Practice with our compositional grammar

Chris Potts, Ling 130a/230a: Introduction to semantics and pragmatics, Winter 2024

Instructions For each example, a syntactic tree is given on the left. Your task is to fully interpret that tree using our semantic grammar. To do this, specify the meaning of the node inside the box and give the name of the grammar rule that justifies that step inside the square brackets. The first three are done for you as examples, and many additional examples are given in section 6 of the 'Semantic composition' handout. We've included a few tips.

(1) skateboards

$\{[\![Bart]\!], [\![Homer]\!]\}$ [LEX]

(2) V — skateboards

$\{[\![Bart]\!], [\![Homer]\!]\}$ [NB]
$\{[\![Bart]\!], [\![Homer]\!]\}$ [LEX]

(3) Tip: All and only the examples that intuitively have truth conditions will use 'T if ... else F'.

[S [PN Bart] [VP [V skateboards]]]

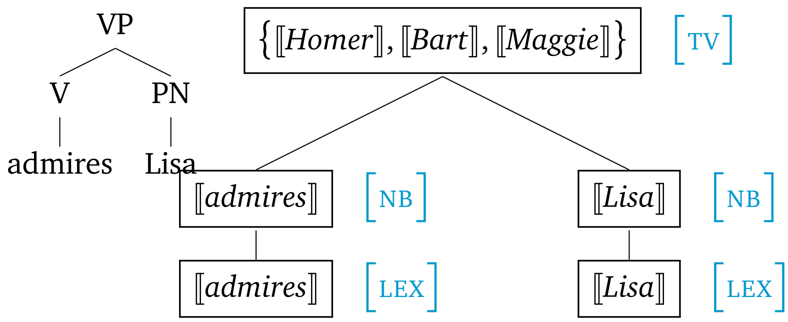
T if $[\![Bart]\!] \in \{[\![Bart]\!], [\![Homer]\!]\}$, else F [S]

- $[\![Bart]\!]$ [NB]
  - $[\![Bart]\!]$ [LEX]
- $\{[\![Bart]\!], [\![Homer]\!]\}$ [NB]
  - $\{[\![Bart]\!], [\![Homer]\!]\}$ [NB]
    - $\{[\![Bart]\!], [\![Homer]\!]\}$ [LEX]

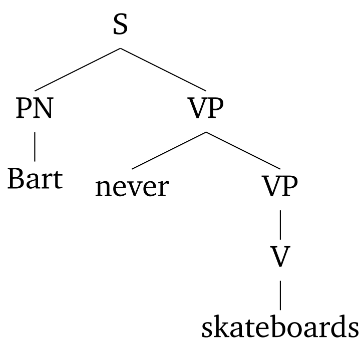
(4) V — admires

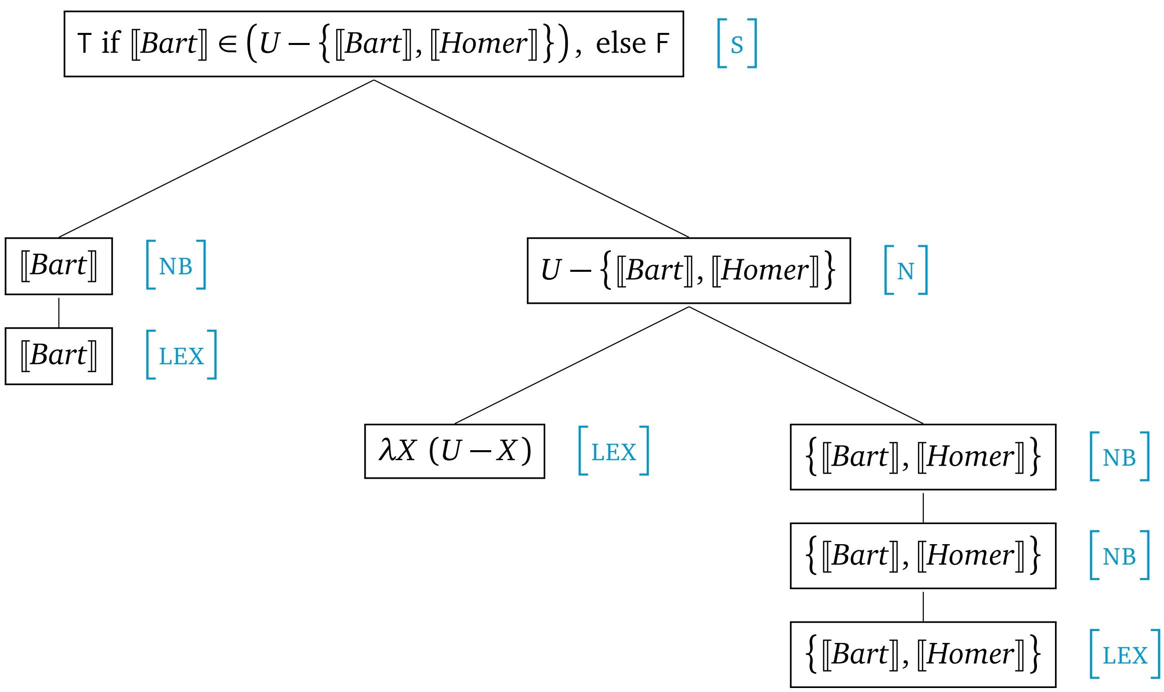
$[\![admires]\!]$ [NB]
$[\![admires]\!]$ [LEX]

