Contra to what one might have thought from the example sentences we have seen so far, the verb *does* sometimes appear separated from Tense and Agreement. Can you think of cases where this happens?

20 a. The cat <u>plays</u> with the dog

b. The cat <u>does</u> not play with the dog

c. <u>Does</u> the cat play with the dog?

21 a. The cat <u>went</u> home

b. The cat <u>did</u> not go home

c. <u>Did</u> the cat go home?

This is the phenomenon of "do-insertion". The "dummy" verb *do* is inserted to carry Tense and Agreement. ("dummy" because it does not contribute any meaning).

- This means that we have two options:

    Option 1: Generate the verb and the inflectional material <u>together</u> and sometimes separate them, as in (20, 21).

    Option 2: Generate the verb and the inflectional material <u>separately</u> and sometimes make them "come together" as in all the sentences before (20, 21).

A famous working hypothesis that was introduced in the 50s by the linguist Noam Chomsky, followed Option 2. This working hypothesis has yielded many positive results by now and we will adopt it in this class as well.

What we would still need to determine is, of course,..

What?

how the inflectional material ends up appearing on the verb.

And we have quite a few good ideas about this issue, actually.

But this will have to wait…
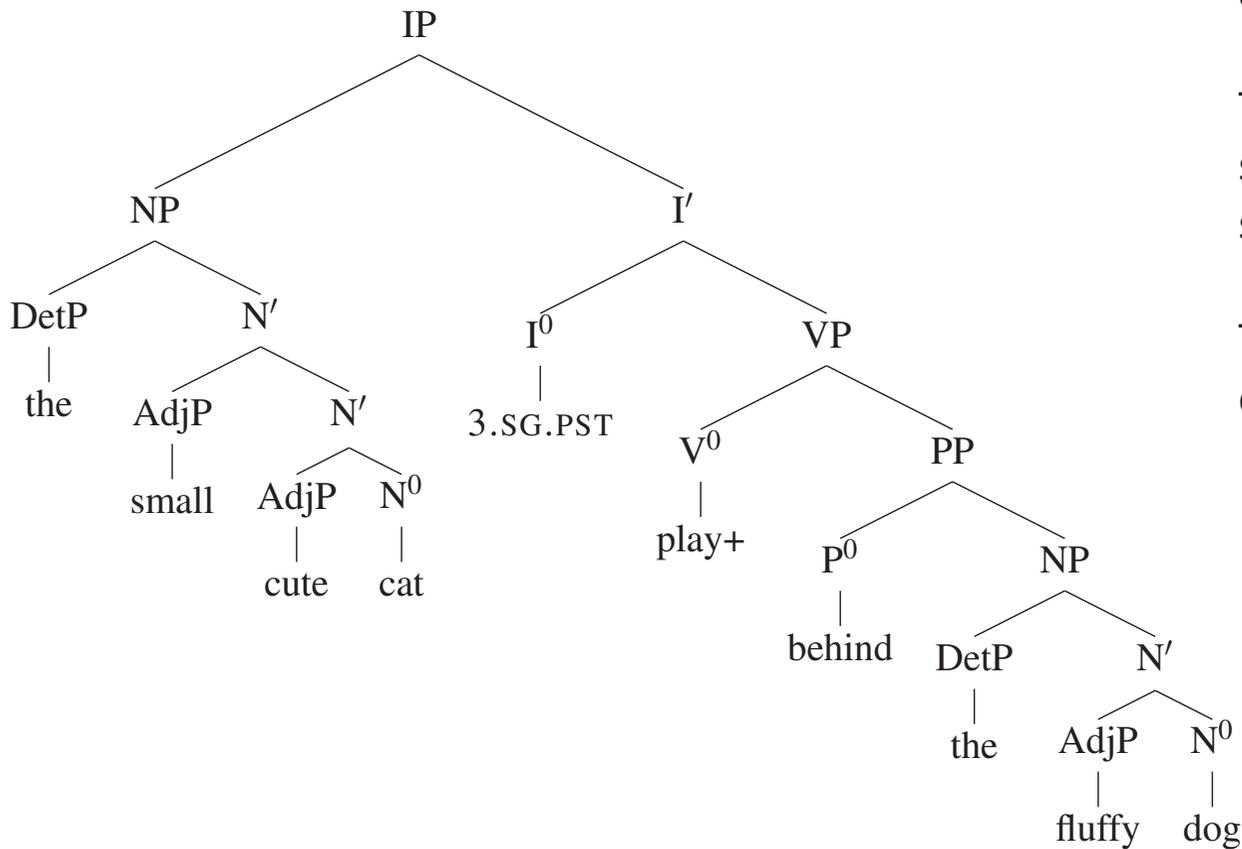
Remember the definitions of specifier and complement?

