

24.900: Introduction to Linguistics

March 7, 2005

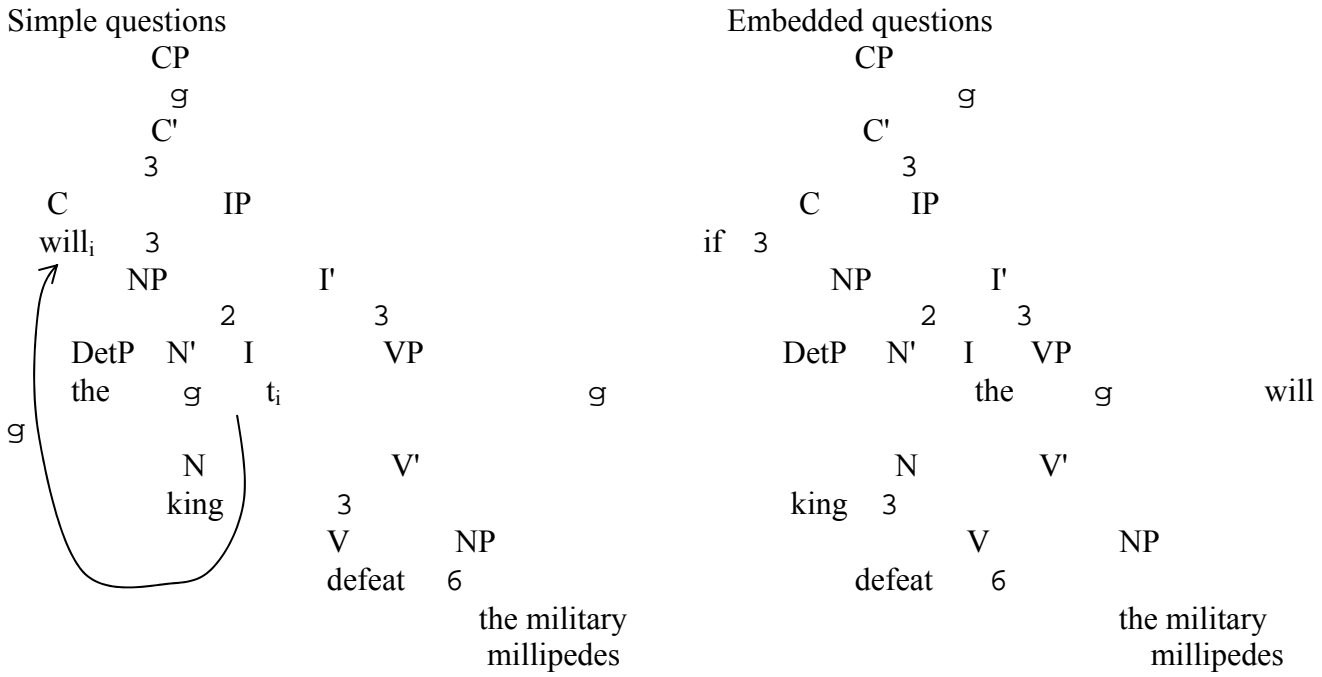
Semantics

1. **If you have questions during the class lecture, and they are more than just a clarification, please write your question down on an index card and place the card in one of the black boxes on the counter in the back.**
2. **Index cards will be available for each class lecture throughout the semester.**
 - **The answers to the questions will be posted on the class discussion board as soon as possible after class.**
 - **If you have other questions while you are reviewing the class notes or reading the textbook, you can either email me or your TA, post the question on the discussion board or make an appointment to see me or your TA.**
 - **Please do not hesitate to come to talk to me or your TA about the class, your problem sets, your Squib project or whatever. We will make time for you.**
3. **Make sure to read the relevant chapters in your textbook as they are assigned. Also, review the class notes as well as any supplemental material that is posted on the class website. In order to understand what we are doing in class, you need to review all of these materials. Think about them. And, if you have questions, ask us.**
4. **Additional notes on “polysemy” and “homophony” see <http://amor.rz.hu-berlin.de/~h2816i3x/LexSemantik5.pdf>. (We will review the basic distinction briefly in class today see II on p. 7 in this handout.)**
5. **Some more “blends” that are Scrabble-acceptable:**
 - **SMAZE (smoggy haze)**
 - **TIGON, TIGLON (male tiger mates with female lion; LIGER, which was brought up in class, is also acceptable and describes the offspring of a female tiger and male lion.)**

