

# Homework 5

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## 1. Domination

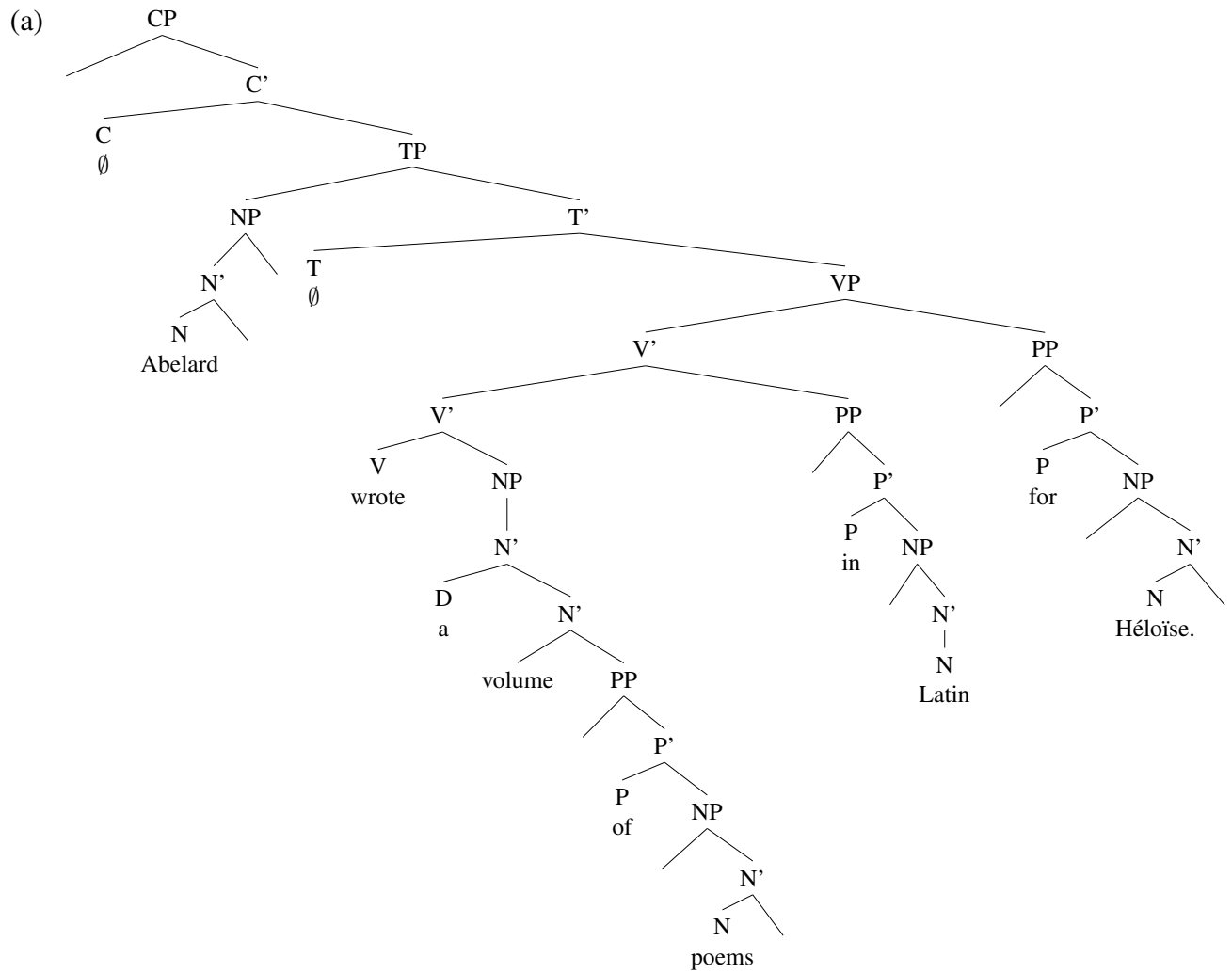
- 1)  $D_1$  is dominated by  $\underline{NP_1}$ ,  $TP_1$
- 2)  $D_2$  is dominated by  $\underline{NP_2}$ ,  $TP_2$ ,  $CP$ ,  $VP_1$ ,  $TP_1$
- 3)  $N_1$  is dominated by  $\underline{NP_1}$ ,  $TP_1$
- 4)  $N_2$  is dominated by  $\underline{NP_2}$ ,  $TP_2$ ,  $CP$ ,  $VP_1$ ,  $TP_1$
- 5)  $V_1$  is dominated by  $\underline{VP_1}$ ,  $TP_1$
- 6)  $V_2$  is dominated by  $\underline{VP_2}$ ,  $TP_2$ ,  $CP$ ,  $VP_1$ ,  $TP_1$
- 7) Adv is dominated by  $\underline{AdvP}$ ,  $VP_2$ ,  $TP_2$ ,  $CP$ ,  $VP_1$ ,  $TP_1$
- 8) C is dominated by  $\underline{CP}$ ,  $VP_1$ ,  $TP_1$
- 9) No nodes dominate  $TP_1$
- 10)  $TP_2$  is dominated by  $\underline{CP}$ ,  $VP_1$ ,  $TP_1$
- 11)  $NP_1$  is dominated by  $\underline{TP_1}$
- 12)  $NP_2$  is dominated by  $\underline{TP_2}$ ,  $CP$ ,  $VP_1$ ,  $TP_1$
- 13)  $VP_1$  is dominated by  $\underline{TP_1}$
- 14)  $VP_2$  is dominated by  $\underline{TP_2}$ ,  $CP$ ,  $VP_1$ ,  $TP_1$
- 15)  $CP$  is dominated by  $\underline{VP_1}$ ,  $TP_1$
- 16) AdvP is dominated by  $\underline{VP_2}$ ,  $TP_2$ ,  $CP$ ,  $VP_1$ ,  $TP_1$
- 17) The root node is  $TP_1$
- 18) The terminal nodes are  $D_1$  *the*,  $N_1$  *baker*,  $V_1$  *said*,  $C$  *that*,  $D_2$  *his*,  $N_2$  *bread*,  $V_2$  *smelled*, Adv *glorious*
- 19) The non-terminal nodes are  $TP_1$ ,  $NP_1$ ,  $VP_1$ ,  $CP$ ,  $TP_2$ ,  $NP_2$ ,  $VP_2$ , AdvP
- 20)  $VP_2$  dominates  $V_2$ , AdvP, and Adv
- 21)  $CP$  dominates C,  $TP_2$ ,  $NP_2$ ,  $D_2$ ,  $N_2$ ,  $VP_2$ ,  $V_2$ , AdvP and Adv
- 22)  $NP_1$  dominates  $D_1$  and  $N_1$

