

QUANTIFICATION II

ENGLISH SEMANTICS · LECTURE 6

Moreno Mitrović

The Saarland Lectures on Formal Semantics

RECAP

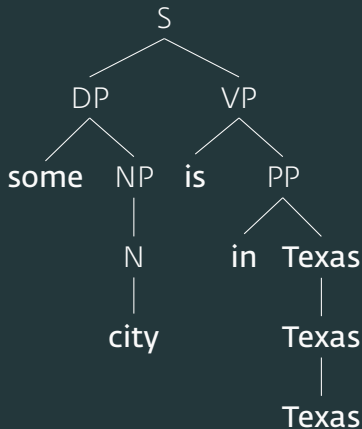
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THE QUANTIFIER BUSINESS

RECAP: QUANTIFIERS

- We found out the type and role that quantifiers play.

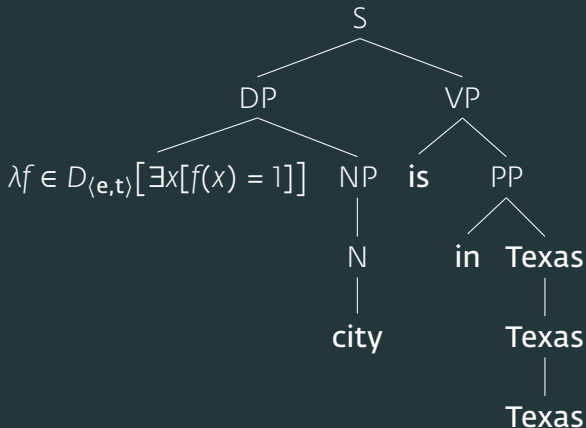
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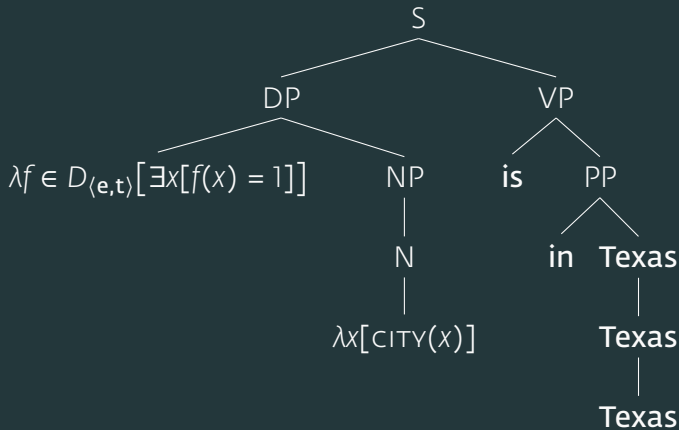
