Ling 120B: Syntax I

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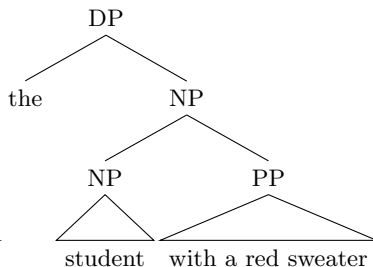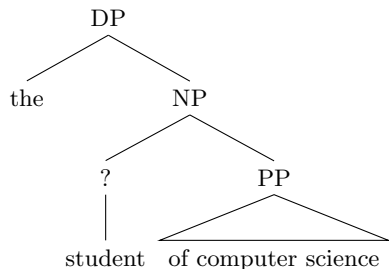
April 18, 2022

Noun Phrases (NPs) I

Recall our puzzle: (2) and (1) look very similar, but they are structurally different, as the replacement tests show:

(1) Fred met that student with a red sweater.
 →Fred met that one with a red sweater.

(2) Fred met that student of computer science.
 →*Fred met that one of computer science.

[student] form a NP in (1) (therefore it can be replaced by 'one') but not in (2).

Noun Phrases (NPs) II

This asymmetry is very similar to the one we discussed previously between *intransitive verbs* like 'leave' and *transitive verbs* like 'return' w.r.t. *do so* replacement:
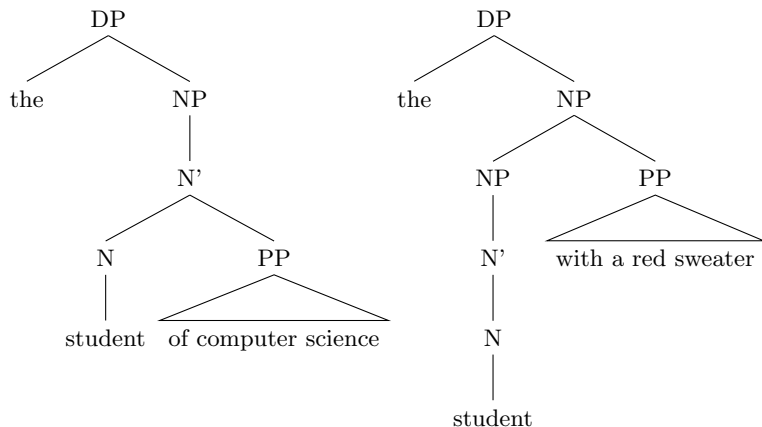
(3)   Fred left on Monday.
      →Fred did so on Monday.

(4)   Fred returned the assignments on Monday.
      →*Fred did so the assignments on Monday.

In fact, nouns can also take complements (especially if they are nominalized version of some verbs).

- We are able to account for the data above, using the X-bar model.

- The complement of N is N's sister, whereas the adjunct attaches to the maximal projection (NP).

Noun Phrases (NPs) III

The PP [of computer science] is the complement of N, whereas the PP [with a read sweater] is an adjunct:

One can only replace NPs, not Ns or N's!

Noun Phrases (NPs) IV

This makes the following predictions:

- We expect the noun 'student' (which is the nominalized form of the verb 'study') to select only one complement, whereas multiple adjuncts are possible.

  (5) a.*A [$_N$ student] [$_{COMPL}$ of computer science] [$_{COMPL}$ of physics] *(under the intended meaning!)*
       b. A [$_N$ student] [$_{ADJ}$ from France] [$_{ADJ}$ with a red sweater]   ✓

- We expect to find the very same strict order we find in VPs:

  $$\text{Head} >> \text{Complement} >> \text{Adjunct}$$

  (6) a. A [$_N$ student] [$_{COMPL}$ of computer science] [$_{ADJ}$ with a red sweater]   ✓
       b.*A [$_N$ student] [$_{ADJ}$ with a red sweater] [$_{COMPL}$ of computer science]

Noun Phrases (NPs) V

Recall! The same predictions are made for VPs.

- We expect the verb 'write' to select only one complement, whereas multiple adjuncts are possible.

  (7) a.*The professor will [$_v$ write] [$_{COMPL}$ a poem] [$_{COMPL}$ an article]
  b. The professor will [$_v$ write] [$_{COMPL}$ a poem] [$_{ADJ}$ with the fountain pen]
      [$_{ADJ}$ over the weekend] ✓

- We expect to find a strict order:

    Head >> Complement >> Adjunct

  (8) a. The professor will [$_v$ write] [$_{COMPL}$ a poem] [$_{ADJ}$ with the fountain pen] ✓
  b.*The professor will [$_v$ write] [$_{ADJ}$ with the fountain pen] [$_{COMPL}$ a poem]

Noun Phrases (NPs) VI

Summary: NP structure

- the head of the NP is a noun.
- (some) nouns can take PP or CP complements;
    - book [$_{PP}$ of poems]
    - claim [$_{CP}$ that TP]
    - student [$_{PP}$ of physics]
- No specifiers so far.
- NP adjuncts are very common: they can be PP or AP.
    - PP adjuncts are normally on the right.
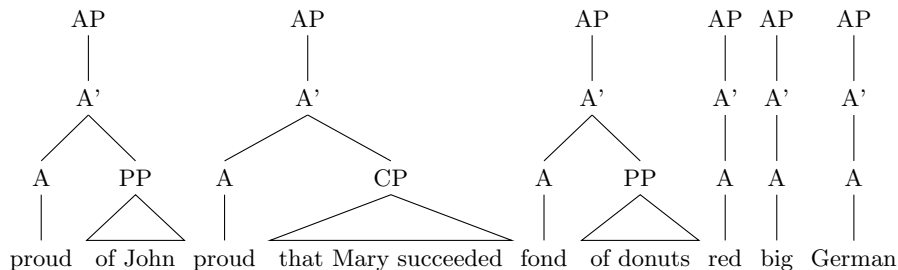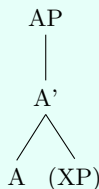   - AP adjuncts are normally on the left.

Here are the lexical entries for Ns:

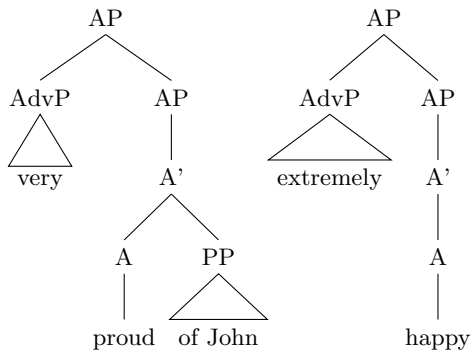|				
cat	N	free		example 'cat'
student	N	free	(c-selects *of*-PP)	example 'student (of linguistics)'
claim	N	free	(c-selects *that*-CP)	example 'claim (that Mary is pregnant)'

Adjective Phrases (APs) I

AP:
- The head: A
- Complement(s): PPs and CPs
- Specifier: none (for now)

Adjective Phrases (APs) II

Adjectives allow adjuncts. They normally express a degree and appear on the left in English:

Adjective Phrases (APs) III

Any ideas on what may be going on here?

(a)	I am very happy		and Linda is so, too.
(b)	I am very fond of Lukas,		and Linda is so, too.
(c)	I am very fond of my nephew,	*	and Linda is so of her niece.

Adjective Phrases (APs) IV

Summary: AP structure

- the head of the AP is an adjective.
- (some) adjectives can take PP or CP complements;
    - proud [$_{PP}$ of DP]
    - proud [$_{CP}$ that TP]
    - fond [$_{PP}$ of DP]
- Specifiers coming soon.
- AP adjuncts are normally expression of degree (*very, extremely*).

Here are the lexical entries for As:

red	A	free	example 'red'
proud	A	free (c-selects *of*-PP or CP)	examples 'proud (of John)'
		or 'proud that TP'	

Adverbial Phrases (AdvPs) I

AdvP:
- The head: Adv
- No complements
- No specifiers

```
AvdP
 |
Adv'
 |
Adv
```

```
AdvP      AdvP      AdvP
 |         |         |
Adv'      Adv'      Adv'
 |         |         |
Adv       Adv       Adv
 |         |         |
quickly  carefully  slowly
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```
AdvP      AdvP      AdvP
 |         |         |
Adv'      Adv'      Adv'
 |         |         |
Adv       Adv       Adv
 |         |         |
very    extremely  really
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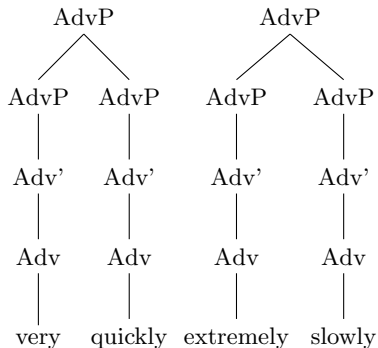
Adverbial Phrases (AdvPs) II

AdvPs can be modified by another AdvP (the ones that express a degree):

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        AdvP                      AdvP
       /    \                    /    \
   AdvP      AdvP            AdvP      AdvP
    |         |              |         |
   Adv'      Adv'           Adv'      Adv'
    |         |              |         |
   Adv       Adv            Adv       Adv
    |         |              |         |
   very    quickly      extremely   slowly
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Adverbial Phrases (AdvPs) III

Summary: AdvP structure

- The head of the AdvP is an adverb.
- No complements.
- No specifiers.
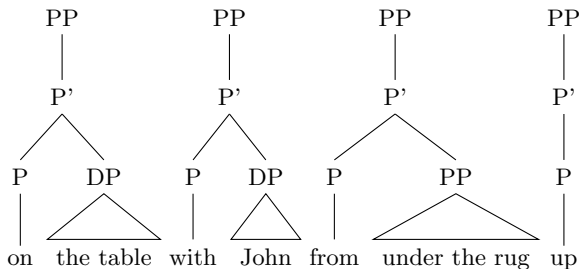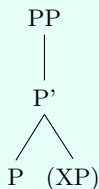- AdvP adjuncts are normally expression of degree (*very, extremely*).

Here are the lexical entries for Advs:

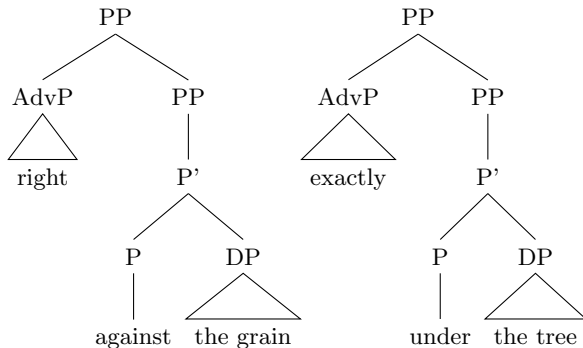|			
quickly	Adv	free	example 'quickly'
slowly	Adv	free	example 'slowly'
very	Adv	free	example 'very'

Prepositional Phrases (PPs) I

PP:
- The head: P
- Complement(s): PPs and DPs
- Specifier: none (for now)

Prepositional Phrases (PPs) II

Prepositions can sometimes have adjuncts:

Summary: PP structure

- the head of the PP is a preposition.
- (some) preposition can take PP or DP complements;
- Specifiers coming soon.
- PP adjuncts are normally adverbial phrases (*right, exactly*).

Here are the lexical entries for Ps:

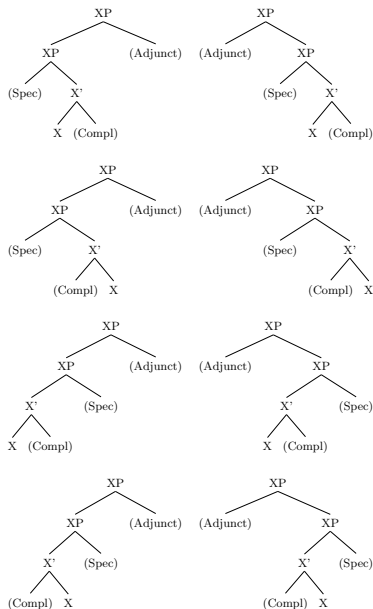|				
up	P	free	(c-selects DP)	examples 'up' or 'up the rope'
of	P	free	c-selects DP	example 'of linguistics'
from	P	free	c-selects DP or PP	examples 'from Italy' or 'from under the rug'

Practice: Tree drawing

Draw trees for the following sentences:

a.   That Mary quit her very promising job surprised John.
b.   For Maurice to quarrel with Joel frightened Maggie.
c.   That extremely young guy put the money on the table.

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X-bar Theory and Cross-linguistic variation

$\rightarrow$ X-bar theory says something about how subjects and complements are hierarchically organized in a given category, but does not entirely predict linear order.

- Heads combine with complements first and then with subjects;

- Adjuncts combine with the projection that is formed.

$\rightarrow$ It does not say anything about the order of sisters.

- How the relations are linearized is determined by parameters in each individual language.

   a. In English we have Spec >> Head >> Compl
   b. In other languages we could have a different linear order.

- Some oders are excluded by X-bar Theory.

$\rightarrow$ Thus, X-bar theory predicts the following types of phrases to be possible
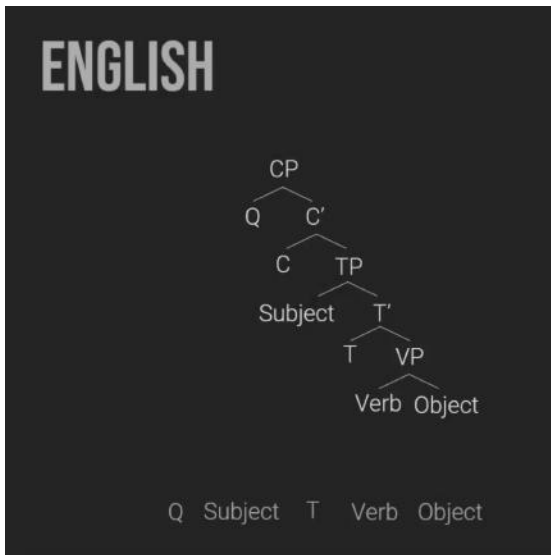
Japanese (SOV)

(9) a. taro-wa inu-o mita
   taro-TOP dog-acc saw
   'taro saw the/a dog'

   b. taro no inu
   taro GEN dog
   'taro's dog'

c. Tokyo kara
   tokyo from
   'from Tokyo'

d. taro-wa aruite iru
   taro-TOP walking be
   'taro is walking'

Cool animation from Ryan Rhodes @wavphd:

Malagasy; Austronesian (VOS)

(10) nihita ny mpianatra ny vehivavy
     saw   the student   the woman
     'the woman saw the student'
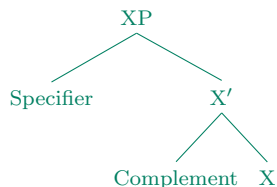
hixkaryana, Carib; Brazil (OVS)

(11) toto yahosiye   kamara
     man it-grabbed-him jaguar
     'the jaguar grabbed the man'

Practice

Draw a fully labeled tree for (12). Don't pay attention to the 'ga' marker, just include it as part of the N they are connected to. Treat 'to', 'de' and 'e' as postpositions.

(12) Masao-ga Yooko-to   basu-de gakkoo-e it-ta
     Masao-SBJ Yooko-with basu-de school-to go-PAST
     'Masao went to school with Yooko by bus'

Assume the following X-bar schema for Japanese:

Write down the lexical entry for 'to':

to

The following Japanese sentence represents a problem for our theory.

(13) Watasi-wa isya-o   denwa-de yobimasu
     I-TOP   doctor-DO phone-by call
     'I call a doctor by phone'

Can you tell what the problem is? Next week we'll discuss a solution to it.

Practice

Benglish is a language exactly like English, except for the following differences:

- Complements precede heads
- Adjuncts are on the right side only

Draw a tree structure for the Benglish translation of:

(14) The professor's husband bought a very expensive book of poems.

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