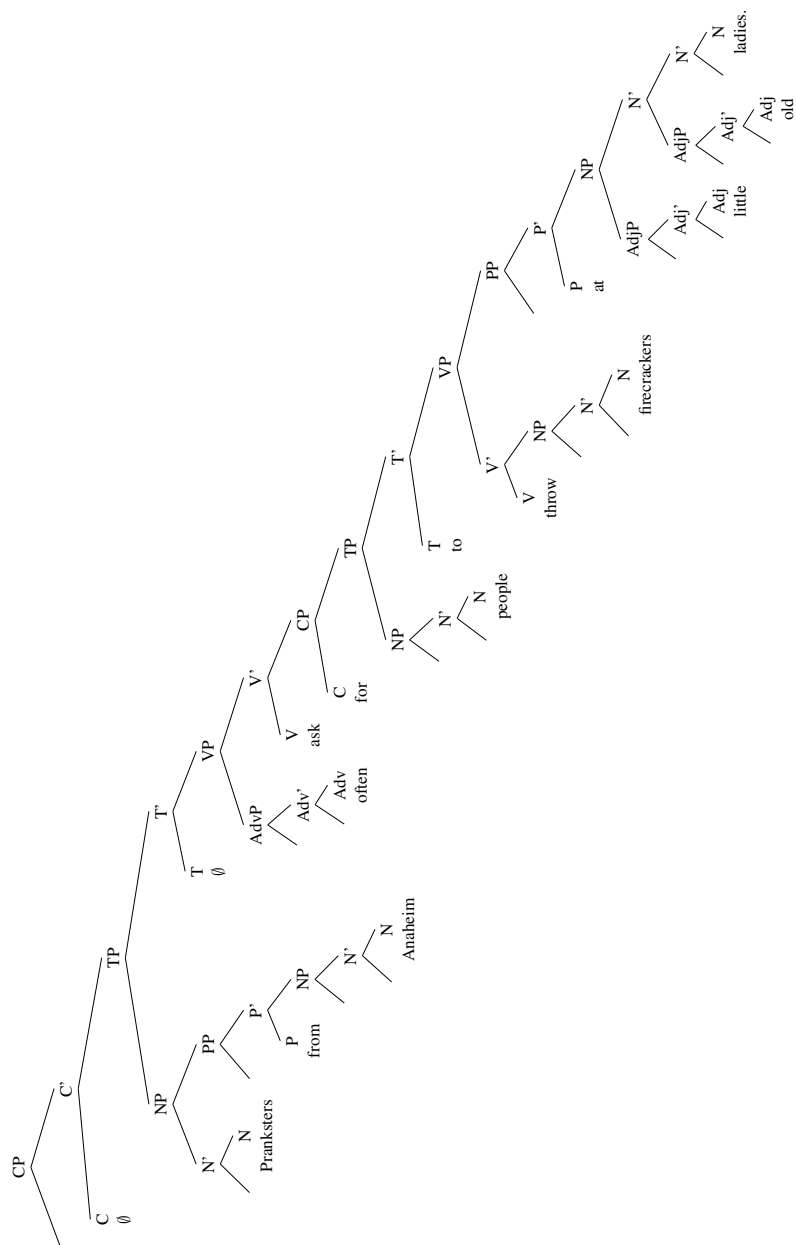
## 2. C-command

- 1)  $D_1$  c-commands  $\underline{N_1}$
- 2)  $D_2$  c-commands  $\underline{N_2}$
- 3)  $N_1$  c-commands  $\underline{D_1}$
- 4)  $N_2$  c-commands  $\underline{D_2}$