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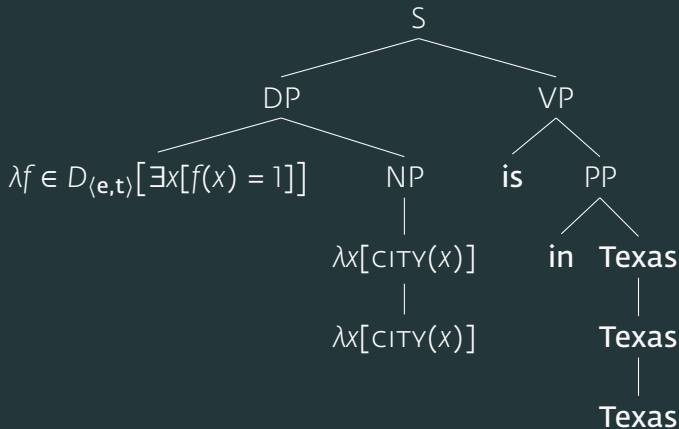
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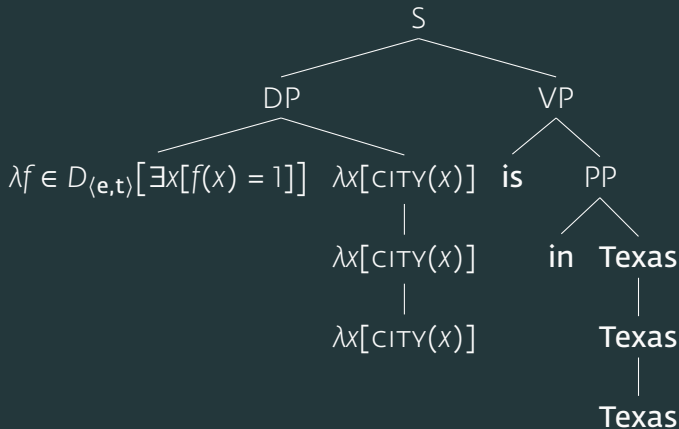
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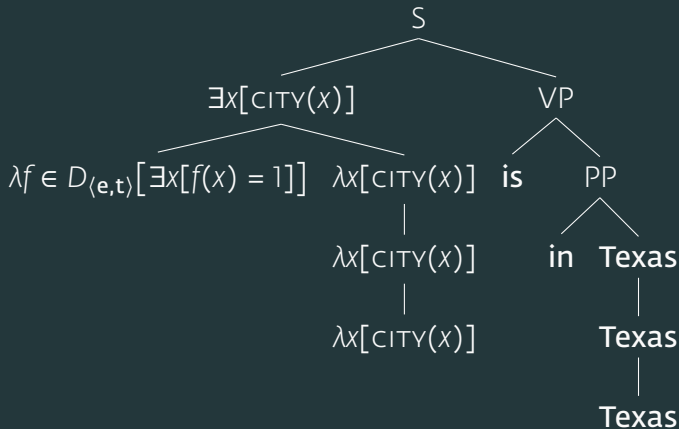
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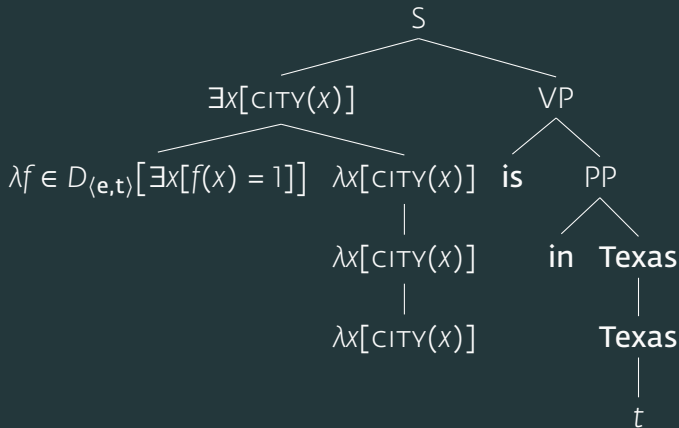
