Selection, Arguments & Adjuncts

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Introducing selection

- As we have seen, verbs can take a complement (as in (1))
- But they don’t have to (as in (2))

(1)  
\[
\begin{array}{c}
TP \\
\downarrow \\
DP & T' \\
\downarrow & \\
John & \text{has} \\
\downarrow & \\
V^0 & \text{eaten} \\
\downarrow & \\
\text{an apple} \\
\end{array}
\]

(2)  
\[
\begin{array}{c}
TP \\
\downarrow \\
DP & T' \\
\downarrow & \\
John & \text{has} \\
\downarrow & \\
V^0 & \text{eaten} \\
\end{array}
\]

• However, not every verb can freely take or not take a complement
  o Compare (3a–b) — essentially, what we saw diagrammed on the previous slide — to (4a–b):

(3)  
  a. John has eaten.
  b. John has eaten his dinner.

(4)  
  a. * John has devoured.
  b. John has devoured his dinner.
  o Perhaps more strikingly (for reasons we will discuss shortly), compare (5a–b) with (6a–b):

(5)  
  a. * John has enjoyed.
  b. John has enjoyed his victory.

(6)  
  a. John has rejoiced.
  b. * John has rejoiced his victory.
Introducing selection

- It seems difficult to reduce all of these facts to meaning
  - I don’t know what difference in meaning would cause *enjoy* to demand a DP complement, but *rejoice* to refuse it

**NOTICE**
I'm not saying there is no difference in meaning between *enjoy* and *rejoice*; there probably is.

- BUT: suppose I were to claim that it is this difference in meaning that is responsible for the difference in their behavior w.r.t. complementation
  - Unless I could demonstrate that the exact same meaning difference triggers the exact same behaviors in other pairs of verbs, my claim would be an empty one
    - it would just be a fancy way of restating the facts that we have already observed regarding *enjoy* and *rejoice*

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Introducing selection

- There exist verbs that demand a complement, but will not accept DPs in that role:

  (7) a. * John depends.
      b. * John depends [DP his sister].
      c. John depends [PP on his sister].

  (8) a. John requested [CP that Bill pass him the salt].
      b. John insisted [CP that Bill pass him the salt].

  (9) a. John requested [DP the salt].
      b. * John insisted [DP the salt].

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Introducing selection

- There are verbs that demand both a DP and a PP:

  (10) a. John put [DP the jar] [PP on the table].
      b. * John put.
      c. * John put [DP the jar].
      d. * John put [PP on the table].

  - **NOTE**: We don’t even have room in our current X’-schema for both the DP and the PP!
  - since there’s only room for one complement to X₀

  - We’ll address this in a couple of classes, if we have time

  ➢ In the meantime, however — since it is not clear how both selected phrases can be *complements* of the V₀ *put* — we will sometimes use the more neutral term

  **argument:**
  - both the DP and the PP are **arguments** of *put*
Introducing selection

- Even though we’ve used verbs to demonstrate selectional properties, it’s a phenomenon that extends to all syntactic categories
  - Let’s look at some examples with adjectives:
(11) a. John is proud.
    b. John is proud [PP of Mary].
    c. John is proud [CP that Mary won].
(12) a. John is happy.
    b. * John is happy [PP of Mary].
    c. John is happy [CP that Mary won].
(13) a. * John is fond.
    b. John is fond [PP of Mary].
    c. * John is fond [CP that Mary won].

The lexicon

- **NOTICE:** we already need a list, somewhere in the speaker’s mental representation, to tell us which words belongs to which syntactic categories
  - we might as well list, alongside the syntactic category of each word, what its selectional requirements are
  - So we’ll have something like this:
(14) proud: A, ___ (PP | CP)
  - this representation means the word proud is an Adjective, and can optionally take either a PP or a CP as its argument
- The complete list of all such information, for every word in the language, is called the **lexicon**
  - and one entry like (14) is called a **lexical entry**
Selection: beyond category

- We’ve been speaking of selectional properties in terms of syntactic categories (DP, PP, CP)
  ➢ Is that enough?
    o For many cases, it appears that the combination of syntactic category + semantic requirements will do the job
    o For example, the PP that put requires can be any PP, provided it is semantically compatible with the notion of location

(15) a. John put [DP the book] [PP (on the table under the chair in the fire near the sofa *after the meeting *despite his misgivings *because of the strike)]

➢ It would be redundant to stipulate this last bit syntactically
  · since that’s something that semantics needs to know, anyway

Selection: beyond category

- But some heads impose syntactic restrictions on their argument that are more specific than just its category
  o We’ve previously seen the verb depend, for example
    – depend not only requires a PP argument, but also imposes severe restrictions on what that P^0 will be:

(16) The peasants depend on/*from/*by/*near the king.