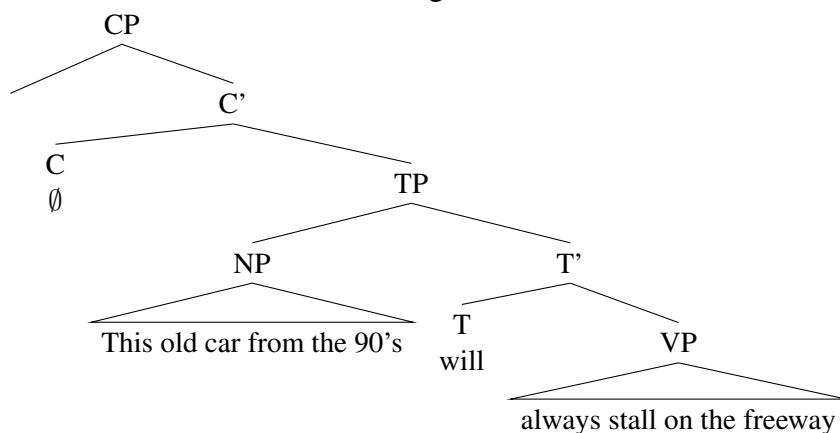
- 5)  $V_1$  c-commands CP, C,  $TP_2$ ,  $NP_2$ ,  $VP_2$ ,  $D_2$ ,  $N_2$ ,  $V_2$ , AdvP, Adv
  - 6)  $V_2$  c-commands AdvP, Adv
  - 7) Adv does not c-command any node
  - 8) C c-commands  $TP_2$ ,  $NP_2$ ,  $VP_2$ ,  $D_2$ ,  $N_2$ ,  $V_2$ , AdvP, Adv
  - 9)  $TP_1$  does not c-command any node
  - 10)  $TP_2$  c-commands C
  - 11)  $NP_1$  c-commands  $VP_1$ , V, CP, C,  $TP_2$ ,  $NP_2$ ,  $VP_2$ ,  $D_2$ ,  $N_2$ ,  $V_2$ , AdvP, Adv
  - 12)  $NP_2$  c-commands  $VP_2$ ,  $V_2$ , AdvP, Adv
  - 13)  $VP_1$  c-commands  $NP_1$ ,  $D_1$ ,  $N_1$
  - 14)  $VP_2$  c-commands  $NP_2$ ,  $D_2$ ,  $N_2$
  - 15) CP c-commands  $V_1$
  - 16) AdvP c-commands  $V_2$
  - 17)  $TP_2$  is c-commanded by C,  $V_1$  and  $NP_1$
  - 18)  $NP_1$  is c-commanded by  $VP_1$
  - 19) C is c-commanded by  $TP_2$ ,  $V_1$ ,  $NP_1$
3. Exhaustive Domination
- 1)  $N_1$  and  $N_2$  are not exhaustively dominated by any node.
  - 2)  $D_1$  and  $N_1$  are exhaustively dominated by  $NP_1$ .
  - 3)  $V_2$  and Adv are exhaustively dominated by  $VP_2$
  - 4)  $D_2$ ,  $N_2$ ,  $V_2$  and Adv are exhaustively dominated by  $TP_2$
  - 5)  $D_1$ ,  $N_1$  and  $V_1$  are not exhaustively dominated by any node.
  - 6)  $D_1$  is not exhaustively dominated by any node.
  - 7) C,  $D_2$ ,  $N_2$ ,  $V_2$  and Adv are exhaustively dominated by  $CP_2$ .
  - 8)  $VP_1$  exhaustively dominates  $V_1$ , C,  $D_2$ ,  $N_2$ ,  $V_2$  and Adv
  - 9) No - the string "that his bread" is dominated by  $TP_2$ , but the set of nodes that  $TP_2$  dominates exhaustively includes not only the set C that,  $D_2$  his  $N_2$  bread as well as  $V_2$  smelled. Adv glorious.
  - 10) The string "The baker said that his bread smelled glorious" is a constituent, given that the set  $TP_1$  exhaustively dominates is  $D_1$  the,  $N_1$  baker,  $VP_1$  said, C that,  $D_2$  his,  $N_2$  bread,  $V_2$  smelled, Adv glorious.