The subject of the sentence is in the specifier of the IP.

The object is in the complement of the V^0.

Embedded Sentences

- A sentence can itself be the object of a verb:

22. The farmer knows [that the dog likes the fox]

Or the subject of a sentence:

23. [That the dog likes the fox] worries the farmer

We already know everything we need to know to draw the trees for these sentences except…

..what to do with the item *that.*

Lexical items that introduce sentences are called "complementizers".

Here are some complementizers: *that*, *if*, *because*, *since*. There are others.

22. The farmer knows that the dog likes the fox

23. That the dog likes the fox worries the farmer
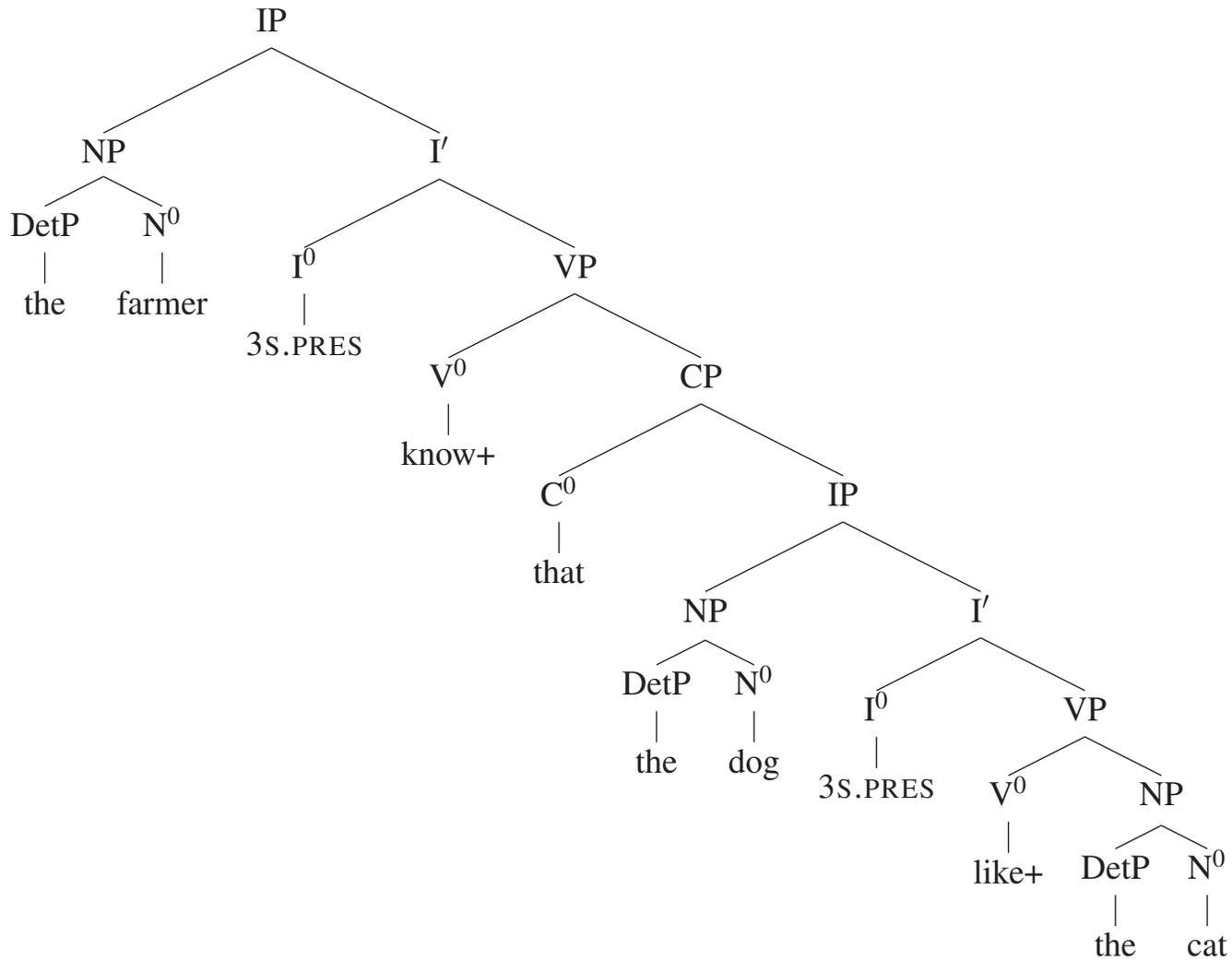
IP
├─ CP
│ ├─ C⁰ — that
│ └─ IP
│   ├─ NP
│   │ ├─ DetP — the
│   │ └─ N⁰ — dog
│   └─ I′
│   ├─ I⁰ — 3S.PRES
│   └─ VP
│   ├─ V⁰ — like+
│   └─ NP
│   ├─ DetP — the
│   └─ N⁰ — cat
└─ I′
   ├─ I⁰ — 3S.PRES
   └─ VP
      ├─ V⁰ — worr+
      └─ NP
         ├─ DetP — the
         └─ N⁰ — farmer
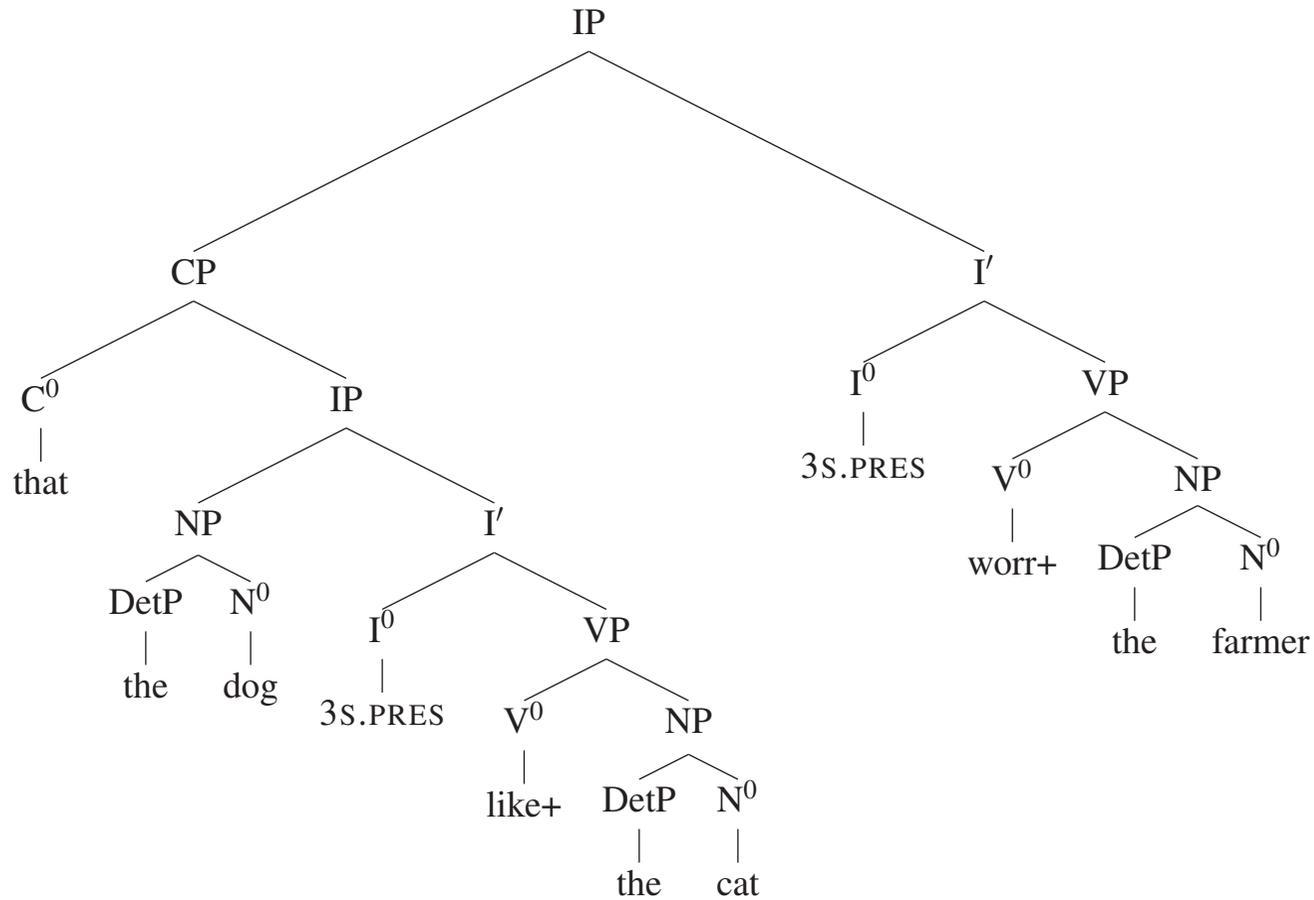
One more fix

Remember what a specifier and a complement are?

