L322 Syntax

Chapter 5: $\overline{\text{X}}$ Theory

Linguistics 322

1. Introduction

1. Conjunction: evidence for $\overline{\text{X}}$ (X-bar)?

   A. We have already looked at $\overline{\text{X}}$ (X-bar) and know that structures are not flat. We have claimed that determiners are operators or specifiers, and that they must be adjoined $\overline{\text{X}}$. Carnie brings up the issue of the pronominal *one*:

   (1) a. Bill bought a book and Mary bought one, too. (N^{max})

        b. Bill bought a book, and Mary bought two.

        c. Bill bought a blue book and Mary bought a red one. (N^{max})

        d. Bill bought an interesting blue book and Mary bought a disgusting one. ($A + N^{max}$))

        e. Bill bought the three red books and Mary the three blue ones.

        f. *Bill bought the three books and Mary bought ones, too

        g. Bill bought a cup of coffee and Mary bought one, too.

        h.   *Bill bought a cup of coffee and Mary bought a cup of one, too.

   B. The pronominal *one* is substituted for N^{max} or for N^{max} plus any lexical modifier of N starting with the lowest one. But *one* cannot be substituted for a determiner plus quantifier plus N+modifiers^{max}. What this shows us is that each level of $N^{n \geq 1}$ + modifier is a constituent since substitution is considered evidence of a constituent. Neither the quantifier nor the determiner can be included in the substitution. This shows one of the properties of D and Q that provides evidence that there is a difference between operators and lexical modifiers.

   C. Operators now have two properties that differentiate them from lexical modifiers:

(2)   Operators are obligatory for the category which requires them.

(3)   Operators cannot be replaced by *one*.

D.   The evidence that Carnie produces on page 108 is not evidence. He cites examples where the form of the phrase following the determiner may be conjoined:

(4)   a.   The cat and dog refuse to live peacefully together.

b.   The large cat and small dog refuse to live together.

E.   Here N+modifier^{max} are conjoined. But conjunction may conjoined non-maximal constituents similar to those above:

(5)   a.   The timid large cat and small dog refuse to live together.

b.   The interesting blue books and red textbooks were burned.

F.   Both examples in (5) are ambiguous in terms of what is conjoined. In case in both examples the first adjective modifies *large cat* and *blue books* only, respectively. In the second reading *timid* and *interesting* take scope over both conjoined N^{1}s. Coordinate thus fails as an argument for $\overline{\text{X}}$.

2.   PP modifiers of N

A.   I have shown that APs are adjoined to the left of N^{max}. It cannot be determined which level of N that they are adjoined to. PPs can modify Nmax also. They are adjoined to the right of $\overline{\text{N}}^{1}$. And here a new challenge arises. PPs can be arguments of N or they can be modifiers of N and other projections as well. I will give one test here. The remaining tests are found in *Nominal Complements and Adjuncts*, written by Dr. Hedberg and myself:

http://www.sfu.ca/~dearmond/publ.htm.

http://www.sfu.ca/~dearmond/publ.htm/On_nominal_comp_adjnt_fina.html.

B.   The most reliable test is the relative clause replacement test. In this test, if a PP can be replaced with a relative clause without changing lexical meaning of the phrase, then the PP is a modifier—an adjunct:

(6)   a.   the boy in the room

b.   the boy who is in the room.

C.   Here, the second example contains a relative clause and the lexical meaning of the two examples remains the same. Now compare:

(7)   a.   a cup of tea

        b.   *a cup which is of tea

D.   Therefore, 'of tea' is a complement of the noun. Note that there is the following example:

(8)   a cup which has tea in it.

Example (6) does not have the same meaning as (5a). Compare (5a) with:

(9)   a.   Mary drank a cup of tea

        b.   #Mary drank a cup which had tea in it.

E.   In the former May drank some tea, whereas in the latter Mary drank a cup, which is semantically absurd. It is referring to the object cup, which incidentally has some tea in it. One can drink a cup of tea, but one cannot drink a cup, which has some tea in it. Relative clauses are always modifiers:

(10)   **Relative Clause Function**

                The function of a relative clause is to modify the constituent to which it is adjoined.

F.   There is one construction takes a different relative clause for its test:

(11)   a.   The boy with a red cap

        b.   ??The boy who is with a red cap

        c.   The boy who has a red cap

G.   Example (11b) may not be ungrammatical but it certain doesn't have the same meaning as (11a) and (11c). 'With a red cap' is a modifier.