#### 4. X-Bar Trees

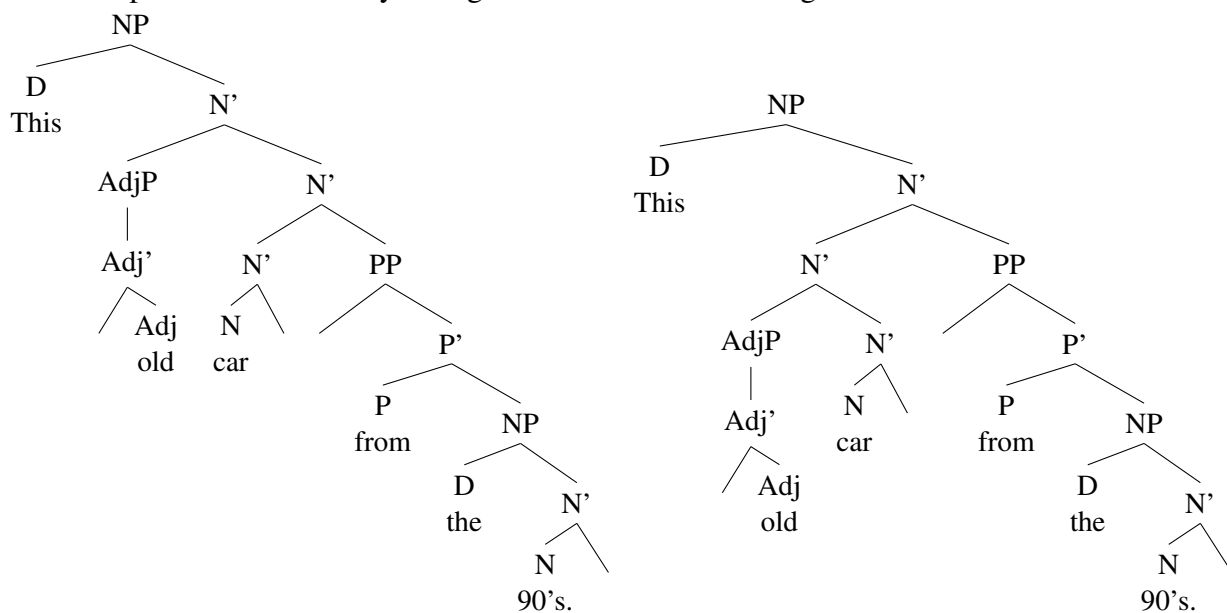




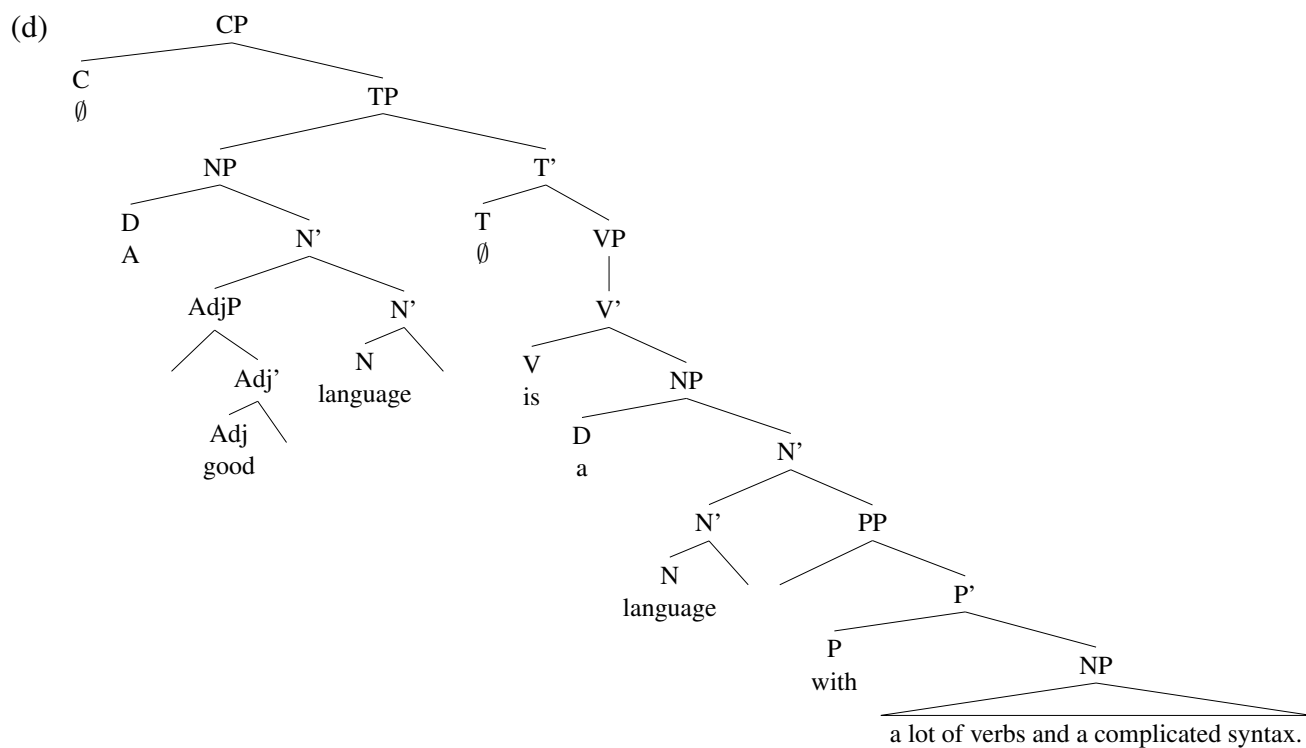
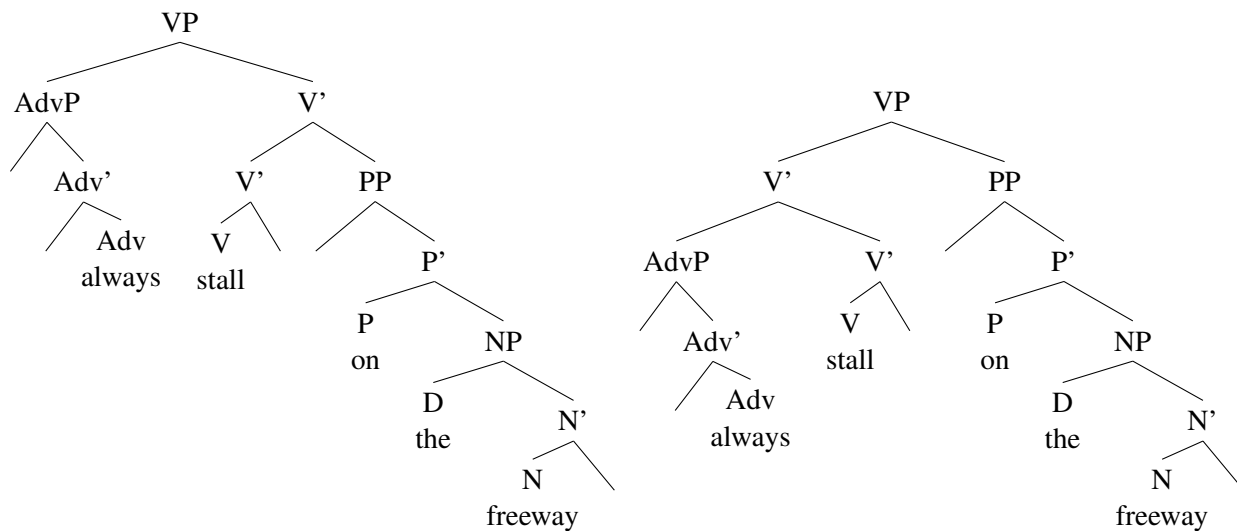
(c) The structure of the TP is unambiguous.

