked flamenco.



NP_1 c-commands VP_1 and every node dominated by VP_1; VP_1 c-commands NP_1.
V_1 c-commands NP_2, CP and every node dominated by CP; CP c-commands V_1.
NP_2 c-commands V_1, CP and every node dominated by CP; CP c-commands NP_2.
C c-commands S_2 and every node dominated by S_2; S_2 c-commands C.
NP_3 c-commands VP_2 and every node dominated by VP_2; VP_2 c-commands NP_3.
V_2 c-commands NP_4 and vice versa.

2. By determining co-reference possibilities for pronouns, determine where the following clauses occur in the structure:

The question is whether the adjunction is at the level of the clause or lower in the tree. The result we find is that while sentence-initial *if/when/because*-clauses are adjoined to S, sentence-final *if/when/because*-clauses are adjoined to VP. This structural analysis was proposed for *if*-clauses in Iatridou (1991).

a. *if* clauses that follow the main clause:
I would be very happy **[if Hikyoung joined us]**.
The relevant judgement here is:
*He$_i$ would be very happy [if Olafur$_i$ joined us].
This shows that the *if*-clause must be in the sister of *he* i.e. it cannot be right adjoined to S. This leaves open the choice between VP right-adjunction and S right-adjunction structures.

b. *if* clauses that precede the main clause:
[If Hikyoung joined us], I would be very happy.

The relevant judgements here are:
[If Olafur$_i$ joined us], he$_i$ would be very happy.
[If he$_i$ joined us], Olafur$_i$ would be very happy.
They show that the subject of the main clause does not c-command the *if*-clause and that the subject of the *if*-clause does not c-command the main clause. The only structure possible here is left adjunction to S i.e. [$_S$ [*if*-clause] [$_S$ . . .]].

c. *because* clauses that follow the main clause:
Faye left **[because Tim was singing]**.

The argumentation and results are identical to (2a) i.e. VP-adjunction to the right, not S-adjunction to the right.

d. *because* clauses that precede the main clause:
[Because Tim was singing], Faye left.

The argumentation and results are identical to (2a) i.e. S-adjunction to the left.

3. Some constituents seem to be **discontinuous** i.e. different parts of the constituent do not form a continuous string. By using coreference possibilities for the emphasized pronoun and name determine possible structural locations for the bracketed constituent.

One mistake some of you made was to re-order the constituents in the sentences in 3 in such a fashion that the discontinuity vanished. This was not the right way to go about attacking this problem. Once you changed the word order, you ended up analyzing a completely different sentence – one that was devoid of the problem that is of theoretical interest in the following examples - the problem of discontinuous constituents.

This exercise and the next was based on examples and discussion in Liberman (1974) and Guéron and May (1984).

a. Extraposed Relative Clause

i. *She* told many people about the concert [who *Mary* made nervous].

Since *she* cannot refer to *Mary*, *she* must c-command *Mary*. Note that *[who Mary made nervous]* does not form a constituent with *the concert*, or even with *many people about the concert*. Thus the only choices are right adjunction to S and right adjunction to VP. Right adjunction to S would mean that the extraposed relative clause would not be c-commanded by *she*. Hence right adjunction to VP is the only option.

ii. I told *her* that many people attended last year's concert [who made *Mary* nervous].

Suggested structures:

embedded S-adjunction:
I [told *her* [that [[many people [attended [last year's concert]]] [who made *Mary* nervous]]]]

embedded VP-adjunction:
I [told *her* [that [many people [[attended [last year's concert]] [who made *Mary* nervous]]]]]

iii. I told *her* that the concert was attended by many people last year [who made *Mary* nervous].

embedded VP-adjunction:
I [told *her* [that [[the concert] [[[was attended [by many people]] [last year]] [who made *Mary* nervous]]]]].

In both (a.ii) and (a.iii), the extraposed relative clause could in principle attach to several locations: the matrix S, the matrix VP, the embedded S, and the embedded VP. Since *her* cannot refer to *Mary*, we can conclude that *her* must c-command the extraposed relative clause. In other words, the extraposed relative clause must be in the same clause as the NP that it semantically modifies. This constraint is known as the *Right Roof Constraint* and was first noted in Ross (1967).

We are still left with the question of whether the extraposed relative clause in (a.ii) and (a.iii) are adjoined to embedded S or to the embedded VP. The case of (a.iii) is easy - there we can show that the extraposed relative clause must be adjoined to the VP because of the following example:

*I told Bill that *she*$_i$ was criticized by many people last year [who made *Mary*$_i$ nervous].