3. $\overline{\text{V}}$ (V-bar)

A.   Secondary Complements

        i.   Dr. Hedberg and I are the authors of work on secondary complements. See "On Complements and Adjuncts":

        http://www2.sfu.ca/person/dearmond/morph/Draft_4.final-Ottawa_Paper.html

        ii.   We noted that there are PPs that have properties similar to complements but differ in a crucial way. Some linguists have called these adjuncts, but they are not adjuncts. Carnie talks about them on pp. 110-112. He notes
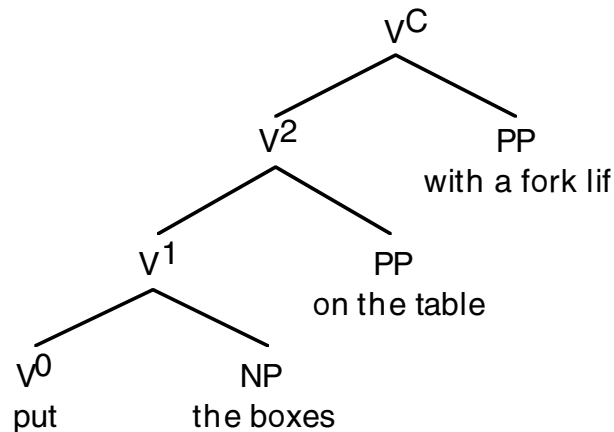
that the 'Do-so' test replaces a lower verbal phrase, but not an upper one. It is this upper one which we call a secondary complement:

(12) a. John goes to school on a city bus and Mary goes to school on a school bus.

    b. John goes to school on a city bus and Mary does so too on a school bus.

iii. The phrase 'do so' replaces a an integral phrase and its complements. Here, the integral meaning of 'go' includes where to, but not the conveyance. The verb *go* does not imply a conveyance, as 'go to school' can mean 'walk to school.'

iv. Another test is the 'pseudo-cleft' test:

(13) a. Sally put the boxes on the table with a fork lift.

    b. With a fork lift Sally put the boxes on the table.

    c. What Sally did with a fork lift was put the boxes on the table.

v. Example (13b) shows that the accomplishment 'put the dishes on the table' was accomplished with a fork lift. (13a) is ambiguous whether the accomplishment was done with a fork lift, or whether the table has a fork lift on it (a less likely reading). Example (13c) is unambiguous. The accomplishment was completed with a fork lift.

vi. The integral meaning of the verb *put* includes what and where what is placed. the PP 'with a fork lift' is a secondary complement which refers to the instrument that she used.

vii. A new level is added to the verbs (and subsequently nouns). In DeArmond and Hedberg, we used "V'" to mark this level. Later, I decided to use V^C to mark this level since the prime mark is hard to see. "C" stands for 'causative,' since instruments are association with what we call indirect causation.

viii. The Configuration of Primary and Secondary Complements

http://www2.sfu.ca/person/dearmond/morph/publ.htm/CLA_2000_Paper.fm.pdf

http://www2.sfu.ca/person/dearmond/morph/publ.htm/

(14)

V^C
    V^2
        PP
        with a fork lif
    V^1
        PP
        on the table
    V^0
    put
        NP
        the boxes

ix. The sequence V^0 - V^1 - V^2 represents the integral meaning of the verb. V^C.

x. The phrase 'do so' may be substituted for $\hat{V}$ as well V^2 or V^1 when there is no V^2:

(15)   a.   Larry placed the cartons on the dock with a loader, and Bill did so, too.

   b.   Larry placed the cartons on the dock and Bill did so, too.

   c.   Larry dropped the cartons and Bill did so, too.

   d.   #Larry placed the cartons on the dock and Bill did so too on the landing.

xi. (15d) is unacceptable because 'on the landing' is part of the integral meaning of the verb, and 'do so' cannot replace part of the integral meaning — the entire integral meaning part of the verb must be replaced.

xii. There is a reading for (15d) which is almost acceptable. In this case, Bill was on the landing when he placed the cartons on the dock. But are docks found on landings?

B.   There verbal operators. The first four are relatively commonly known:

   i.   tense

   ii.   aspect

   iii.   voice

   iv.   relevance (perfect)

   v.   Others include the subject, mood, and negation.

vi.   I won't cover these until C. brings them up.