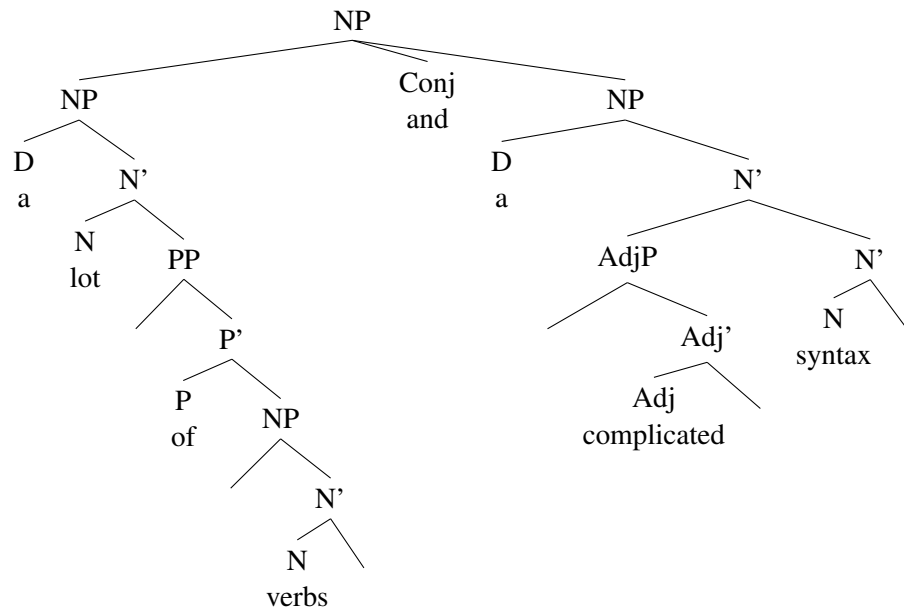


The noun phrase is structurally ambiguous between two readings.

