Quantifier raising

Readings: Portner, Ch. 6.4

1. Quantifiers in object position

- Recall: quantifiers in subject position take properties and return propositions. What about object quantifiers?

In-class Exercise 1

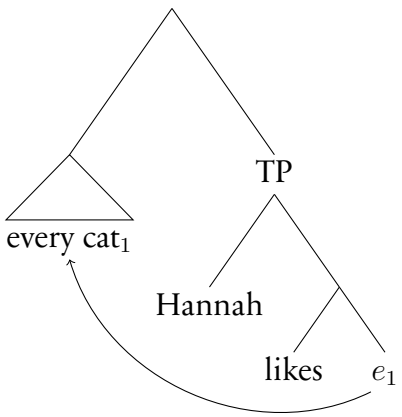
- Try to compositionally derive the meaning of (1). Which problem do you run into?

  (1) Hannah likes every cat.

1.1. A solution: quantifier raising

- The quantifier *every cat* starts out as the object of *likes*, then moves up, leaving behind a trace. The quantifier and its trace bear the same index:

(2)



- This movement happens at the level of *logical form (LF)*. It is *covert*.
- The semantic composition works as follows (note the similarity to the composition of relative clauses):
  - The trace temporarily saturates the first argument slot of the two-place predicate *likes*, the result being a one-place predicate *likes* e_1.
  - We build the proposition *Hannah likes* e_1 as usual.
  - *Every cat*$_1$ then "unsaturates" the resulting proposition, making it a property again (the property of being an x such that Hanna likes x).
  - Now the quantifier can combine with this property.

1.2. Multiple quantifiers in a sentence: the issue of scope

- We've already seen that English sentences with two quantifiers are often ambiguous:

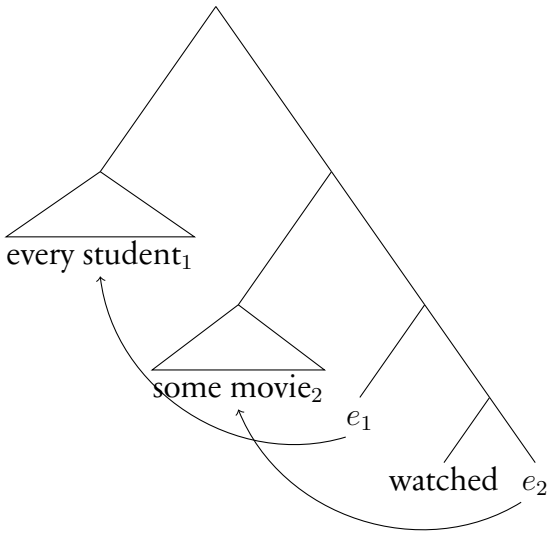
(3) Every student watched some movie.

In-class Exercise 2

- Give the two predicate logic formulas for the two interpretations of (3).

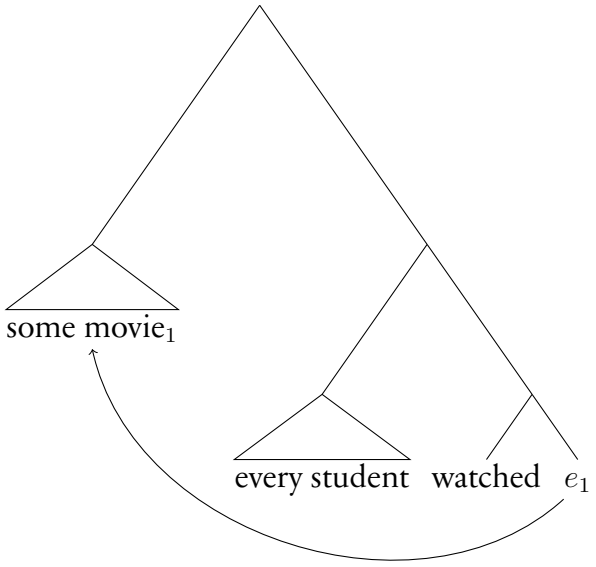
- Quantifier raising helps us derive both interpretations compositionally.
- The tree in (4) represents the LF for the so-called *surface scope* reading:

(4)



- The tree in (5) represents the LF for the so-called *inverse scope* reading:

(5)



What you need to know

Key notions: quantifier raising, covert movement, trace, index, unsaturation, surface scope, inverse scope

Answers to the following questions:
- Why are quantifiers in the object position problematic?
- How does quantifier raising handle quantifiers in the object position?
- How does quantifier raising help us capture quantifier scope ambiguities?

Skills:
- Draw trees of LFs of sentences (i) with one quantifier in the object position, (ii) with two quantifiers for the surface and the inverse scope readings.