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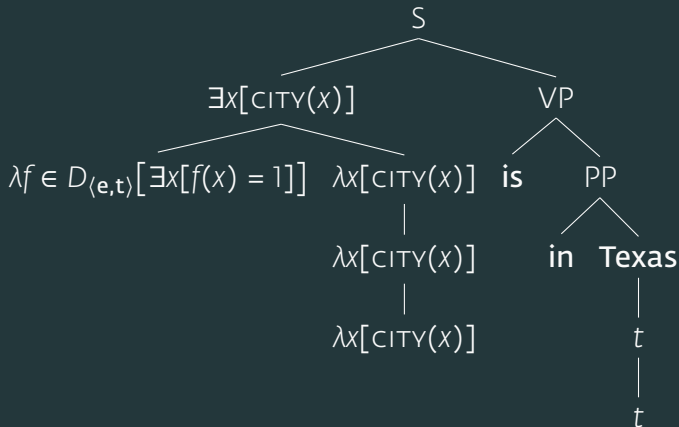
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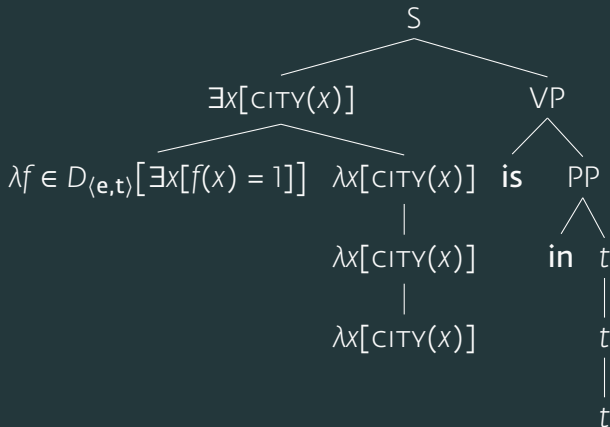
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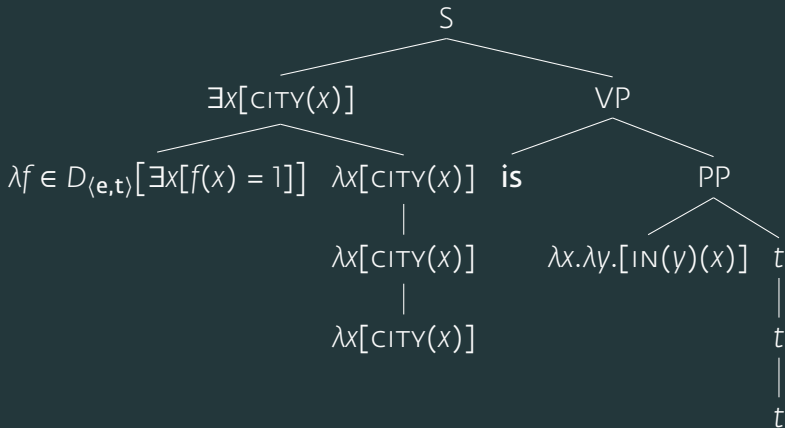
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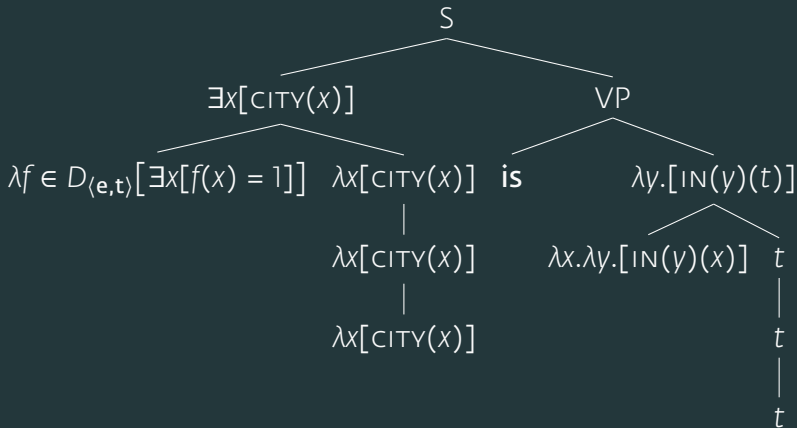