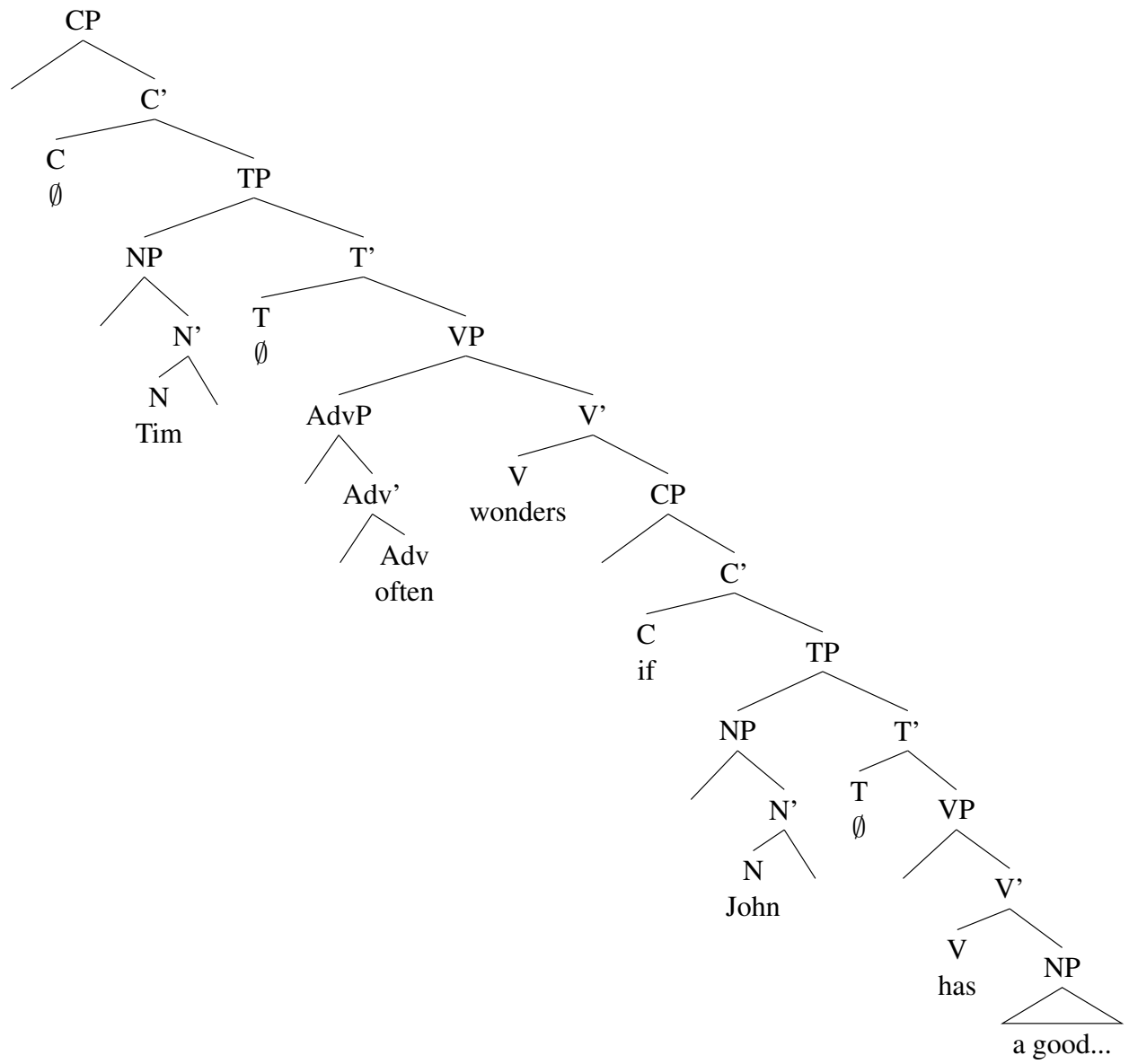


Likewise for the verb phrase, making four overall possible structural readings for the whole sentence.