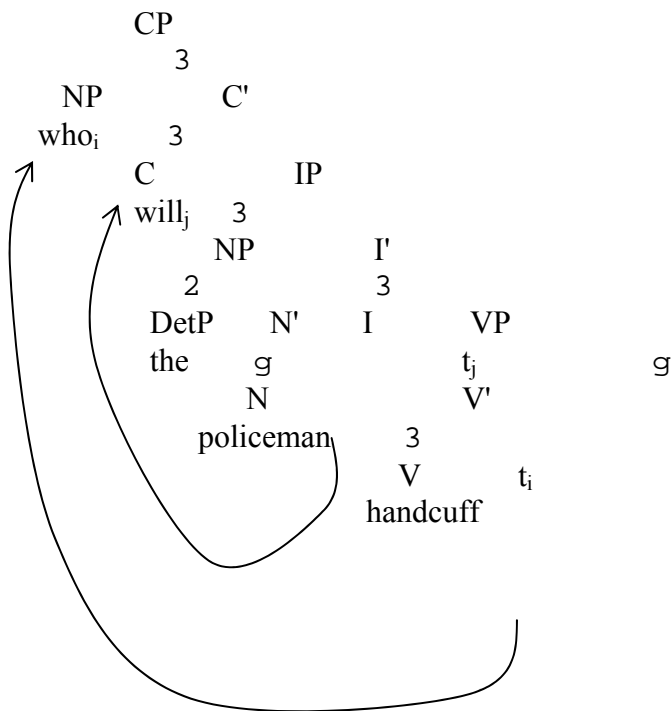
(Source: *Scrabble Champion* (24.900 colleague).

I. Some more notes on Movement and Bounding Nodes/Subjacency:
a. Property of undergeneration by Phrase Structure Rules

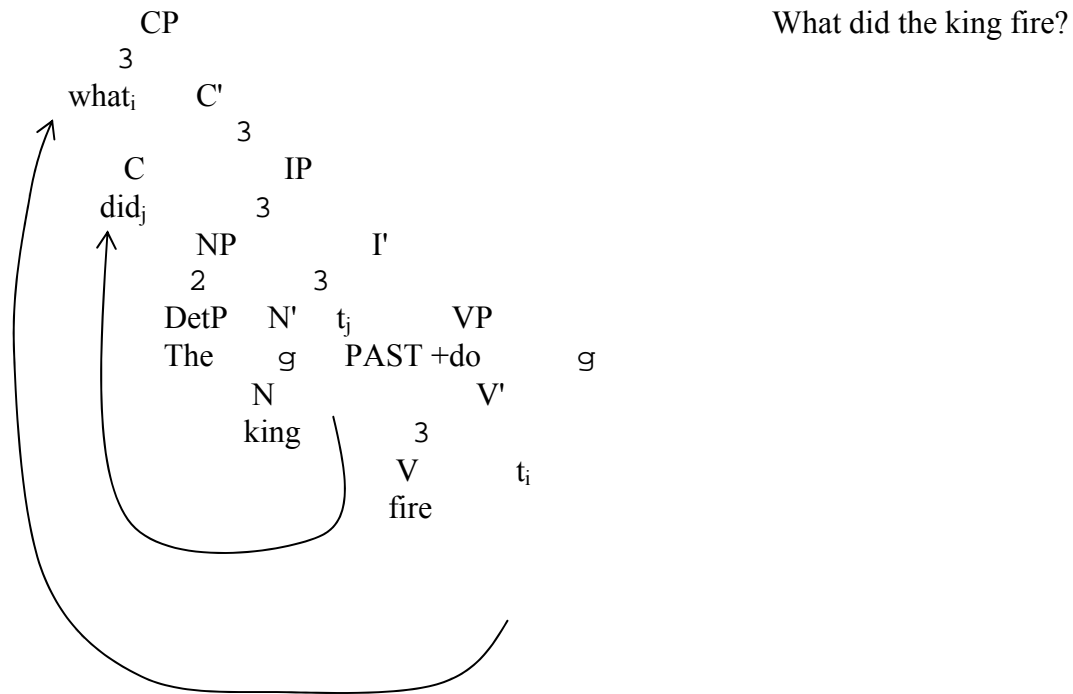
b. Trees indicating movement



Who will the policeman handcuff?



- ◆ If the sentence contains no auxiliary, then *do* is inserted in I, and moved on to C. The wh-phrase moves to Spec,CP as before.



The general way to form (simple) questions is

- ◆ Move the wh-phrase to Spec,CP
- ◆ Move I to C
 - if I contains an auxiliary, then move the auxiliary to C
 - if I does not contain an auxiliary, then insert *do* in I (attach PAST or PRESENT affixes), and move *do* to C

c. Constraints on movement: (See handout from 3/2/05)

a. Complex Noun Phrase constraint:

Compare the following:

1. What_i did Bill claim [_{CP} that he read *t_i* in the syntax book]?
 2. *What did Bill make [_{NP} the claim [_{CP} that he read *t_i* in the syntax book]]?
- b. Sentence 1 is grammatical—movement of the Wh-word out of a complement clause.
- c. Sentence 2 suggests that not all movement out of a complement clause is acceptable. In particular, it appears that you cannot move a wh-word out of a CP contained within an NP.