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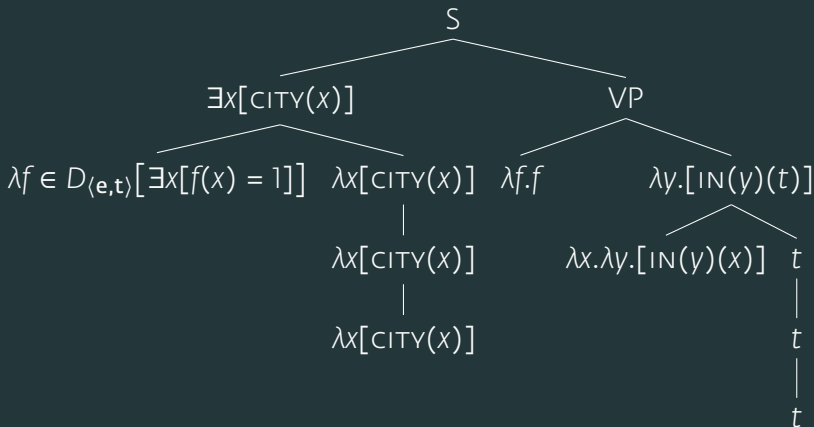
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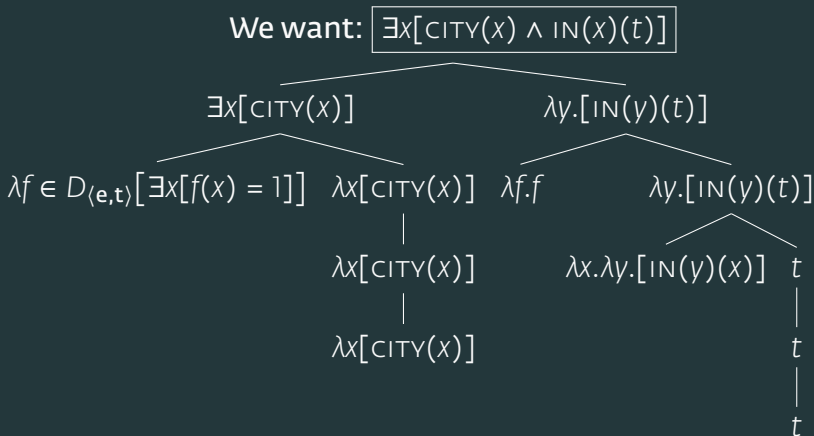
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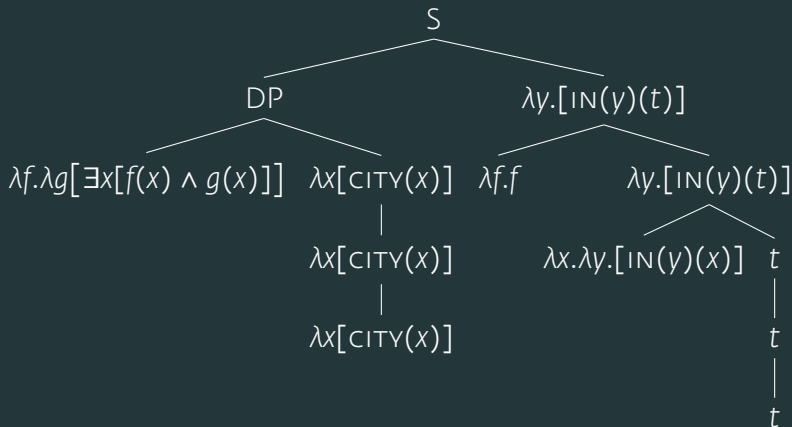
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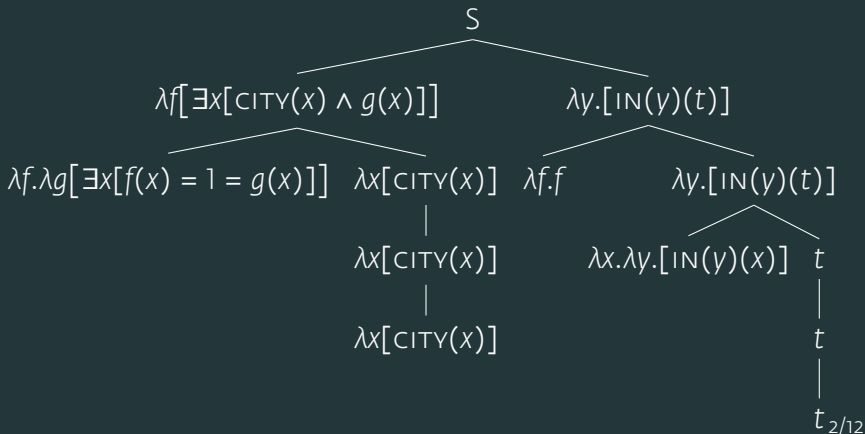
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QUANTIFIERS IN OBJECT POSITION

- We've shown that we can handle (2), but what about (3)?

(2) **Some dog bit John.**

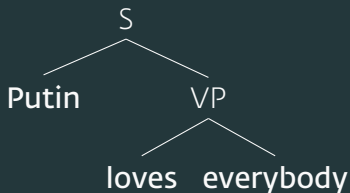
(3) **John bit some dog.**

- To make life a bit easier, consider an object quantifier with a simpler type:

(4) **Putin loves everybody.**

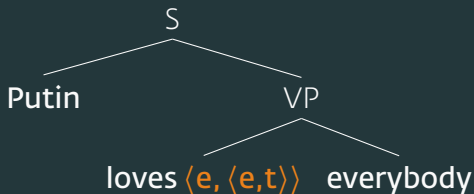
PROBLEM

- Try calculating using correct types (i.e., We assume S is t and **loves** is $\langle e, \langle e, t \rangle \rangle$)



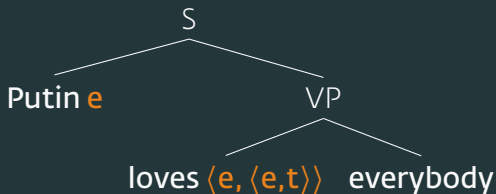
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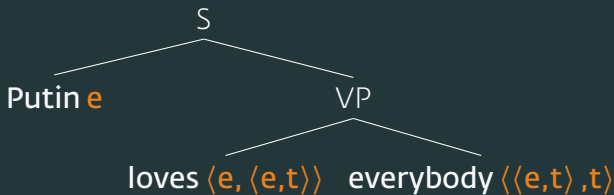
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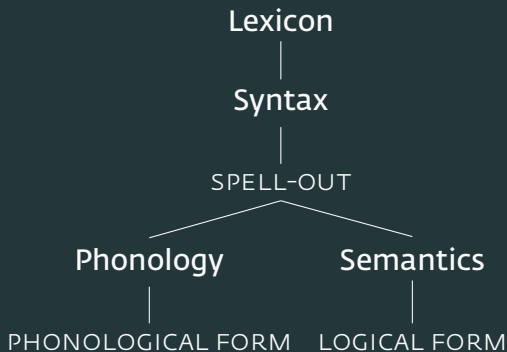
- We can't do it.
- What do we do? Two options.
 - We modify the type-entries for our lexical items.
(High cost.)
 - We play around with the structure and try to make it work.

REPAIRING TYPE-MISMATCH

- We repair type-mismatch by **movement**.
- This type of movement is known as **Quantifier Raising (QR)**, which takes place in semantics, *after* spell-out.

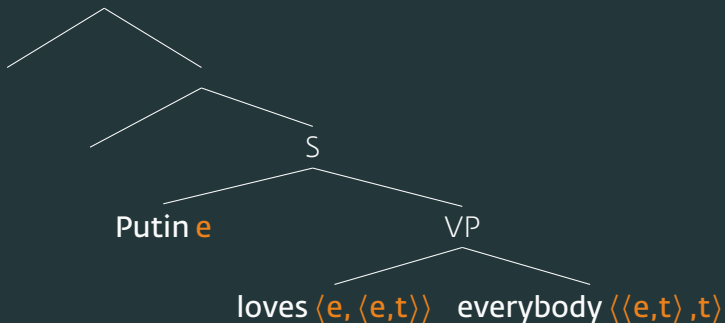
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(5) A generative model of grammatical modularity:



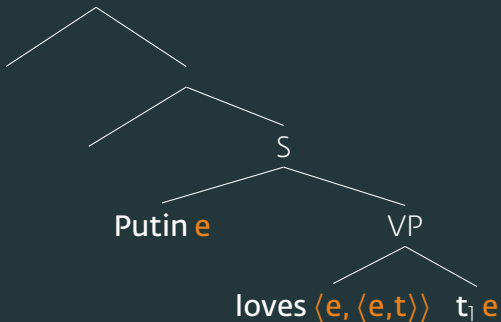
SOLUTION

- Because the types don't match, the quantifier moves.



