

# *Intro to Syntax, PART FOUR*

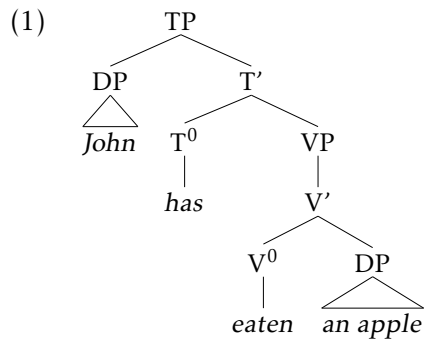
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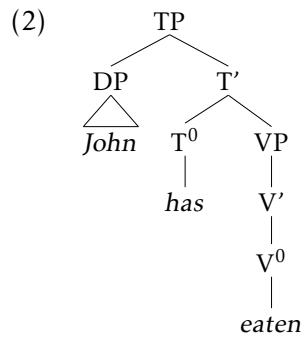
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**Introducing selection**

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



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**Introducing selection**

- However, not every verb can freely take or not take a **complement**
    - 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.
- 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.

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### 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*

### Introducing selection

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

- (7) a. \* John depends.  
b. \* John depends [<sub>DP</sub> his sister].  
c. John depends [<sub>PP</sub> on his sister].
- 
- (8) a. John requested [<sub>CP</sub> that Bill pass him the salt].  
b. John insisted [<sub>CP</sub> that Bill pass him the salt].
- (9) a. John requested [<sub>DP</sub> the salt].  
b. \* John insisted [<sub>DP</sub> the salt].

### Introducing selection

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

- (10) a. John put [<sub>DP</sub> the jar] [<sub>PP</sub> on the table].  
b. \* John put.  
c. \* John put [<sub>DP</sub> the jar].  
d. \* John put [<sub>PP</sub> 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 X<sup>0</sup>
  - 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 V<sup>0</sup> *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].

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## Introducing selection

### Interim summary:

- We've seen that a head can impose restrictions on whether it will have an argument, and what kind of argument that will be
  - These kinds of requirements are generally known as **selection**
    - sometimes referred to as *c-selection*, where 'c' is short for *categorical*
      - which is meant to contrast with *s-selection*, where 's' is short for *semantic*
        - which refers to those selectional facts that **can** be reduced to meaning
- the selectional requirements of a particular item/word are *idiosyncratic* (=specific to that particular item/word)
- ⇒ there seems to be no way for a speaker to have this linguistic knowledge except **listing**, for every item/word, what its selectional requirements are

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## The lexicon

- **NOTICE:** we already need a list, somewhere in the speaker's mental representation, to tell us which words belong 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**

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### Selection: beyond *category*

- We've been speaking of selectional properties in terms of syntactic categories (DP, PP, CP)
- Is that enough?
  - For many cases, it appears that the combination of syntactic category + semantic requirements will do the job
  - 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*
  - 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<sup>0</sup> 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<sup>0</sup> 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<sup>0</sup>'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.

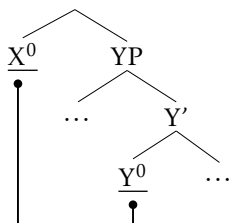
⇒ heads can select not only the *category* of their complement, but the actual identity of its head

- **NOTICE:** the category of a phrase, YP, is uniquely and completely determined by its head, Y<sup>0</sup>

### 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)

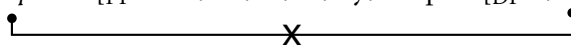


- ▶ Are there instances of *selection* that go beyond (18)?
  - are there instances, for example, of  $X^0$  imposing restrictions on the complement/specifier of  $Y^0$  (when YP is the sister of  $X^0$ )?

### 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* [<sub>PP</sub> near/on/at/to/by/despite [<sub>DP</sub> 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
    - 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

## 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], ...
- ... and Bill did so too.
  - ... and Bill did so [on Thursday].
  - ... and Bill did so [at his desk] [on Thursday].
  - \* ... and Bill did so [to Susan] [at his desk] [on Thursday].
  - \* ... 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*
- *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

⇒ *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?