⇒ **Complex Noun Phrase Island** (Ross 1967).

- d. Notion of a syntactic island: you can't get off of them/out of them. You can only move within the confines of the island. In sent. 2, we have an NP island.
- e. There are other kinds of syntactic islands. One of the most important is called the *wh-island*.

3. I wonder [_{CP} what_i [_{IP} John bought *t_i* with the money.]]]

NB: it is possible to move a *wh*- phrase to the specifier of an embedded CP.¹

4. [_{CP} How_i do [_{IP} you think [John bought the car *t_i*?]]]

NB: Here is possible to move another *wh*-phrase to the specifier of the main CP.

5. *[_{CP} How_j do [_{IP} you wonder [_{CP} what_i [_{IP} John bought *t_i* *t_j*]]]]]?

NB: We cannot move one *wh*-word to the embedded specifier and the other to the main specifier in the same sentence.

- f. **Important to note:** Sentence 5 is wildly ungrammatical even though we have performed two otherwise legitimate operations.

1. We know that this is not a constraint on having two *wh*-words in a sentence:

- a. How do you think John bought *what*?
- b. I wonder what John bought *how*?

2. Rather, the constraint seems to be on moving *both* of them.

Another set of examples:

6. I wonder what_i John kissed *t_i*.

7. Who_j did you think/wonder *t_j* kissed the gorilla?

NB: Movement of either the object in sentence 6 or the subject in sentence 7 to the specifiers of CP is acceptable.

8. *Who_j did you think/wonder what_i *t_j* kissed *t_i*.

¹ There is actually a restriction on this. *Wh-movement* to an embedded CP can only take place when the main verb selects (theta marks) a question clause. Verbs that do this are predicates like *wonder* and *ask*. Verbs like *think* don't allow embedded *wh*-questions.

NB: However we cannot move both within the same sentence as in the examples in 3-5.

- g. The basic intuition underlying an account of these facts is that once you move the *wh*-phrase into the specifier of a CP, then that CP becomes an island for further extraction.

9. I asked CP what_i John kissed t_i]. *Wh-island*

NB: Movement out of this *wh*-island results in ungrammaticality.

⇒ We now have a *descriptive* statement about the restrictions on *Wh*-movement.

What we would like to have is a more formal description that would allow us to account for both the *complex NP island* effects and *wh-islands*.

⇒ **Bounding Theory** (1970s and 1980s)

- h. The central idea underlying bounding theory is that certain nodes are boundaries for movement. These nodes are called *bounding nodes*.
- i. The bounding nodes for English are: **IP** and **NP**.
- j. We cannot simply say: “*Don’t cross a bounding node.*” Sentence 10 violates this.

10. [_{CP} Who_i did [_{IP} John see t_i]]?
 ↑ _____|

Sentence 10 is completely grammatical.

- k. The account needs to be more complicated than that stated in (l).
- l. **The answer:** *The Subjacency Condition/Constraint* (Chomsky 1973).
- m. Subjacency Condition:

Wh-movement may not cross more than one bounding node (but it may cross one).

11. [_{CP} What_i did [_{IP}] you think [_{CP} that [_{IP} Millie said t_i]]]
 ↑ _____|_____

Movement of this kind will necessarily cross two IPs, and thus should be a violation of the subadjacency condition. However, the sentence is grammatical. Recall, *wh-movement* targets the specifier of *CP*. In sentence 11, there is an unfilled specifier of *CP* between the two IPs.

12. [_{CP} What_i did [_{IP}] you think [_{CP} _____ that [_{IP} Millie said t_i]]]]?

Two movements:

13. [_{CP}] did [_{IP}] you think [_{CP} what_i that [_{IP} Millie said t_i]]]]?
 ↑ _____|
move #1

14. [_{CP} What did [_{IP}] you think [_{CP} t_i that [_{IP} Millie said t_i]]]]?
 ↑ _____|
move #2

n. **Cyclicality**: Property of stopping off in intermediate specifiers of *CP*.

O. What evidence is there that we cannot move in one **Giant** step? In other words, what kind of evidence do we have that there is successive cyclic movement? (Intermediate traces)

Consider the following evidence from Spanish:

1. Spanish allows optional *subject inversion*:

María contestó la pregunta
Maria answered the question
“Maria answered the question.”

2. **Contestó la pregunta María.**
Answered the question Maria
“Maria answered the question.”

However, in *wh*-questions, this inversion is not optional. It must take place:

3. **Qué querían esos dos?**
What wanted those two
“What did those two want?”

4. ***Qué esos dos querían**
What those two wanted
“What did those two want?”

Generalization: When a wh-word is in the specifier of CP, inversion is obligatory; otherwise, it is optional.