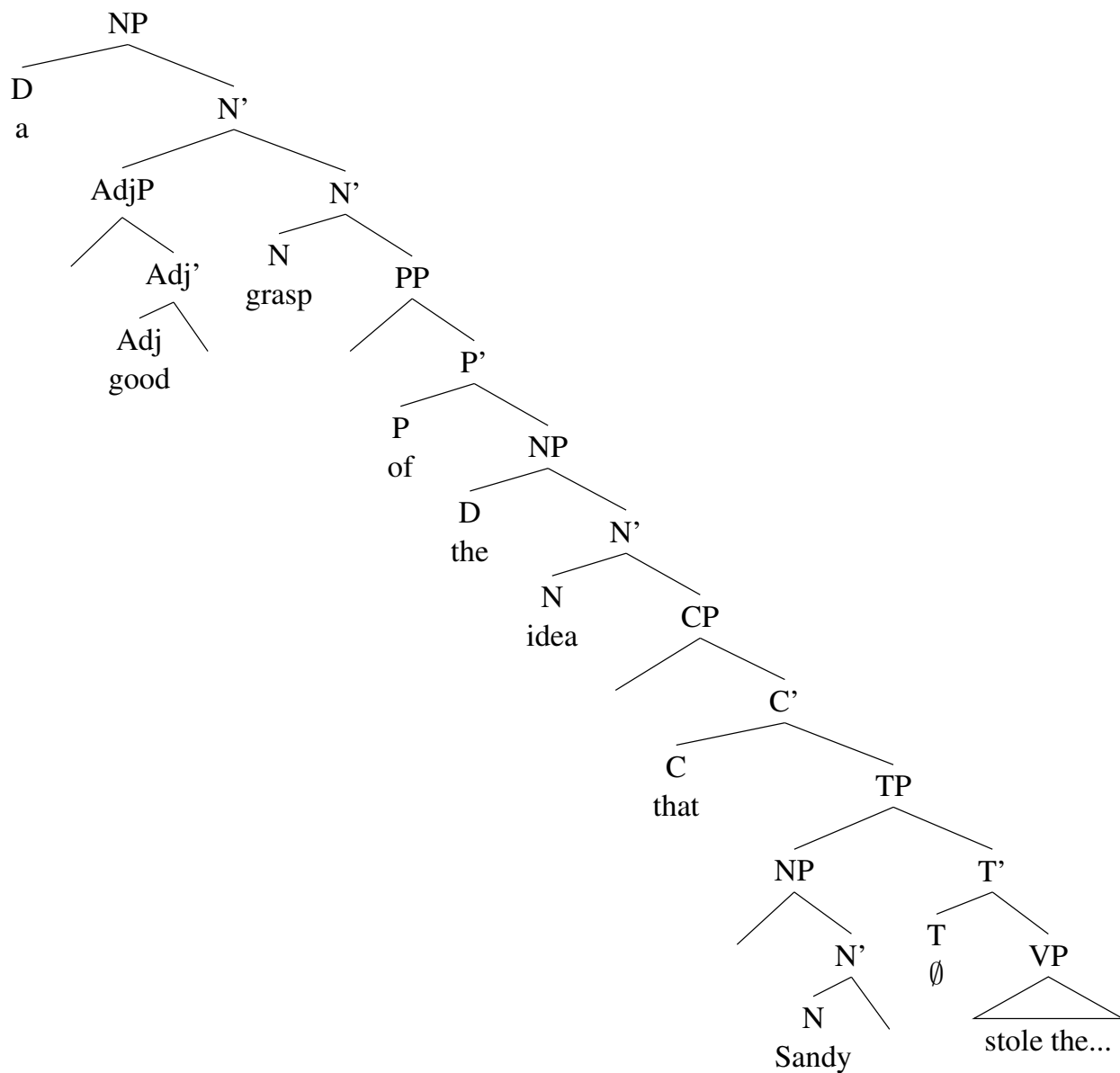


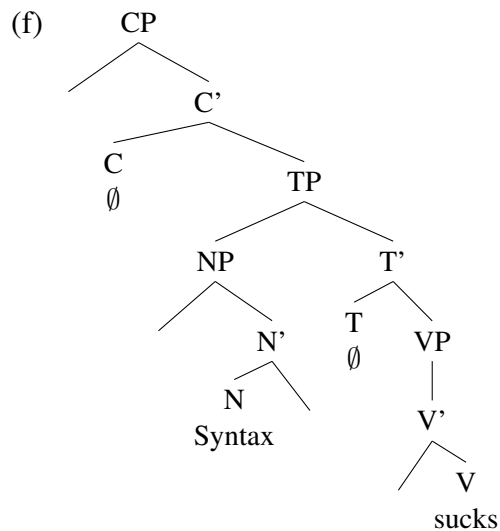
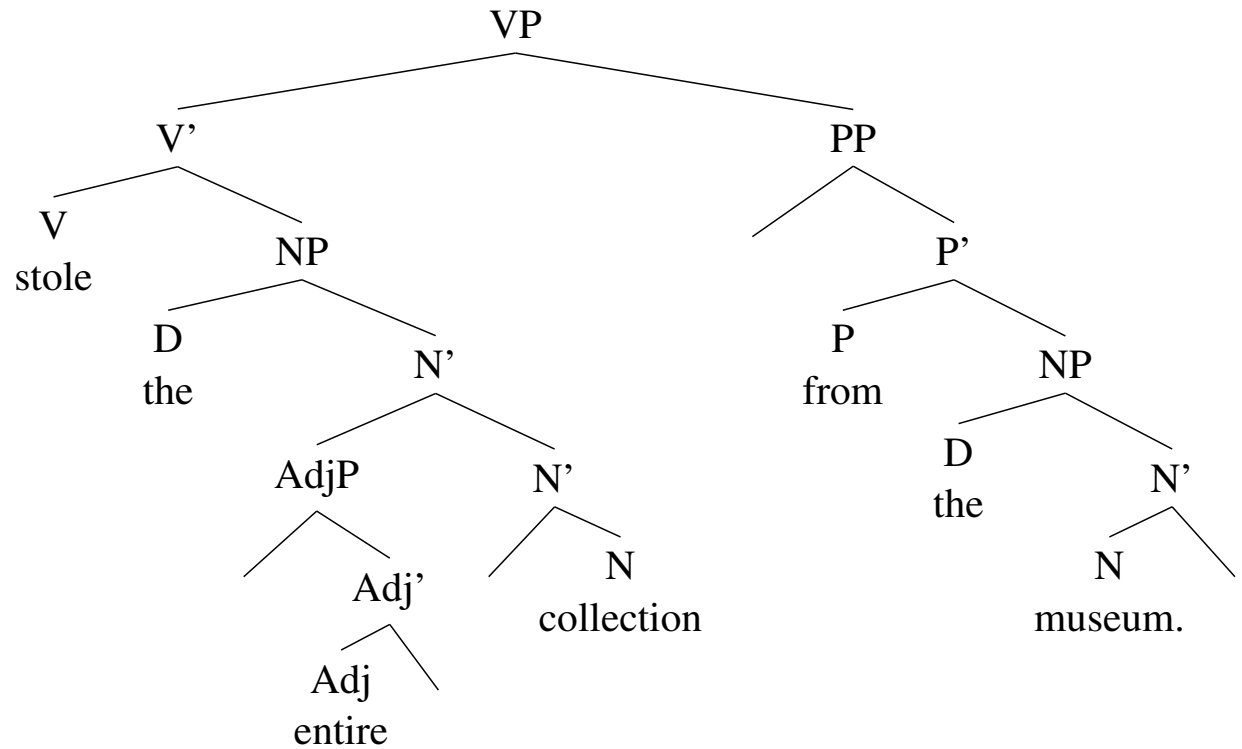