➢ This is not reducible to semantics
  – one can imagine a metaphor for dependence, where on (the P^0 corresponding to the spatial relation X is above Y) is relevant
  ➢ the point is, one can imagine a dozen other such metaphors
    · and, as any 2nd language learner will attest, different languages choose different P^0’s for the same thing
      (and thus, perhaps, different metaphors?)

Selection: beyond category

- Another example, this time with adjectives:

(17) a. John is fond of/*at/*with/*by/*from Mary.
    b. John is angry at/*of/*with/*by/*from Mary.
    c. John is happy with/*of/*at/*by/*from Mary.

⇒ heads can select not only the category of their complement, but the actual identity of its head

➢ NOTICE: the category of a phrase, YP, is uniquely and completely determined by its head, Y^0
Selection: sisterhood and the Projection Principle

⇒ the instances of selection we’ve seen so far can be understood as some head $X^0$ imposing restrictions on the head ($Y^0$) of its complement ($YP$)

(18)

$\xymatrix{ X^0 \ar@{-}[r] & YP \\
\ldots \ar@{-}[r] & Y' \ar@{-}[r] & \ldots \\
Y^0 \ar@{-}[u] & & 
}$

➢ Are there instances of selection that go beyond (18)?
  ◦ are there instances, for example, of $X^0$ imposing restrictions on the complement/specifier of $Y^0$ (when $YP$ is the sister of $X^0$)?

Selection: sisterhood and the Projection Principle

• There is, for example, no verb that is like depend, but imposes restrictions on the $D^0$ inside $P^0$’s complement, rather than on $P^0$ itself:

(19) John schmepends [pp near/on/at/to/by/despite [dp a/*the stipend] ].

• This is, of course, anecdotal evidence; but it’s also impossible to prove a negative (i.e., the non-existence of something)

⇒ so unless and until we encounter compelling evidence to the contrary, we will assume that selection is indeed restricted to sisterhood
  ◦ i.e., heads can impose restrictions (categorical or otherwise) on the heads of their sister(≡complement)

(20) Projection Principle:

If a head $X^0$ selects for an element $\alpha$, then $\alpha$ must be the head of the $\alpha P$ sister of $X$

Selection: sisterhood and the Projection Principle

• Consider the following example:

(21) a. It is surprising for a youngster to win the race.
    b. It is surprising that a youngster will win the race.

(22) a. * It is surprising for a youngster will win the race.
    b. * It is surprising that a youngster to win the race.

  ◦ Let’s take for granted, for now, that this for is a $C^0$, just like that

➢ What we see here is that $C^0$ imposes selectional restrictions on the tense head, $T^0$

⇒ which, at the very least, fits in with what we’ve been doing:
  – we’ve been assuming that $TP$ is the complement(≡sister) of $C^0$
Adjuncts

(23) a. The dragon devoured [the villagers] (yesterday) (in Omaha).
    b. The dragon rejoiced (yesterday) (in Omaha).
    c. The dragon put [the peasant] [upon the plate] (yesterday) (in Omaha).

➢ It seems that elements like yesterday or in Omaha can be added to (almost?) any VP
    • One option is to state this information as part of the lexical entry for each verb
      o but that seems redundant:
        – remember, the whole purpose of the lexicon was to list those facts about each word that had to be memorized
        – but if yesterday/in Omaha can be added to every VP, that is not information that needs to be memorized separately for each verb
    ⇒ in other words, elements like yesterday/in Omaha are not selected by any verb in particular

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Adjuncts

(24) **DEFINITION:** phrases that aren’t selected by particular X^0’s are called **adjuncts**

• This could have been the end of the story — in which case, it wouldn’t be a particularly interesting story

➢ However, it turns out that there are interesting syntactic consequences to the argument-vs.-adjunct distinction:

(25) John wrote [a letter] [to Mary] [in the garden] [on Tuesday], ...
    a. ... and Bill did so too.
    b. ... and Bill did so [on Thursday].
    c. ... and Bill did so [at his desk] [on Thursday].
    d. * ... and Bill did so [to Susan] [at his desk] [on Thursday].
    e. * ... and Bill did so [a note] [to Susan] [at his desk] [on Thursday].