(5) Tip: There are many equivalent ways to specify the VP node. The best thing would be to do the lambda conversions that get you to a set of entities, using (10) on the main handout.

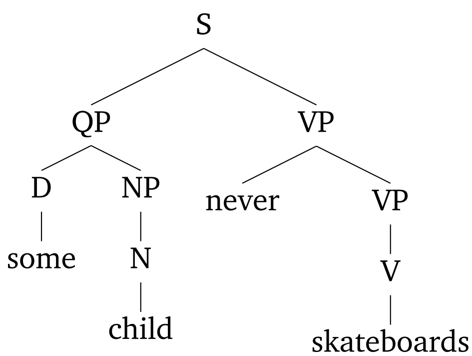


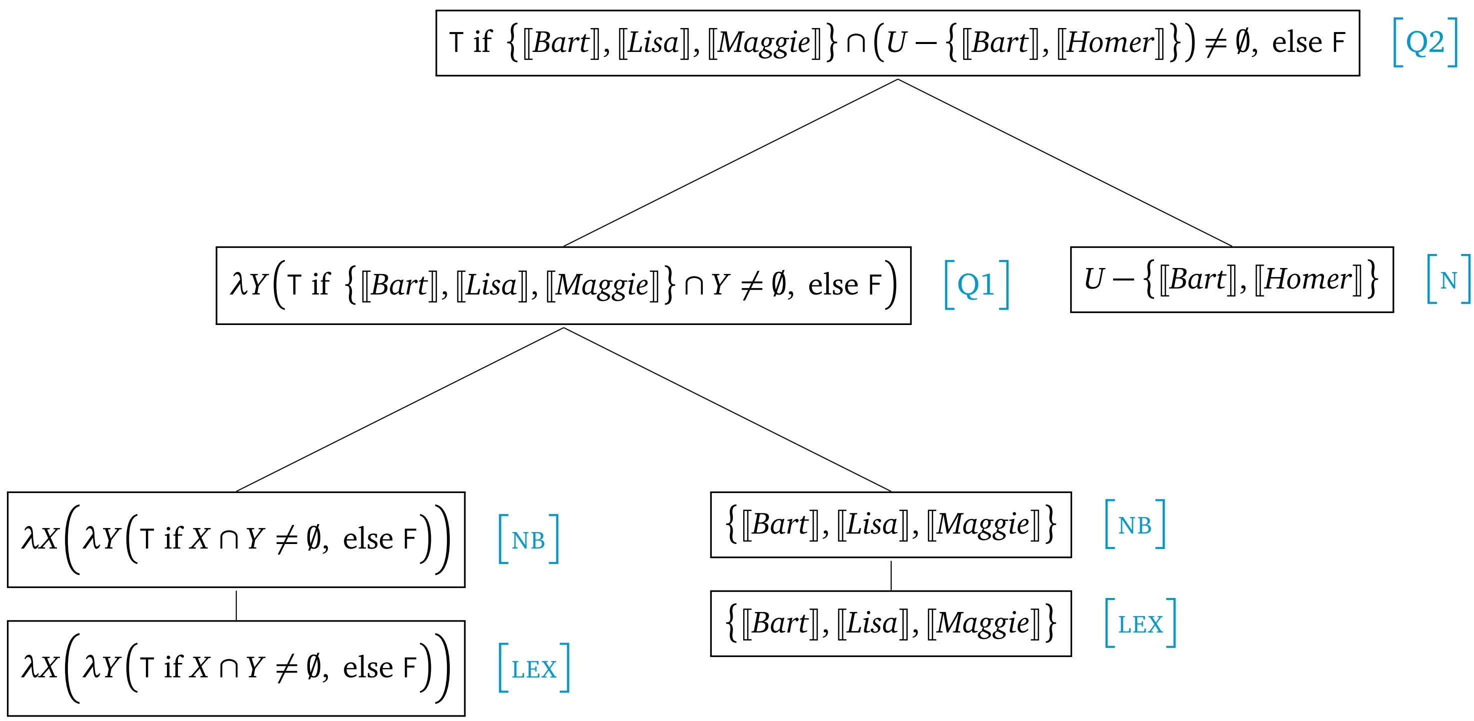
(6) Tip: There are many equivalent ways to specify the top VP node. The best thing would be to show the set subtraction statement, since they helps convey how the negation worked. Similarly, the best thing would be to give the lambda expression we worked out for (20) in class as the meaning of *never*.



