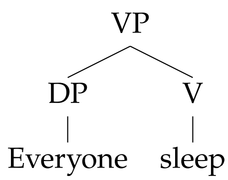
Movement

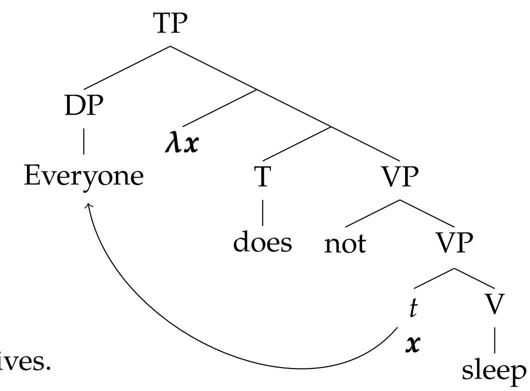
1 Review

Recall from the problem set that there are advantages to adopting a VP-internal subject, interpreted through movement. We will adopt this here.

Step 1: Build subject in Spec,VP



Step 2: Add *not* + T, move subject DP to Spec,TP



Exercise: Let's see what meaning this tree derives.

(1) **How to interpret λs in trees:**

$$\left[\!\left[\; [\; \lambda x \quad \ldots\, x \,\ldots \;] \; \right]\!\right] = \lambda x \;.\; \ldots x \ldots$$

2 Quantifier scope and reconstruction

(2) Everyone does not sleep (during class).

a. $\underbrace{\forall x \left[\text{Animate}(x) \rightarrow \neg \underbrace{[\text{Sleep}(x)]}_{\text{scope of } not} \right]}_{\text{scope of } \forall}$

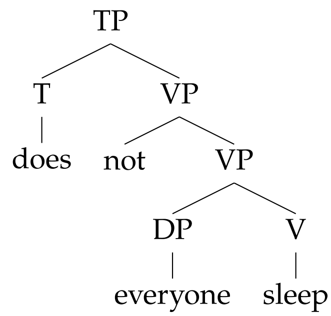
b. $\underbrace{\neg \left[\forall x \; \underbrace{[\text{Animate}(x) \rightarrow \text{Sleep}(x)]}_{\text{scope of } \forall} \right]}_{\text{scope of } not}$

The two readings in (2) represent a *scope ambiguity*. There are two operators that "take scope" — ∀ and negation — and one scope contains the other. We say that ∀ "takes scope over" ¬ in (2a), and write ∀ > *neg* to indicate this.

We call the meaning that is reflected on the surface form—here, (2a)—a *surface scope* reading.

How do we get reading (2b)? One option: *pretend the movement didn't take place*.

At Logical Form (LF): Pretend the movement didn't happen



Exercise: Interpret this tree.

We call this the *inverse scope* interpretation. The process of "ignoring" movement at LF is called *syntactic reconstruction*.

3 Relative clauses

(3) Every book which is good is expensive.

Example (3) can be easily given a truth-conditionally-equivalent paraphrase without a relative clause, as in (4):

(4) Every [good book] is expensive.

The relative clause *which is good* must be part of the *restrictor* (first argument) of *every*.

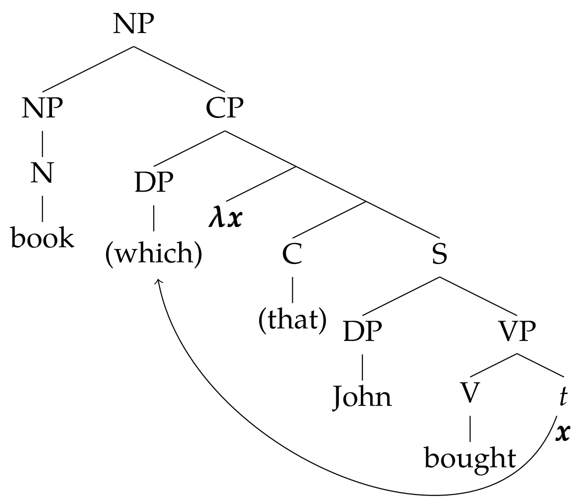
But in general, most relative clauses cannot be rewritten with adjectives in this way:

(5) Every [book that John bought] is expensive.

Notice that the relative clause *has a gap*.

> "...the peculiar genius of the relative clause is that it creates from a sentence '...x...' a complex adjective summing up what that sentence says about x." (Quine, 1960: §23)

Relative clauses always involve *movement* of the relative pronoun (for example *which*) from the *gap* position to Spec,CP (Chomsky, 1977, and many others).



Exercise: Compute this NP *book that John bought*. Assume ⟦that⟧ = Id and ⟦which⟧ = Id.

<u>Syntax notes:</u> We assume that, syntactically, the complementizer *that* (C) triggers movement of the relative pronoun to Spec,CP. They are both optionally pronounced, and they cannot both be pronounced at the same time:

(6) a. the book John bought ____

b. the book which John bought ____

c. the book that John bought ____

d. * the book which that John bought ____

Following Chomsky and Lasnik (1977), we assume a "Doubly Filled COMP Filter" that states that both positions cannot be pronounced at the same time, explaining (6d). Subject relatives, like (3), require *that* to be pronounced if the relative pronoun is not pronounced.

4 Logical Form

We have opened up the possibility that *what we pronounce* is different than *what we interpret*.

(7) Structure is built in Syntax. Syntax has two outputs:

a. *Phonological Form (PF)*: what is pronounced

b. *Logical Form (PF)*: what is interpreted

Additional operators may take place at these "interfaces"—in particular, covert movement (like QR) and reconstruction may take place at LF.

A hypothesis developed by May (1977), Huang (1982), and others is that operations at LF are *syntactic* operations, (generally) subject to the same constraints as visible syntax. Here is one argument for this. Consider example (8):

(8) **A sentence with a scope ambiguity:** (ex from Fox, 2003)

A (different) student likes every professor.

a. $\exists x$ [Student(x) $\wedge$ $\forall y$ [Professor(y) $\rightarrow$ Like(x, y)]]

b. $\forall y$ [Professor(y) $\rightarrow$ $\exists x$ [Student(x) $\wedge$ Like(x, y)]]

Suppose the second reading in (8) is the result of covert movement (QR) of *every professor* to a position higher than *a student* at LF:

(9) <u>LF</u>: [every professor] λx a student likes x

Now recall that *overt* movement is subject to the Coordinate Structure Constraint (10):

(10) **The Coordinate Structure Constraint (Ross, 1967):**

a. Which professor does John like ___?

b. * Which professor does John [[like ___] and [hate the dean]]?

(11) **Embedding within a conjunction blocks wide scope of *every professor*:**

A (#different) student [[likes every professor] and [hates the dean]]. (ex from Fox, 2003)

a. ✓ $\exists x$ [Student(x) $\wedge$ $\forall y$ [Professor(y) $\rightarrow$ [Like(x, y)]] $\wedge$ Hate(x, d)] (d = the Dean)

b. * $\forall y$ [Professor(y) $\rightarrow$ $\exists x$ [Student(x) $\wedge$ [Like(x, y)] $\wedge$ Hate(x, d)]]

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