⇒ do so must replace, at the very least, the verb + all of its arguments
    o adjuncts, on the other hand, may or may not be included
Adjuncts

Another consequence of the argument-vs.-adjunct distinction:

(26) a student [of physics] [from Brazil]

- It's reasonable to think [from Brazil] is an adjunct:
  - it can be added to almost any noun:

(27) the box [from Brazil]
  - it doesn't seem to be a specific property of student (as opposed to any other noun) that allows [from Brazil] to appear after it
  ⇒ in other words, [from Brazil] is not selected by student

- compare this with [of physics]:

(28) * the box [of physics]
  ⇒ [of physics] is selected by student

- Now consider (26), compared to (29):

(29) * a student [from Brazil] [of physics]

⇒ adjuncts cannot be ordered before arguments

Unlike many of the other properties we've been talking about, there are many languages for which this is not true; if we'll have time, we'll talk a little bit about what the relevant difference is between these languages and English.

- Compare this with (30a–b):

(30) a. the student [from Brazil] [with the short hair]
     b. the student [with the short hair] [from Brazil]

⇒ two adjuncts can be reordered w.r.t. each other

- How might we relate these two facts?
  (i) do so must replace, at the very least, the verb + all of its arguments

  o adjuncts, on the other hand, may or may not be included

  (ii) adjuncts cannot be ordered before arguments

  o while adjuncts can be reordered amongst themselves
Adjuncts

• Suppose adjuncts are *Merged* as sisters to the maximal projection (XP):

\[(31)\]

\[
\text{NP} \\
\text{N'} \\
\text{N}^0 \\
\text{student} \\
\text{PP} \\
\text{of physics} \\
\text{PP} \\
\text{from Brazil} \\
\text{NP}
\]

○ RECALL: complements are *Merged* as sisters to the head

⇒ by the time the adjunct is *Merged*, the complement is already there

⇒ as a result, the adjunct will be *farther out* from the head (compared to the complement)

⇒ if both the complement and the adjunct are to the right of the head, then the adjunct must follow the complement

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Adjuncts

• **PREDICTION:** an adjunct can precede the complement, so long as it also precedes the head

  ○ if we introduce the adjunct via Merge\(<\text{adjunct}, \text{XP}\)\>, rather than Merge\(<\text{XP}, \text{<adjunct}>\)\>

⇒ this prediction is borne out:

\[(32)\]

\[
\text{AP} \\
\text{Brazilian} \\
\text{NP} \\
\text{N'} \\
\text{N}^0 \\
\text{student} \\
\text{PP} \\
\text{of physics} \\
\text{PP} \\
\text{NP}
\]

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Adjuncts

• In fact, both the adjunct and the complement can appear *pre-nominally* (i.e., before the noun)

  ➢ in that case, however, the adjunct must **precede** the complement:

\[(33)\]

a. a Brazilian physics student

b. * a physics Brazilian student

• **NOTICE:**

  ○ our *structurally*-based characterization of adjunct positions (“farther away from the head than complements”) gets (33a–b) right

  ○ whereas a *linearly*-based characterization of adjunct positions (“following/to the right of complements”) does not

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Adjuncts

• How about the label of the resulting constituent (when an XP and an adjunct Merge)?
  
  ◦ REMINDER: our original motivation for the existence of syntactic categories was distributional (i.e., where a set of constituents can and can’t appear)
  
  ◦ it’s pretty clear that (34b) or (34c) can appear in whatever syntactic environments (34a) can appear in:

(34) a. [NP student of physics]
   b. [? [NP student of physics] [PP from Brazil]]
   c. [? [AP Brazilian] [NP student of physics]]

⇒ it stands to reason that the category of (34b–c) is the same as the category of (34a) — namely, NP:

(35) a. [NP [NP student of physics] [PP from Brazil]]
   b. [NP [AP Brazilian] [NP student of physics]]

Adjuncts

• If so, then the addition of an adjunct — unlike the addition of a complement — does not change the category of a constituent
  
  ◦ e.g., the result of Merging an adjunct to an NP is another NP

⇒ PREDICTION: the output of one adjunction (≡Merge of an adjunct) should be able to serve as input for another adjunction

• We have already seen, in fact, that this prediction is borne out:

(36)
Adjuncts

- This also captures the fact that, modulo semantic/pragmatic constraints, adjuncts can merge in any order
  - because the adjunct always merges to an XP (e.g., an NP, as in (36))
    - regardless of whether it is the first adjunct, the second adjunct, etc.

(37)

NP

PP from Brazil

| N^0 |
| N' |
| student of physics |

Adjuncts

- Finally, consider the do so facts:
  - we saw that do so must replace at least the verb + all of its arguments
    - adjuncts, on the other hand, may or may not be included

(38)

VP

PP in the afternoon

| V^0 |
| V' |
| ate an apple |

➢ do so can replace VP nodes, and only them!

⇒ our hypothesis about how adjuncts are merged into the structure gives rise to a very elegant characterization of do so’s behavior

References


This is svn-revision 1082.