If adjunction to the embedded S was a possibility in (a.iii), we would expect coreference to be possible in the above example.

Ruling out adjunction to the embedded S in (a.ii) is not that easy. So far all the cases of extraposed relative clauses we have seen have involved adjunction to VP. However, they have also all involved direct objects and prepositional objects and not subjects. So we cannot use the evidence from those cases to adjudicate (a.ii), which involves extraposition from subject. Therefore we will leave the issue unsettled for now.

b. Result Clause

   i. *She* told so many people about the concert [that *Mary* made Bill nervous].
   [[*She* told so many people about the concert] [that *Mary* made Bill nervous]].

   ii. I told *her* that that so many people attended last year's concert [that I made *Mary* nervous].
   [[I told *her* that that so many people attended last year's concert] [that I made *Mary* nervous]].

   iii. I told *her* that that the concert was attended by so many people last year [that I made *Mary* nervous].
   [[I told *her* that that the concert was attended by so many people last year] [that I made *Mary* nervous]].

The situation with Result Clauses seems to be quite distinct. They involve adjunction to S. The evidence for this comes from the fact that *her* can refer to *Mary* in all of (b.i-iii). Note also that Result Clauses are different from extraposed relative clauses in that they can appear in a clause different than the NP they are intuitively related to.

4. The following sentences are ambiguous. The two readings for the first sentence are provided. Indicate the two readings for the second sentence and then provide a structural account for the ambiguity of these sentences.

a. Mary claimed that Bill was so weird that he ate ants.
Reading 1: Mary's claim: Bill is so weird that he eats ants. In other words, according to Mary, Bill eats ants and this demonstrates how weird he is.
Reading 2: Mary claimed that Bill was very weird. This annoyed Bill and so just to prove a point he ate ants. Note that Bill's eating ants is not part of what Mary said.

b. Mary claimed that Bill was so weird that we didn't invite him to dinner.
Reading 1: Mary's claim: Bill is so weird that we didn't him for dinner. In other words, according to Mary, our not inviting Bill for dinner is related to his high degree of weirdness.
Reading 2: Mary claimed that Bill was weird to a very high degree. Her claim was responsible for our not inviting Bill.

Structural account:

Reading 1:
Adjunction to the embedded S:
Mary claimed that [[Bill was so weird] [that we didn't invite him to dinner]].
The result clause is part of the claim.

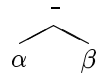
Reading 2:
Adjunction to the matrix S:
[[Mary claimed that Bill was so weird] [that we didn't invite him to dinner]].
The result clause is not part of the claim.

Evidence:
She claimed that Bill was so weird that we didn't invite Mary for dinner.
If *she* is interpreted as referring to *Mary*, Reading 1 is unavailable. This is so because on Reading 1 (but not on Reading 2), the matrix subject c-commands into the Result Clause.

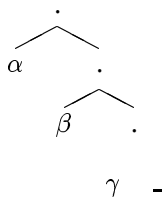
5. Determine whether the following statements are true or false. If you believe a statement to be false, provide a counterexample. If you believe a statement to be true, provide an informal proof detailing why the statement follows.

a. if node α dominates node β and node β dominates node γ, then node α dominates node γ.
True.
We will use the fact that α dominates β if and only if α contains β.
Therefore if α dominates β, then α contains β and if β dominates γ, then β contains γ.
But if α contains β and β contains γ, then α contains γ. Working back, we can conclude that α dominates γ.

b. if node α c-commands node β and node β c-commands node γ, then node α c-commands node γ.
False.
Here is a counterexample:



α c-commands β and β c-commands γ. However α does not c-command γ.
Some of you noted that the above made (5b) 'partly false' and 'partly true' because there were also cases where there are cases like the following:



However, it is important to note that statements are either true or false - mathematical truth is not gradable. The existence of a single counterexample is enough to show that a statement is false. On the other hand, no number of examples is sufficient to show that a mathematical statement is true. For that we need a proof.

References

Guéron, J., and R. May (1984) "Extraposition and Logical Form," *Linguistic Inquiry* 15:1, 1–32.

Iatridou, S. (1991) *Topics in Conditionals*, Doctoral dissertation, Massachusetts Institute of Technology, Cambridge, Massachusetts. Distributed by MIT Working Papers in Linguistics.

Liberman, M. (1974) "On Conditioning the Rule of Subject-Auxiliary Inversion," in E. Kaisse and J. Hankamer, eds., *Papers from the Fifth Annual Meeting of the North Eastern Linguistics Society*, Harvard University, Cambridge MA.

Ross, J. (1967) *Constraints on Variables in Syntax*, Doctoral dissertation, MIT.