Syntax recitation

Introduction to Linguistics, Instructor: Prof. Adam Albright
Section R02 & R03, Suzana Fong (sznfong@mit.edu)

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1 Syntactic ambiguity

Phrases can be ambiguous and ambiguity can be traced back to the order words are merged together. A case in point is the following:

(1) a pretty friendly dog

   i. .............................................................

   ii. .............................................................

The structures we arrived at were the following, now with the labels from the syntax lectures:

(2) (…..) NP
    Det a
    AdjP pretty
    N dog

Exercise #1

Draw syntactic trees for the ambiguous phrases below. Make sure to follow our conventions from class.

(3) a. Russian dance instructor
    b. green tea pot
    c. chair for secretaries with an inclined back

Given that sentences are created from merging phrases together, we expect whole sentences to be ambiguous too. And this is correct:

(4) a. Taylor said that Rafael will make the announcement tomorrow with a megaphone.
b. Estela petted the dog with a stick.
c. Ariel saw a hiker with binoculars.
d. James is staring at the book from the library.
e. Police helps dog bite victim. (found online)

Constituent tests can be used to distinguish between the readings of the ambiguous sentences. For instance, if we apply, for instance topicalization, pronoun substitution, and fragment answers to (4b), the results would be the following:

(5) **Topicalization**
   i. [With a stick], Estela petted [the dog].
   ii. [[The dog] with a stick], Estela petted.

(6) **Pronoun substitution**
   i. ..............................................................
   ii. ..............................................................

(7) **Fragment answers**
   i. ..............................................................
   ii. ..............................................................

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**Exercise #2**

A. Find the ambiguity in the other sentences in (4).
B. Apply the same constituent tests to these sentences, trying to tease apart the readings.
C. Draw the corresponding trees for all the sentences in (4), using the following conventions:
   Convention: Assume that the verb *help* in (4e) may take another clause as its complement, in which case its complement is an IP with a null/unpronounced (∅) head I.

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**Exercise #3**

If you want more practice drawing trees, here are some sentences:

(8) a. The investigator concluded that a frustrated tiger had escaped from the enclosure.
   b. Antônia said that Alex will announce their resignation during the meeting.
   c. Antônia arranged for Alex to announce their resignation during the meeting.
   d. Emery correctly predicted the preference for overly sweet deserts.
   e. It may rain tomorrow.

Conventions:
- Represent *during …* as a PP with *during* as the prepositional head.
- Represent pronouns like *their* in the same way that determiners are.
- Represent *for* in (8c) as a complementizer which merges with an IP headed by *to.*
2 Complements vs. adjuncts

Nouns can have complements, just like verbs. But their behavior is different:

(9)  
   a. i. ( ) Farm factories will devastate the rainforest.  
      ii. ( ) Farm factories will devastate.  
   b. i. ( ) The devastation of the rainforest appalled us.  
      ii. ( ) The devastation appalled us.

Questions

A. How could we describe this difference?

B. If you are a native speaker of a language other than English, can we reproduce the facts above in that language?

Now consider adjuncts:

(10)  
   a. i. ( ) Rosa studies physics in the library.  
      ii. ( ) Rosa studies physics.  
   b. i. ( ) This student of physics in the library is a friend of mine.  
      ii. ( ) This student of physics is a friend of mine.

Question

Compare the sentences in (9b) with those in (10b). It illustrates a difficulty posed by the structure of nominal phrases. What difficulty is that?

In order to solve this problem, we can try some tests.

2.1 Adjacency

(11) Roumy is a specialist of hazel eyes.¹

¹I know one of the readings is not completely natural, perhaps old-fashioned.
i. .................................................................

ii. .................................................................

(12) a. ( ) Roumy is a specialist of hazel eyes of green eyes
b. ( ) Roumy is a specialist of green eyes of hazel eyes
c. ( ) Roumy is a specialist of physics of hazel eyes
d. ( ) Roumy is a specialist of hazel eyes of physics

**Exercise #4**

A. Here is another paradigm of the same type:

(13) an encyclopedia on the egg chair

i. .................................................................

ii. .................................................................

(14) a. ( ) an encyclopedia on the egg chair on the camping chair
b. ( ) an encyclopedia on the camping chair on the egg chair
c. ( ) an encyclopedia on its last legs on the egg chair

B. There is a contrast in grammaticality between (12d) and (14c). Can you come up with a reason for this contrast?

⇒ Takeaway: .................................................................

**A complication**  Contrast the data above with the paradigm below:

(15) a. ( ) I read a book [that Masha had given me] yesterday.
c. ( ) I read a book yesterday [that Masha had given me].
d. ( ) I read a book yesterday [about rainforests].