Now look at these parts of the previous tree:

NP
  DetP N^0
   | |
  the   dog

VP
  V^0 NP
   | /\
 likes the cat

NP
  DetP N'
   | /\
  the   AdjP N^0
          | |
        fluffy dog
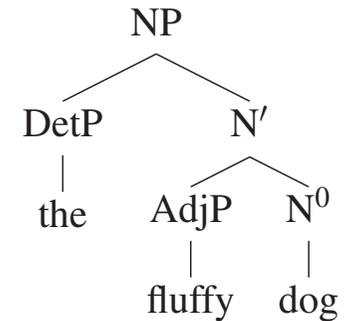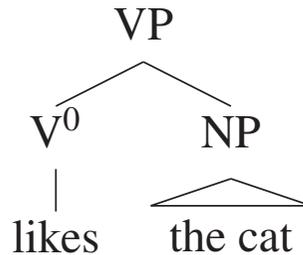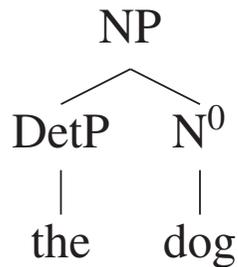
With the definitions we have what are the relations in each of these representations? Let's introduce one more enrichment.

Let us reserve the position of complement of a head for an XP that receives a theme/ patient theta-role from that head. So which of the trees above should be drawn somewhat differently?

Now you are probably thinking "What the heck is a theme/patient theta role????"

Theta-roles

- "theta-roles" are names for the roles of participants in an event.

For example, in (24), *Mateo* receives the theta-role of "Agent" of the cutting event.

the bread receives the theta-role of "patient" or "theme" of the cutting event:

24. Mateo cut the bread

- In (25), *Robert* is the agent, *the book* is the theme, and *Bianca* is the goal:

25. Robert gave Bianca the book

You can also think of it as follows:

-the Direct object receives the theme/patient role

-the Indirect object receives the goal theta-role

-Agents are always Subjects (But crucially this does not mean that all subjects are agents)

There is a lot more that can be said about the metaphysics of theta-roles, but this will do for our purposes.

Theta-roles are assigned by heads.

The constituents that receive a theta-role are called "arguments" of that head. The rest are the "adjuncts". (meets Xbar-theoretic use of this term)

26. Misha peeled the orange with a knife on a Tuesday because she felt like it

Arguments:

Misha   -agent

the orange -theme

Adjuncts:

with a knife   -adjunct of instrument

on a Tuesday   -temporal adjunct

Because she felt like it   -adjunct of reason

Mapping of arguments and agents on the X'- schema

This is very important:

Arguments and adjuncts map onto phrase structure in a very particular way.

- Agents are specifiers.
- Themes are complements of the head.
- Adjuncts hang of an X' node.