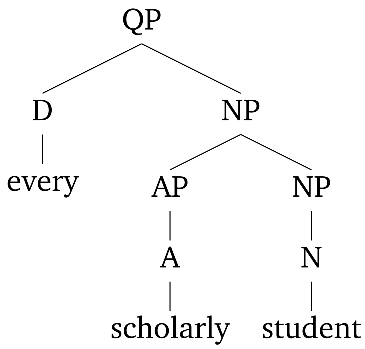


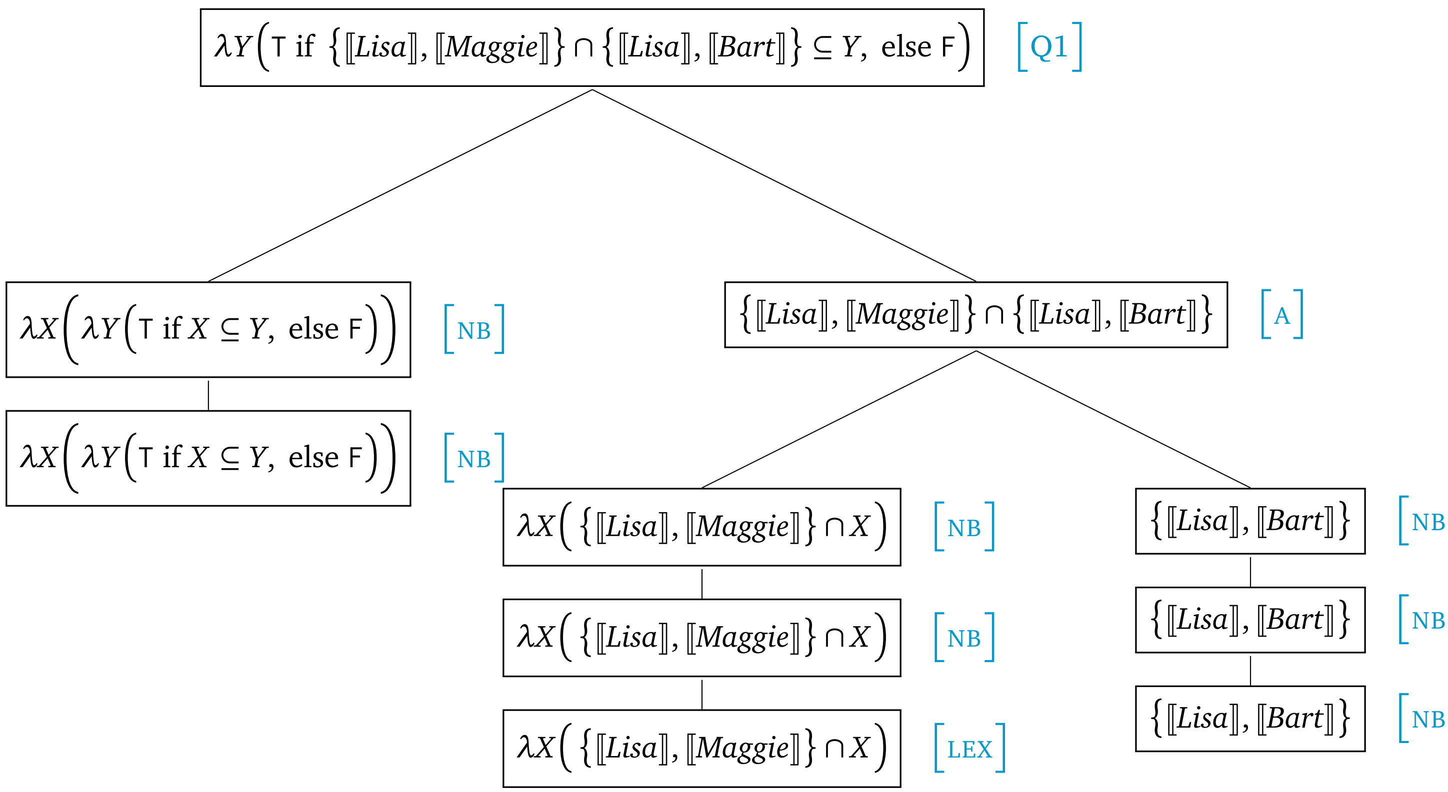
(7) Tip: The semantic tree we've provided has only one VP node, corresponding to the top VP node in the syntax. Since this is compositional semantics, you can copy over the top-most VP meaning from the previous example and continue, without worrying about the nodes below it.





(8)





If you got this far and want additional practice, you could check out (42)–(47) on the main handout. The only change is that you have to draw the semantic trees from scratch. They always have exactly the same shape as their corresponding syntactic trees.