(e)









## 5. Binding Domains

### 1 Binding Rules

- (A) An anaphor must be bound in its binding domain.
- (B) A pronoun must be free in its binding domain.
- (C) An R-expression must be free.

### 2 \*Michael<sub>i</sub> loves him<sub>i</sub>.

This sentence violates Principle B. The pronoun *him* is co-indexed with *Michael*. The binding domain for *him* is the main clause, and the noun *Michael* C-commands *him* in

this domain, therefore *him* is bound by *Michael*.

- 3 \* $\text{He}_i$  loves *Michael*<sub>*i*</sub>..

This sentence violates Principle C. The R-expression *Michael* is co-indexed with the pronoun *he*. *He* also C-commands *Michael*, therefore the R-expression *Michael* is not free.

- 4 \* $\text{Michael's}_i$  father loves *himself*<sub>*i*</sub>.

This sentence violates Principle A. The anaphor *himself* is co-indexed with the noun *Michael*. However, since *Michael* is dominated by the NP *Michael's father* (of which the head is *father*), it does not C-command *himself*, since the anaphor *himself* is not also dominated by *Michael's father*. Therefore, the anaphor *himself* is not bound within its binding domain.

- 5 \* $\text{Michael's father}_i$  loves *him*<sub>*i*</sub>.

This sentence violates Principle B. The pronoun *him* is coindexed with the noun *father* in its binding domain, which is the main clause. Since *father* is the head of the NP *Michael's father*, *father* C-commands *him*, and thus the pronoun *him* is not free within its binding domain.

- 6 \* $\text{Susan}_i$  thinks that  $\text{Mary's}_j$  son should marry *herself*<sub>*i/j*</sub>.

Both readings of this sentence violate Principle A. The anaphor *herself* is coindexed with either *Susan* or *Mary*. *Susan* is outside the anaphor's binding domain, which is the subordinate clause introduced by *that*, therefore it cannot bind *herself*. *Mary* is dominated by the NP *Mary's son*, of which *son* is the head, therefore *Mary* does not C-command *herself*, as *herself* is not dominated by the NP *Mary's son*. Thus, the anaphor is free within its binding domain.

- 7 John thinks that  $\text{Susan}_i$  should kiss *her*<sub>*i*</sub>.

This sentence violates Principle B. The pronoun *her* is co-indexed with the noun *Susan* in its binding domain, which is the subordinate clause introduced by *that*. The NP *Susan* C-commands *her*, therefore the pronoun is not free within its binding domain.

6. The binding domain for Japanese is more broadly defined than that of English. As (4c) demonstrates, an anaphor in a subordinate clause can be bound by an NP in the parent clause (i.e. *zibun* can be co-indexed to *Taroga*). Thus, I define the binding domain as follows:

- (a) *Binding domain*: The highest CP dominating the NP (anaphor, pronoun or R-expression).

Contrast this to English, where an NP's binding domain is only the immediate clause containing it.

Sentences (4a,b) demonstrate that a dative NP cannot bind an accusative NP in the same VP. If we assume that both the dative and accusative are complements of the VP (and, thus, are sisters), then we can adjust the definition of binding to account for this behavior.

- (b) Principle A: An anaphor must be bound in its binding domain. That is, the anaphor must be C-commanded by an NP that it itself does not C-command.

Note that in the English sentence below, *Natsuko* cannot co-index *himself* because *Natsuko* is dominated by a PP and therefore does not C-command *himself*.

- (c)  $\text{Taro}_i$  showed *himself*<sub>*i/\*j*</sub> to *Natsuko*<sub>*j*</sub>.

Moving *Natsuko* to a complement position allows for it to be co-indexed.

(d) Taro<sub>*i*</sub> showed *Natsuko*<sub>*j*</sub> himself<sub>*i/j*</sub>.

This demonstrates the need for a different binding rule in Japanese.