26. Misha peeled the orange with a knife on a Tuesday because she felt like it
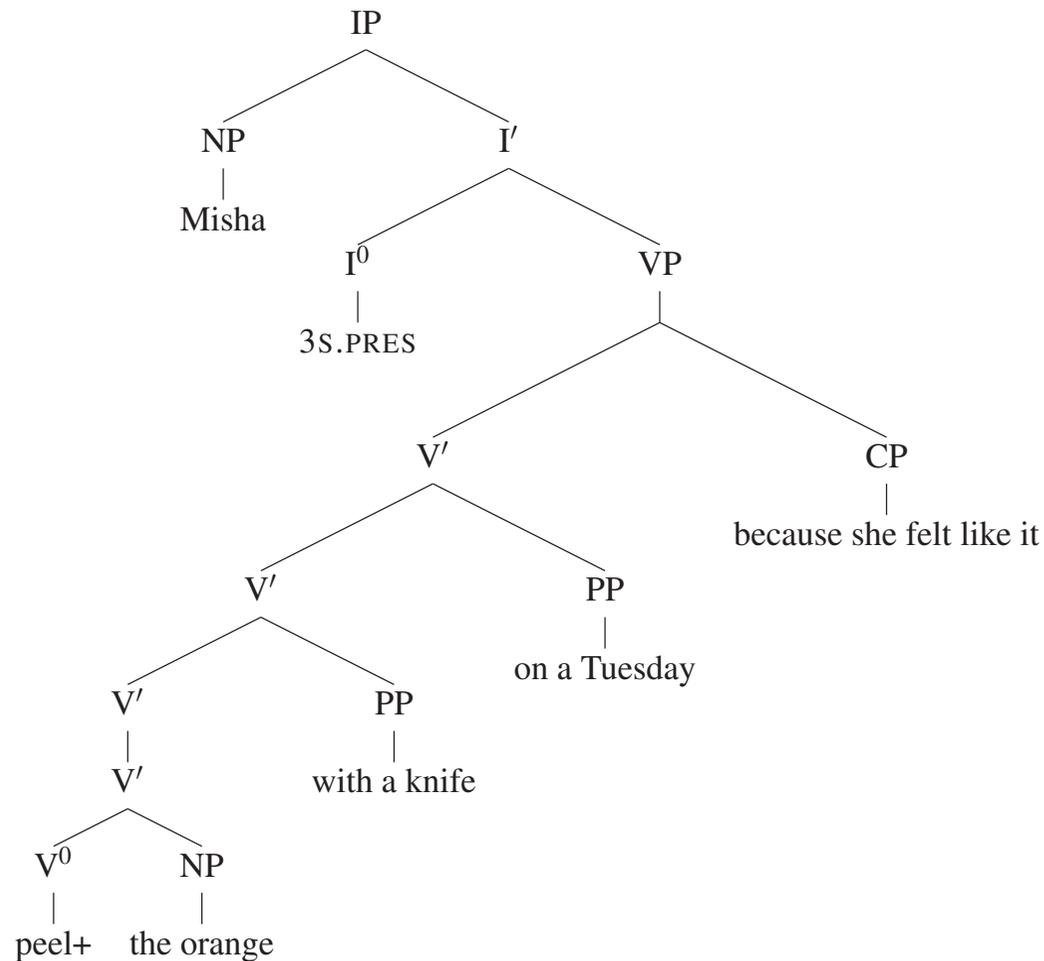
For consistency, this means that even when there is no complement to the head, an adjunct still needs to hang from X′.

27. Aaron ran on Monday

Wrong tree
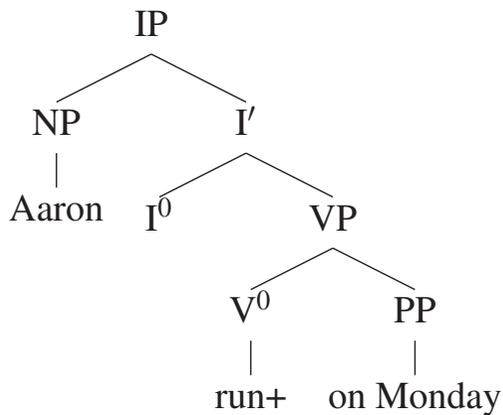
Wrong tree
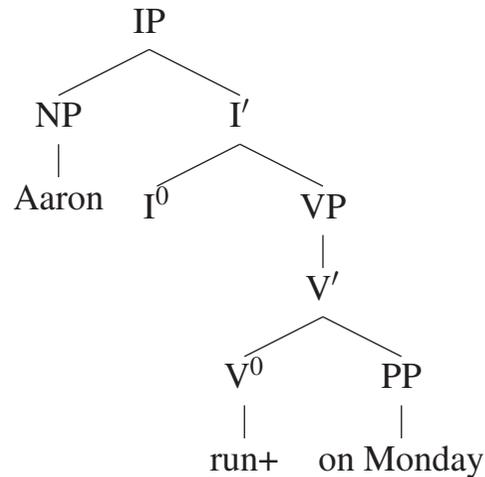
Right tree
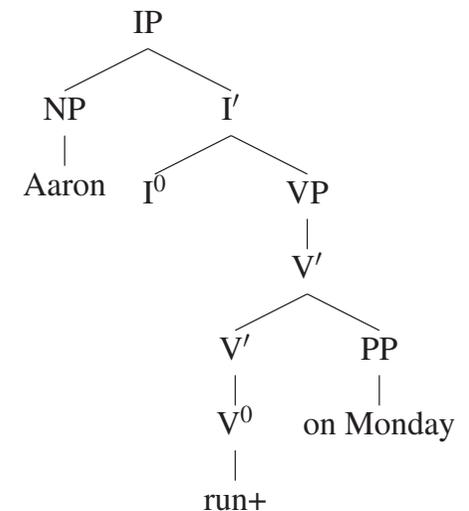
So what was "imprecise" about the trees on slide 39?
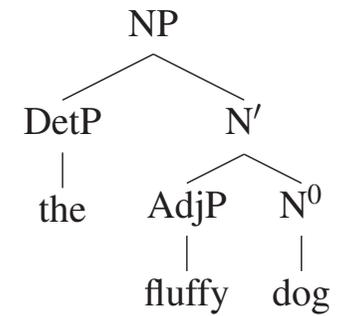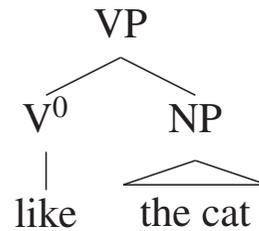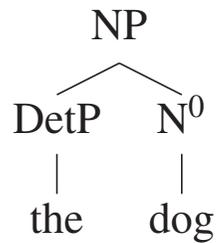
Arguments and adjuncts also exist within NPs:

28. The student of linguistics from Holland

29. The student from Holland
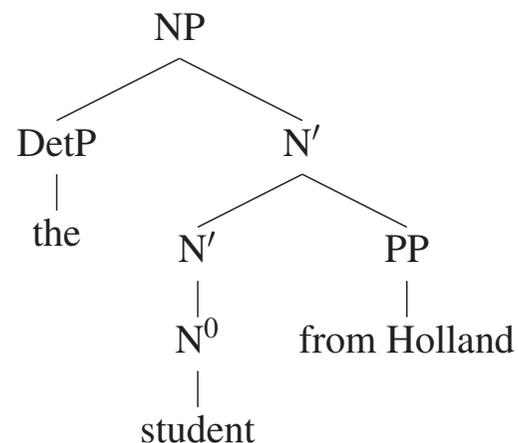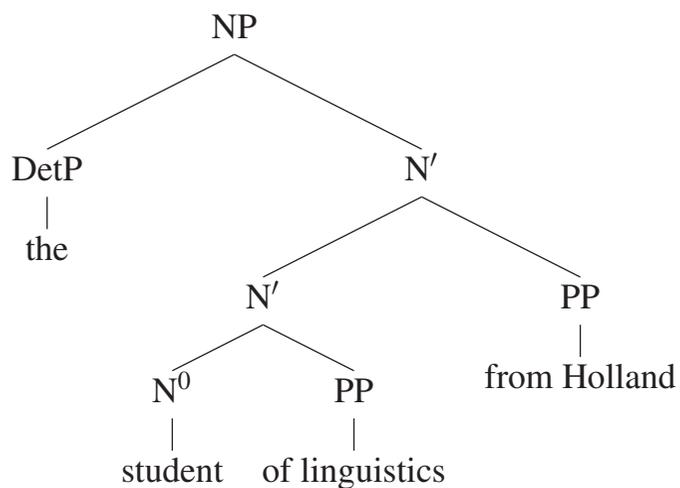
The fact that both IPs and NPs can contain arguments and adjuncts is the source of a famous structural ambiguity:

30. I saw the boy with the telescope
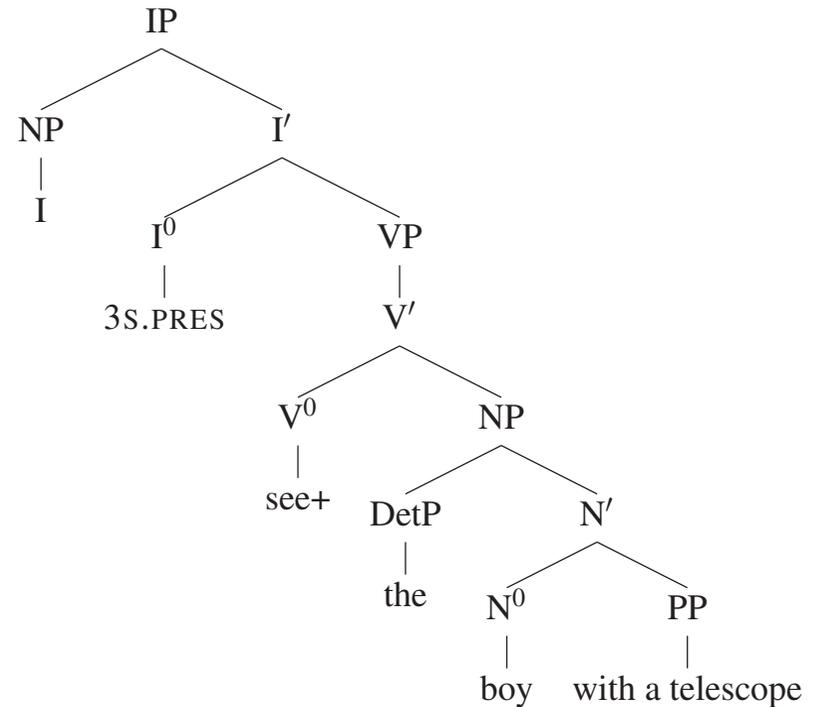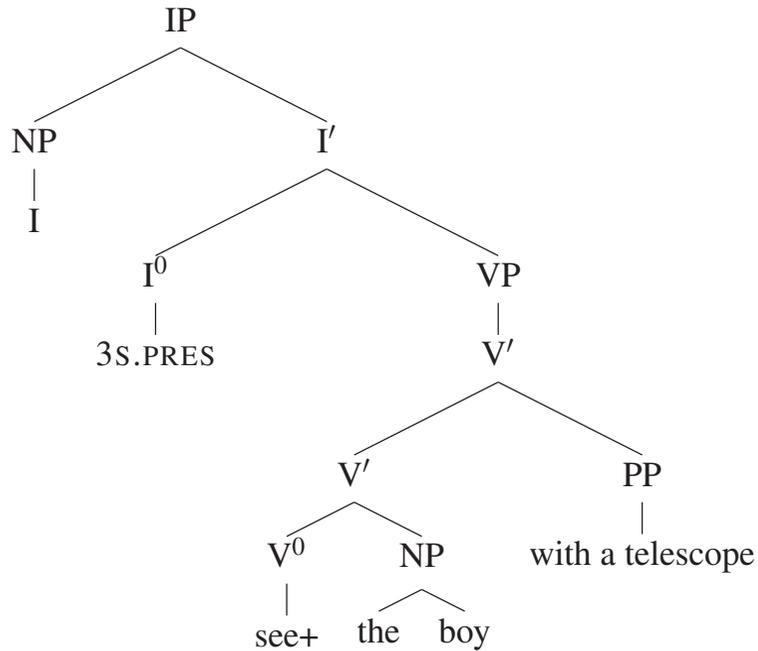
Subcategorization (or selection)

- You know that when you see a preposition, most likely it will be followed by an NP.

- This preposition subcategorizes for or selects an NP.

- A verb can subcategorize for an NP as well.

PP
P′
P⁰   NP
behind   the fluffy dog

VP
V,
V⁰   NP
see   the fluffy dog
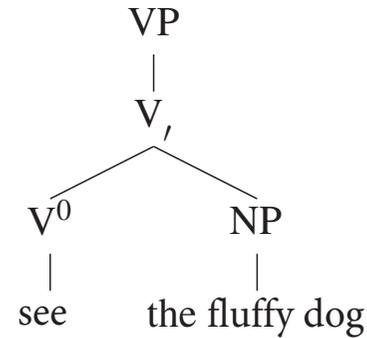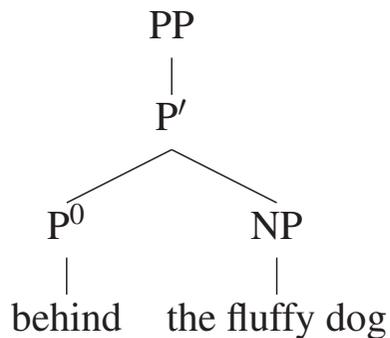
What is the structural relationship between the preposition or the verb and the NPs they subcategorize for?

- H1: A head "subcategorizes" for <u>its sister</u> (its complement).
- This is a <u>locality condition</u>.

And now time for some Japanese

39. Hanako-ga   eiga-o   mi-ta
    Hanako-NOM movie-ACC see-PAST
    'Hanako saw a movie'

40. Nihon kara-no Gengogaku-no   gakusei-ga   eiga-o   mi-ta
    Japan from   Linguistics-GEN   student-NOM movie-ACC see-PAST
    'The student of Linguistics from Japan saw a movie'

41. Sachiko-ga   Hanako-ga   eiga-o   mi-ta   to it-ta
    Sachiko-NOM Hanako-NOM movie-ACC see-PAST C^0 say-PAST
    'Sachiko said that Hanako saw a movie'

The "Headedness" Parameter: does a head precede or follow the complement it selects for?

A head precedes its complement in English, but a head follows its complement in Japanese.

English is a uniformly head-first language: it is SVO, has prepositions and the complementizer appears to the left of the IP.

Japanese is a uniformly head-last language: it is SOV, has postpositions and the complementizer appears to the right of the IP.

There are also mixed languages, e.g. German, which is SOV but has prepositions and the complementizer appears to the left of the IP.