**Questions**

A. Why is this a problem?

B. If you’re a native speaker of a language other than English, try to see if extraposition is available in this language too. In Portuguese, for example, it isn’t.
This is in fact a different type of construction, one that involves something called *extraposition*. Unfortunately, this is not a topic we can tackle in an introduction to linguistics class, but the reasons why I included these here are the following:

- To give you a feel of the type of puzzle linguists deal with.
- To raise awareness to the fact that, if a diagnostic isn’t working, there may be *independent* reason for that. More on that in the appendix below.

### 2.2 One substitution

(16) a. i. Olivia saw a picture on the table.\(^2\)
   ii. Olivia saw a picture of the wombat.

b. i. ( ) Olivia saw a picture on the table, and John saw one on the chair.
   ii. ( ) Olivia saw a picture of the wombat, and John saw one of the monkey.

(17) a. i. Taylor admires a student with a burgundy scarf.
   ii. Taylor admires a student of Armenian literature.

b. i. ( ) Taylor admires a student with a burgundy scarf and Isabel one with a blue beenie.
   ii. ( ) Taylor admires a student of Armenian literature and Rosa admires one of Korean literature.

⇒ **Takeaway:** ........................................................................................................................................

### 2.3 Relative clause which is ...

(18) a. i. the student with a burgundy scarf\(^3\)
   ii. the student of phonetics

b. i. ( ) the student which is with a burgundy scarf
   ii. ( ) the student which is of phonetics

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**Exercise #5**

Try the same test in the following NPs to determine whether the PP is a complement or an adjunct. It is possible that sometimes that judgment is not so clear.

(19) a. the corner of the room
    b. the corner in the room
    c. the writer of fanfiction
    d. the writer on the stage
    e. the driver of limousines
    f. the driver with a burgundy scarf

⇒ **Takeaway:** ........................................................................................................................................

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\(^2\)Thank you to Filipe Kobayashi and Sherry Chen for useful input! (16b) are from Sherry.

\(^3\)Thank you to Sherry Chen for input!
2.4 Permutability

(20)  a.  i. ( ) the construction of the bridge in an excruciatingly slow pace
       ii. ( ) the construction in an excruciatingly slow pace of the bridge

       b.  i. ( ) the kicking of the ball with a breathtaking technique
           ii. ( ) the kicking with a breathtaking technique of the ball

⇒ Takeaway: .........................................................................................................................

Appendix: A more nuanced conclusion about constituent tests

It seems reasonable to assume that with binoculars in (4c) above is a prepositional phrase (PP, [PP with [NP binoculars]]) in both readings and corresponding structures. As such, our constituent tests should be able to target this PP in both structures underlying (4c), since it should be a constituent in both. However, the topicalization and fragment question tests are unambiguous:

(21) Ariel saw a hiker with binoculars.
    a. [PP With binoculars], Ariel saw a hiker.

    Only reading available: ........................................................................................................

    b. With what did Ariel saw a hiker? [PP With binoculars].

    Only reading available: ........................................................................................................

In order to understand the disappearance of ambiguity in the sentences above after the application of a constituent diagnostic, consider the following sentences:

(22) a.  i. ( ) Joanna informed us that the chef had made the pancake with buckwheat flour.
       ii. ( ) With buckwheat flour, Joanna informed us that the chef had made the pancake (and not with wheat flour).

       b.  i. ( ) Joanna devoured the pancake that was made with buckwheat flour.
           ii. ( ) With buckwheat flour, Joanna devoured the pancake that was made (and not with wheat flour).

(23) a.  i. ( ) Rosa announced that a child was playing with a jigsaw puzzle.
       ii. ( ) With a jigsaw puzzle, Rosa announced that a child was playing.

       b.  i. ( ) Rosa admires the child playing with a jigsaw puzzle.
           ii. ( ) With a jigsaw puzzle, Rosa admires the child playing.
**Question**

How are (22b) and (23b) different from (22a) and (23a), respectively?

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In topicalization (and question-formation, in a language like English), we **move** phrases around. Movement is when we take a phrase that is sitting in one part of the structure and place it another part of the structure. In topicalization, we move a phrase to the left-most position.

Syntactic movement can be represented with an arrow that connects the departure point of the phrase and its target position.

(24) *With binoculars, Ariel saw a hiker.* *(i.e. binoculars as an instrument of seeing)*

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The point is that we can’t move phrases from just any part of the structure. These parts of the structure we cannot move phrases from are called **islands**.
(25) * With binoculars, Ariel saw a hiker. (i.e. the hiker had the binoculars)

Questions

A. Having learnt what islands are, can you provide a hypothesis as to why the sentences in (21) are unambiguous?

B. If you speak some language other than English, try to construct the equivalent ungrammatical sentences where topicalization proceeds from an island and see if they are also ungrammatical.