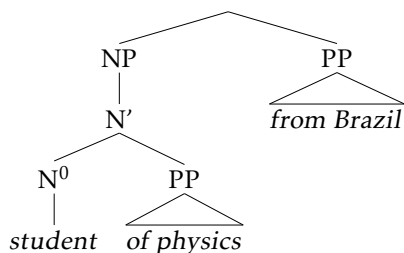
- (i) *do so* must replace, at the very least, the verb + all of its *arguments*
  - *adjuncts*, on the other hand, may or may not be included
- (ii) *adjuncts* cannot be ordered before *arguments*
  - while *adjuncts* can be reordered amongst themselves



## Adjuncts

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

(31)



- 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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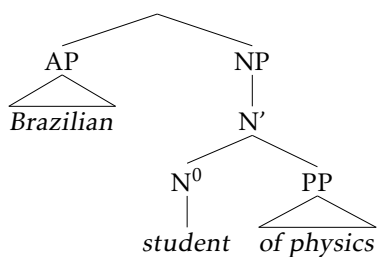
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## Adjuncts

- **PREDICTION:** an adjunct **can** precede the complement, so long as it also precedes the head
- if we introduce the adjunct via *Merge*(<adjunct>, XP), rather than *Merge*(XP, <adjunct>)

⇒ this prediction is borne out:

(32)



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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:

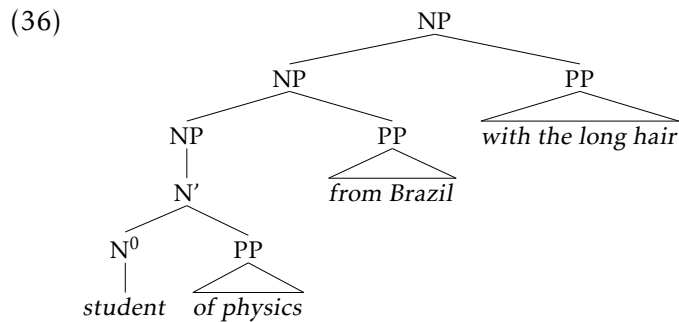
- (35) a. [NP [NP student of physics] [PP from Brazil] ]  
 b. [NP [AP Brazilian] [NP student of physics] ]

## 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

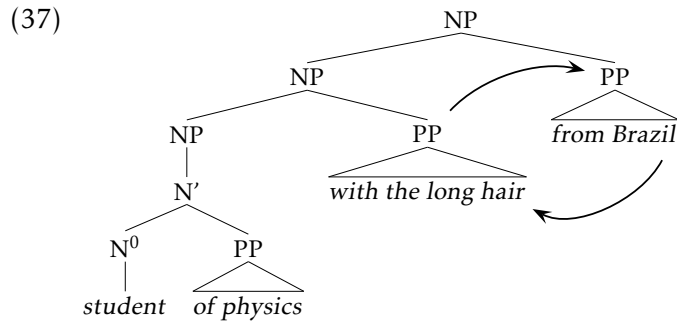
⇒ **PREDICTION**: the output of one *adjunction* (≡ *Merge* of an adjunct) should be able to serve as input for another *adjunction*

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



## 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.

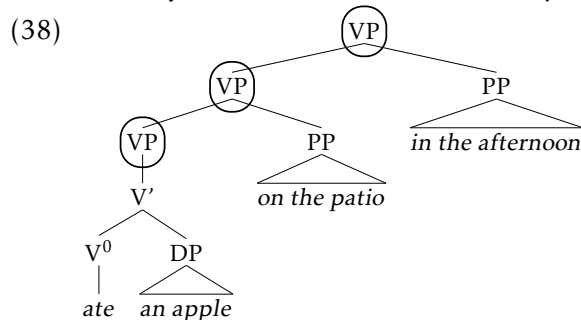


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## Adjuncts

- 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



► ***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

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