Tree 1:

```
                    IP
                   /  \
                 NP    I′
                 |    /  \
            Sachiko-ga VP   I
                      /  \   |
                    CP    V  3.SG.PST
                   /  \   |
                 IP    C  it-ta
                /  \   |
              NP    I′ to
              |    /  \
         Hanako-ga VP   I
                  /  \  |
                NP    V 3.SG.PST
                |     |
             eiga-o  mi-ta
```

Tree 2:

```
              IP
             /  \
           NP    I′
           |    /  \
        Sachiko I    VP
               |    /  \
          3.SG.PST V    CP
                   |   /  \
                  say C    IP
                     |    /  \
                   that  NP    I′
                         |    /  \
                      Hanako  I    VP
                             |    /  \
                         3.SG.PST V   NP
                                  |    |
                                 see  movie
```

20
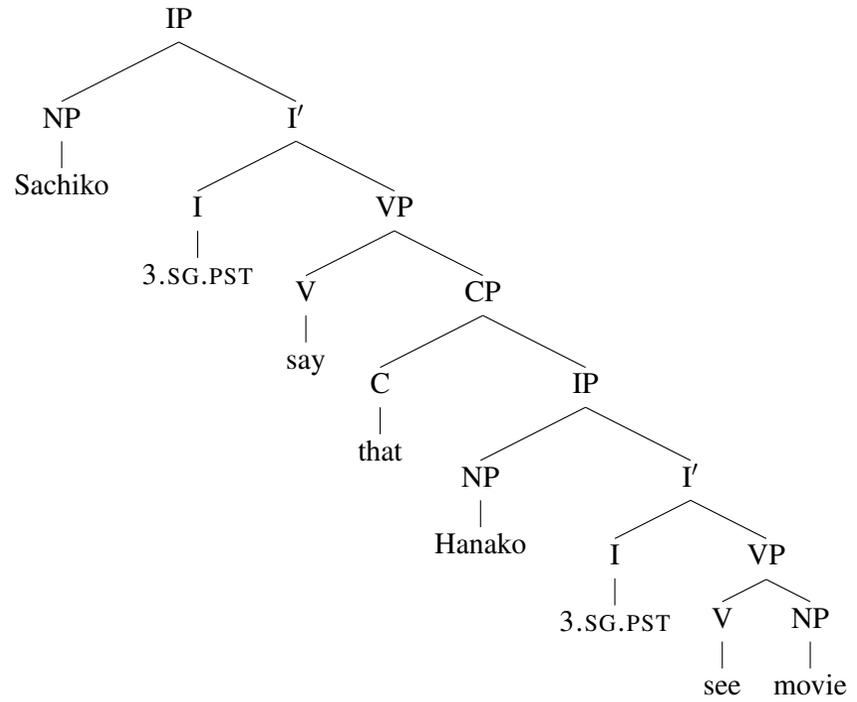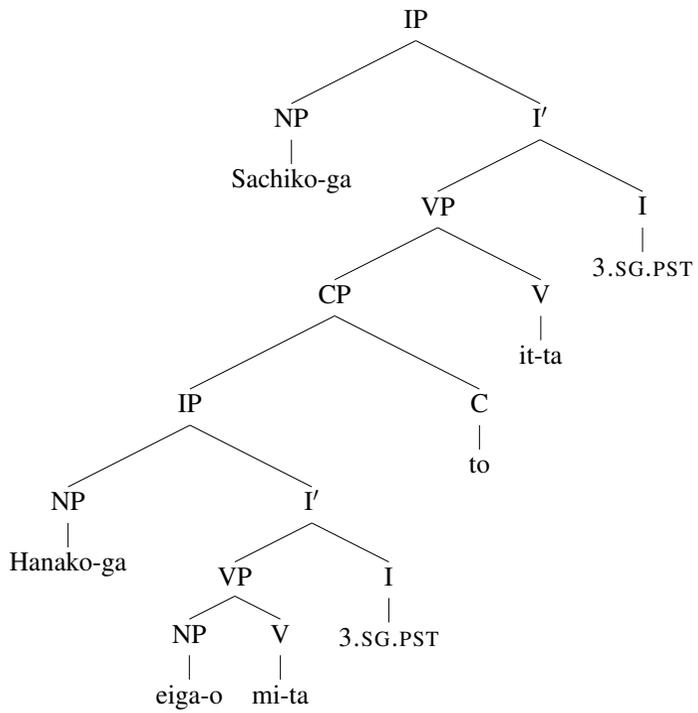
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