Consider the following sentence with multiple embedded clauses:

5. **Juan pensaba que Pedro le había dicho que la revista había publicado ya el artículo.**
Juan thought that Pedro to-him had said that the journal had published already the article.
“Juan thought that Pedro had told him that the journal had published the article already.”

In 5, the subjects of the embedded clauses are *Pedro*, and *la revista*. These subjects precede their main verbs (respectively *le había dicho* and *había publicado ya el artículo*). If we wh-extract the most embedded object, *el artículo*, we find that subject inversion takes place in each intermediate clause.

6. **Qué pensaba Juan que le había dicho Pedro que había publicado la revista?**
What thought Juan to-him had said Pedro that had Publisher the journal
“What did Juan think that Pedro had told him that the journal had published?”
7. ***Qué pensaba Juan que Pedro le había dicho que la revista había publicado**
What thought Juan that Pedro to-him had said that the journal had published?

If our generalization is correct, then the derivation of sentence 6 must involve a wh-phrase in each intermediate specifier of CP, or else inversion would not be obligatory. The lack of inversion in sentence 7 leads to ungrammaticality, and this means that a derivation where the wh-movement takes place in one long swoop must not be available.

II. Some *very* brief words about **Homophony** and **Polysemy**

- a. Homophony refers to cases in which two words “accidentally” have the same phonological form (e.g., *no/know*).
1. Mary walked along the **bank** of the river.
 2. Harbor Bank is the richest **bank** in the city.

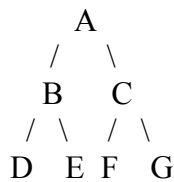
- b. Polysemy refers to the phenomenon that one and the same word acquires different, though obviously related, meanings, often with respect to particular contexts.
 - 3. The **bank** raised its interest rates yesterday. (specific institution).
 - 4. The store is next to the newly constructed **bank**. (building that houses the institution).
 - 5. The **bank** appeared first in Italy in the Renaissance. (the type of institution).
- c. The meanings of polysemous expressions are related to each other. This is typically not the case for homophonous expressions, even though they may be historically related.
- d. Polysemy is regular.
- e. However, these are *fuzzy* concepts, insofar as polysemy might evolve into homophony: Two uses of the same word may become more and more dissimilar, to the point that the relation is not obvious anymore to native speakers.

III. C-command and Binding Principles:

a. Important definition of a structural relationship:

C-COMMAND

→ X C-commands Y iff (a) first branching node that dominates X also dominates Y and (b) neither X or Y dominates the other



- A c-commands \emptyset
- B c-commands CFG
- C c-commands BDE
- D c-commands E
- E c-commands D
- F c-commands G
- G c-commands F

IV. Binding theory

- **Principle A**

- A **reflexive NP** is an NP whose head is a reflexive pronoun. [Examples: *myself, yourself, herself, themselves.*]

→(1) Sue_i defended herself_i.

→(2) *Sue_i proved that herself_i saw Bill.

→ (3) *Sue_i proved that Bill saw herself_i.

- **Principle A: A reflexive NP must be c-commanded by a coreferent NP within the same clause.**

- **Principle B**

A **pronominal NP** is an NP whose head is a pronoun. [Examples: *he, me, her, our...*]

- *our...*

→(4) Sue_i proved that she_i saw Bill.

→ (5) Sue_i proved that Bill saw her_i.

→ (6) *Sue_i defended her_i.

→ (7) *Barry thought that Sue_i saw her_i.

- **Principle B: If a pronominal NP is c-commanded by another NP within the same clause (same IP), the two NPs may not co-refer.**

- **Principle C:** ▪ An **r-expression (REFERRING EXPRESSION) NP** is an NP whose head is not a pronoun (or reflexive).

[Examples: *the dog, the King of Baritaria, Mary's, Bill's honesty.*]

→(8) a. *She_i defended Sue_i'.

- **Principle C: If an r-expression NP is c-commanded by a [pronominal] NP, the two NPs may not co-refer.**

IV. **Even more precise formalizations:**

- a. **Definition of binding:** α binds β iff:
 - i. α c-commands β
 - ii. α and β are coindexed

- b. (co) indexation: X and Y are automatically coindexed—assigned the same index—
 - i. if X is a WH-phrase displaced by WH-movement and Y is the trace of X left behind.
 - 1. **Who_i does he believe [t_i has the winning number]?**
 - ii. Free indexing—assign an index—any index—to every NP in a sentence that is not already indexed by movement. Threshold condition: agreement in person, number, gender,...

Binding domain for α :

The clause containing the NP (anaphor, pronoun or r-expression).

- c. Binding theory, once again:

Principle A: An anaphor must be bound in its binding domain.

Principle B: A pronominal must be free in its binding domain.

Principle C: An r-expression must be free.

Class Exercises: