# Ling 120B: Syntax I

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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
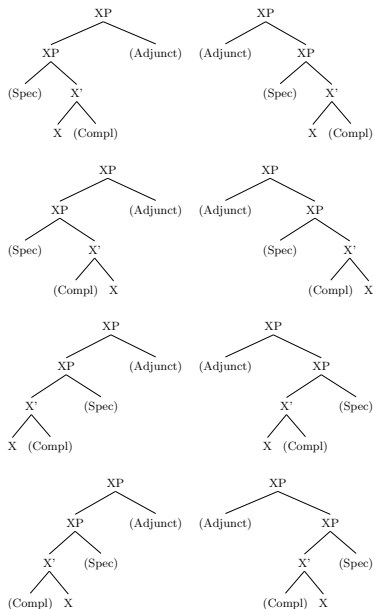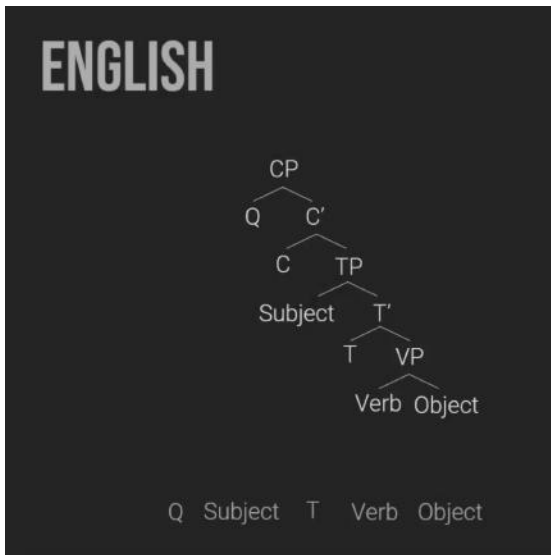
Japanese (SOV)

(1) 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)

(2) nihita ny mpianatra ny vehivavy
     saw   the student   the woman
     'the woman saw the student'

hixkaryana, Carib; Brazil (OVS)

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

The following Japanese sentence represents a problem for our theory.

(4) 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:

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

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Practice

Try to figure out the phrase structure of the following languages:

(6) <u>French</u>
   a. Jean mange une pomme.
      Jean eats   an   apple
      'Jean eats an apple'
   b. avec un baton
      with a   stick
      'with a stick'

c. la   soeur de Jean
   the sister of Jean
   'John's sister'
d. une fleure blanche
   a   flower white
   'a white flower'

(7) <u>Hindi</u>
   a. Ram-ne   seb k^ha:ja.
      Ram-ERG apple ate
      'Ram ete an apple'
   b. tʃari-se
      stick-with
      'with a stick'

c. Ram angrezi bol   səkta hɛ
   Ram English speak able   is
   'Ram can speak English'
d. safed p^hul
   white flower
   'white flower'

The format of lexical entries

Syntactic structures are determined in part by the properties of the syntactic atoms. Lexical entries are a list of the relevant properties of the syntactic atoms (the heads):

→ All the selectional properties are included;

→ Only unpredictable properties should be included

to	T	free	selects DP/CP	c-selects VP
will	T	free	selects DP/CP	c-selects VP
[+pres]	T	bound	selects DP/CP	c-selects VP
[-pres]	T	bound	selects DP/CP	c-selects VP
that/∅	C	free		c-selects TP
if	C	free		c-selects TP
for	C	free		c-selects TP
whether	C	free		c-selects TP
leave	V	free		
eat	V	free		(c-selects DP)
kiss	V	free		c-selects DP
give	V	free		c-selects DP, PP or c-selects DP, DP
the	D	free		c-selects NP
this	D	free		c-selects NP
's	D	bound	selects DP	c-selects NP
cat	N	free		
student	N	free		(c-selects PP)
claim	N	free		(c-selects CP)

"We developed a very simple and general theory of phrase structure: X-bar theory. Using only three rules, this theory accounts for the distinction between adjuncts, complements, and specifiers. It incorporates the more articulated view of sentence hierarchy required by constituency tests, and it captures cross-categorial generalizations (i.e., the fact that all kinds of phrases - NPs, VPs, APs, PPs, CPs, DPs, and TPs - have the same basic properties). Most importantly, it allows us to draw trees for most of the sentences of any language." (Carnie's textbook, p. 227)
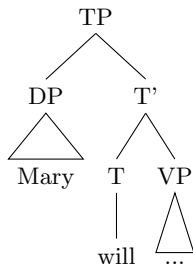
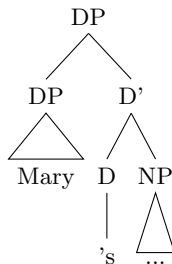# In-class activity!

Subjects

Subjects across categories I

→ So far we only encountered two phrases with specifiers: TPs and DPs

(i) Specifier (or subject) of T or TP (the subject of the sentence). It can be a DP or a CP.

(ii) Specifier (or subject) of D or DP (the possessor)

→ <u>VPs, APs and PPs can also have subjects</u>: let's talk about _{small} clauses!

Subjects across categories II

We know that a full sentence (=TP) can be embedded under another one.

(8)   Andi believes that [_TP Sophie is going to win]

Today we are going to discuss cases where the embedded clause is smaller.

(9)   a. Fred saw John drunk
      b. Mary prefers her soup in a bowl
      c. I consider Bill smart
      d. Peter heard Mary leave
      e. Nico made Eve happy

First of all, we can show that they are constituents. We can coordinate them!

(10) a. Fred saw [John drunk]   *and Mary sober*
      b. Mary prefers [her soup in a bowl]   *and her cereal in a mug*
      c. I consider [Bill smart]   *and his husband stupid*
      d. Peter heard [Mary leave]   *and the door close*
      e. Nico made [Eve happy]   *and the other candidate very sad*

What kinds of constituents are these?

Some of them can have a *that*-TP counterpart:

a.   Peter heard [Mary <u>leave</u>] ∼ Peter heard that Mary <u>left</u>
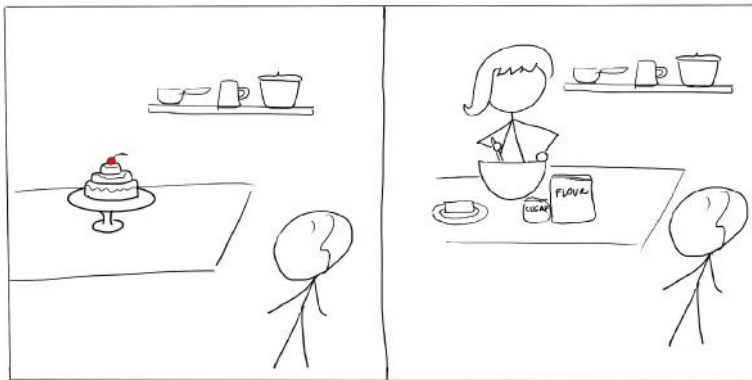b.   Peter saw [Mary <u>bake</u> a cake] ∼ Peter saw that Mary <u>baked</u> a cake

However they are incompatible with a bare verb:

a.   *Peter heard that Mary leave.
b.   *Peter saw that Mary bake a cake.
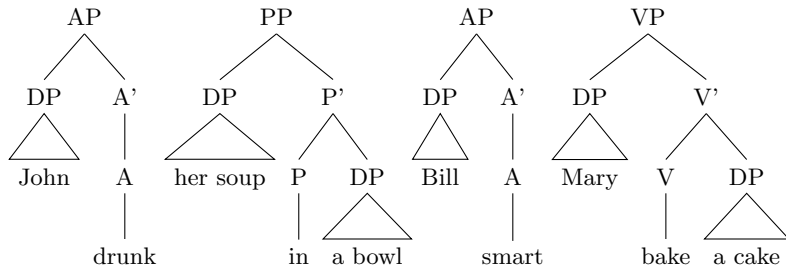
Subjects across categories IV

These two sentences seem to have different semantic requirements as well!

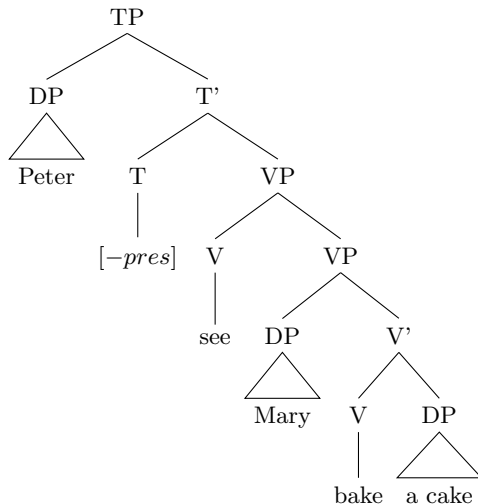(11) a. Peter saw that Mary baked a cake
     b. Peter saw Mary bake a cake

Subjects across categories V

These constituents lack the T-layer.

Subjects across categories VI

These small clauses can be the complements of verbs like 'see', 'hear', 'consider', 'prefer', 'make', etc. Here is the tree structure for (11-b):

Subjects across categories VII

Let's revise the lexical entries of VPs, PPs and APs to reflect these new discoveries!

<u>V-heads</u>

leave	V	free	(select DP)	
kiss	V	free	(selects DP)	c-selects DP
eat	V	free	(selects DP)	(c-selects DP)
give	V	free	(selects DP)	c-selcts DP, PP or c-selects DP, DP

<u>A-heads</u>

red	A	free	(selects DP)	
proud	A	free	(selects DP)	(c-selects *of*-PP or CP)

<u>P-heads</u>

in	P	free	(selects DP)	c-selects DP
with	P	free	(selects DP)	c-selects DP

Subjects across categories VIII

Practice: Tree drawing
Draw a tree for each of the following sentences:

a.   Sanjay heard Bret cry for hours.
b.   Bill made Mary anxious about her results.
c.   His wife's boss saw Sue naked last night.
d.   Trevor's boss made the customers satisfied and his employees upset.

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