4.   Ā (A-bar)

A.   Carnie cites sentences of the following kind as evidence for Ā (A-bar):

(16)   rather rotten applies and overripe peaches

B.   The degree word *rather* can modify either *rotten* or both adjectives:

(17)   a.   [[[rather rotten] apples] and [overripe [peaches]]]

         b.   [[[rather [rotten [apples]] and [overripe [peaches]]]

C.   As you might suspect by now, degree words are modifiers

    i.   If there is no degree word no degree is implied

(18)   rotten applies

D.   We have no way of knowing whether they are very, rather, somewhat, or quite rotten applies.

E.   Degree words, therefore, are optional.

F.   There are only three (as far as I know) operators for adjectives and adverbs:

(19)   the absolute, comparative, and superlative degrees:

(20)   a.   John is happy.

         b.   John is happier than Bill

         c.   John is the happiest of all.

G.   The following could also contain operators:

(21)   a.   John is as happy as Bill

         b.   John is so happy that he could do a pirouette behind the Queen.

5.   P̄ (P-bar)

A.   The degree word *right* is can modify a P.

B.   Conjunction shows that it can take scope over two different sets:

(22)   a. Polly walked right into the house and into the kitchen.

         b.   Polly walked [right into the house] and [into the kitchen.

         c.   Polly walked [right [into the house] and [into the kitchen]].;

C.   *Right* is lexical; it is not an operator.

D. There are no known operators for prepositions.

E. Carnie sites the following example:

(23)   Maurice was in love with his boss. (= C. 37)

F. Carnie seems to think that "with his boss" is a modifier of "in love."

G. Here, he is wrong; it is an argument of "(in) love."

H. To be in love implies to be in love with somebody (or more colloquially an object such as his car).

(24)   *Maurice was in love which was with his boss.

I. "in love" is somewhat idiomatic = love (in the sense of being in love).

J. More difficult is the question whether the complement "his boss" or whatever an argument of *love* or the PP*in love?*

K. Unfortunately, I cannot think of an argument to support either analysis.

L. "in love" is idiomatic which makes it to conjoin in the desired way:

M. Carnie sites the following:

N. Maurice is in love with and at odds with his boss.

    i. If "his boss" is an argument, the C's analysis is in correct.

(25)   [[in love] and [at odds]] his boss.

    ii. The complement is empty in the first PP, but present in the second one:

(26)   [[in love [null]] and [at odds [with his [boss]].

    iii. The null complement must be interpreted as the same as the second one; i.e. coindexed with it:

(27)   [[in love [null$_i$]] and [at odds [with his [boss$_i$]].

    iv. Note also (28) which is further evidence for the empty node hypothesis:

(28)   [[in love with [null]] and [at odds with [his [boss]].

O. Here, [null] is coindexed with [boss].

P. If there is no evidence for an operator for P, then $\bar{P}$ (P-bar) should not be projected. The Least Effort Principle, which underlies the true meaning of minimalism. Hence, P^0 - P^1 - $P^{2(A)}$ - P^{2B} = NP.

(29) $[_P{}^{2b}$ right $_P{}^{2A}$ $[_P{}^1$ $[_P{}^0$ out]] $[_P{}^2$ $[_P{}^1$ $[_P{}^0$ from]] $[_P{}^1$ $[_P{}^0$ under] $[_{NP}$ the bed]]]]].

2. Generalizing the Rules

A.   The rules are generalized in the file *Bottom up Rules*.

B.   All phrases must have a head. True if the phrase is part of a project leading to an R-expression.

C.   Pronouns are exempt for this, as they replace lexical NPs. "He" = NP, and so forth. Names are another exemption. "Bill" = NP, an so forth.

D.   Lexical modifiers are always optional.

E.   Complements are logically obligatory, but may be omitted in the surface structure depending on the lexical properties of the head:

(30)   Mary likes to shop.

F.   Here, it is understood that Mary likes to shop for something. *Something* is an argument that can be omitted. This is technically not optional.

3. Complements, Adjuncts, and Specifiers

A.   Nothing new here. Adjuncts are adjoined to X^n where 'n' is any phrasal level starting with '1'. Operators are adjuncts (more to be said about this) adjoined to $\overline{X}^0$ (X-bar). There is another kind of adjunct yet to be discussed, and modifiers which can be adjoined to NP. Later.

4. The Noun Specifier

A.   Nothing new here. Specifiers are operators.

5. Parameters of Word Order

A.   Nothing new here. The ones overtly discussed are those of English. Other languages have different parameters.

6. $\overline{X}$ (X-bar) Theory

A.   Basically nothing new here

B.   Familiar to you (from 222) are CP (S')

   i. VP^{max} is V plus all of its operators: T, R, Asp, and Vce

ii.   More will be said on these later.

(31)   C VP^{max} <--> CP

7.   Drawing Trees in $\overline{\text{X}}$ (X-bar) notation

A.   Remember: draw these from the bottom up.