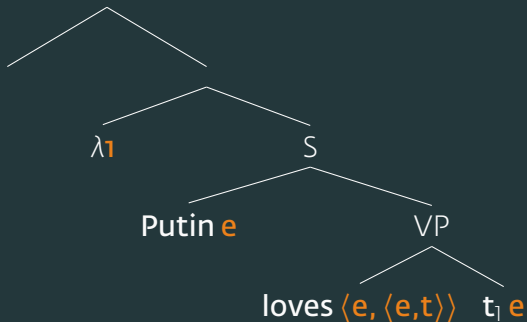
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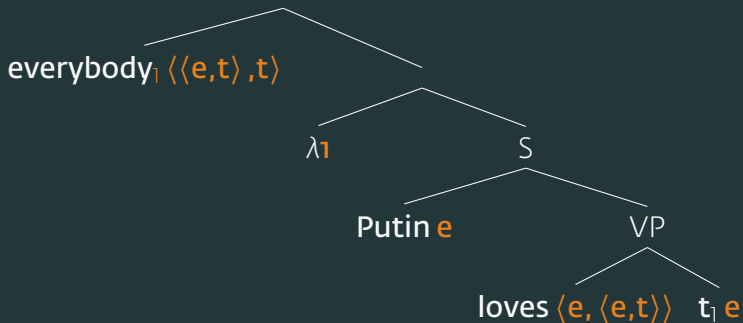
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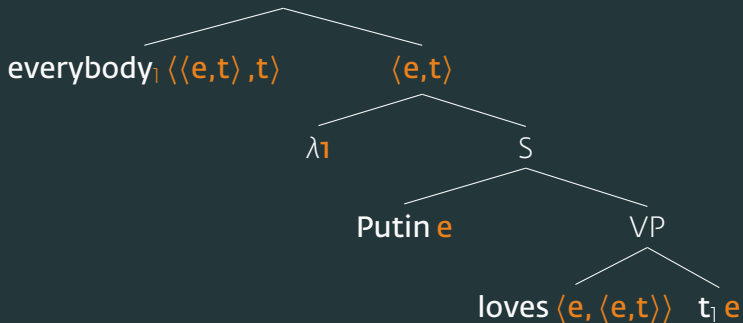
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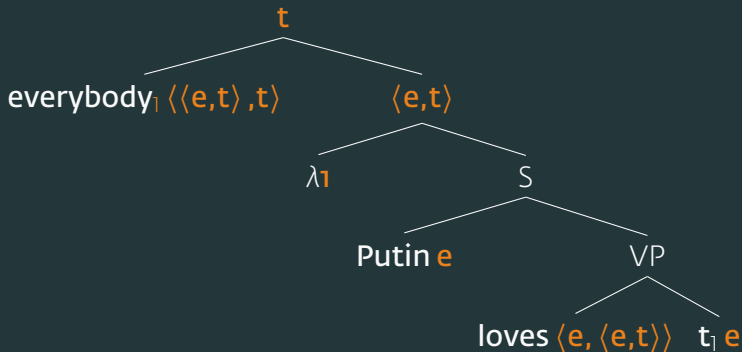
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- Let's calculate!

SCOPE AMBIGUITIES

BACK TO OUR OBSERVATION

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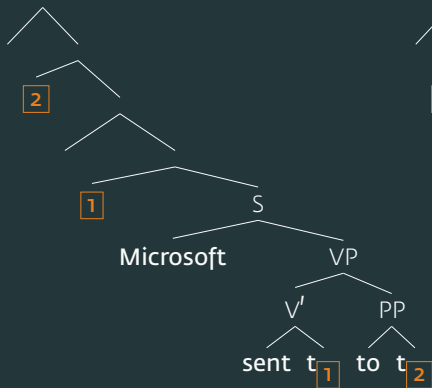
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- We would like our calculations to reflect this dual meaning.
- For (7b), we will assume that semantics is reflected in the word order, i.e. **some question** QRs (which is not the case for (7a))

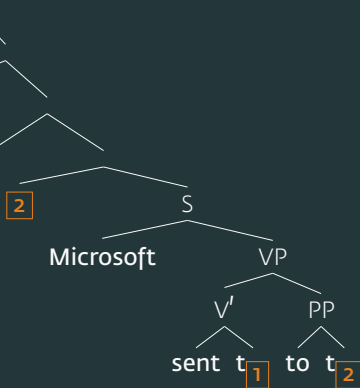
SCOPE AMBIGUITIES: EXERCISE

(8) The company sent one representative to every meeting.

FIRST MEANING:



SECOND MEANING:



BINDING QUANTIFIERS

- Quantifiers can also **bind pronouns**:

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- What do we do here? Let's try calculating.

- We need to QR (quantifier raise) the subject.