Semantics and Pragmatics 1 | Fall 2011
Assignment 2 | Due October 11

1 Practice with λ-notation

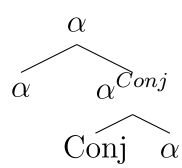
(Re-)read section 2.5 of Heim and Kratzer carefully, then do exercises 1 and 2 on pp. 39-40.

2 English$_x$ revisited

Assume the same vocabulary items of English$_x$ that we had at the end of Assignment 1. Assume the same syntax, as well, except for the conjunction rule (in (2d) on Assignment 1). Instead, assume the following rule for conjunction structures:

(1) a. $\alpha \to \alpha \ \alpha^{Conj}$
b. $\alpha^{Conj} \to \text{Conj} \ \alpha$

This generates binary branching conjunction structures as shown in (2), where α can be any syntactic category.

(2)


Assume that the names 'Kim' and 'Lee' denote individuals:

(3) a. $I(\text{Kim}) = \textbf{kim}$ (bold-face type = metalanguage)
b. $I(\text{Lee}) = \textbf{lee}$

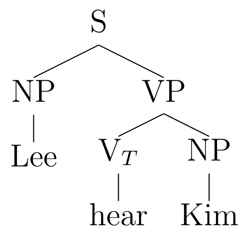
Finally, assume the following composition rules. (4a-b) handle terminal nodes and non-branching constituents, respectively; (5) handles binary-branching structures. (This is exactly the same as the "1-Place Application" rule we discussed in class on Thursday; I have renamed it to bring it in line with the terminology in H&K.)

(4) a. If α is a vocabulary item, then $[\![\alpha]\!]^M = I(\alpha)$
b. If α is a constituent with single daughter β, then $[\![\alpha]\!]^M = [\![\beta]\!]^M$

(5) *Function Application*
If α is a constituent with daughters β, γ such that $[\![\beta]\!]^M$ is a function with $[\![\gamma]\!]^M$ in its domain, then $[\![\alpha]\!]^M = [\![\beta]\!]^M([\![\gamma]\!]^M)$.

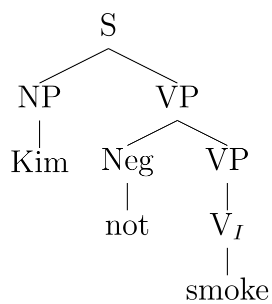
Part A Using the λ-notation, provide functional denotations for the intransitive and transitive verbs of English$_x$: 'smoke', 'drink', 'see', 'hear'. Be sure to explain any special notational conventions you adopt (H&K discuss a few in section 2.5). Provide derivations of truth conditions for (6).

(6)



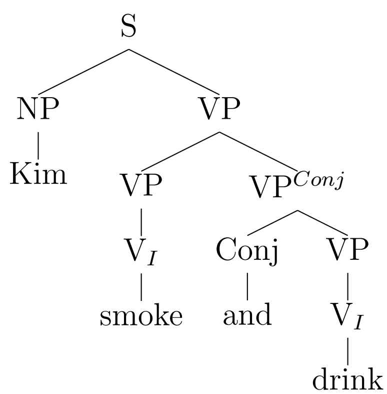
Next, provide a functional denotation for 'not' (using the λ-notation), and show how you derive truth conditions for (7).

(7)

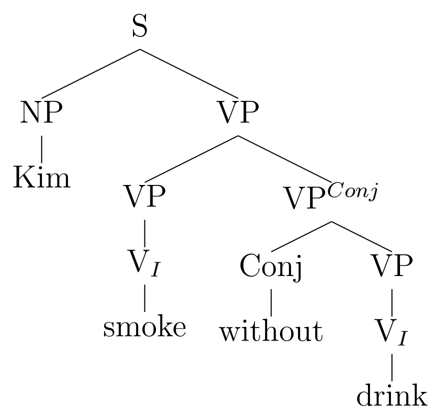


Finally, do the same for 'and' and 'without', assuming for the moment that conjunctions only conjoin VPs (and that 'without' is a conjunction, rather than a preposition), and show how you derive truth conditions for the following structures:

(8) a.



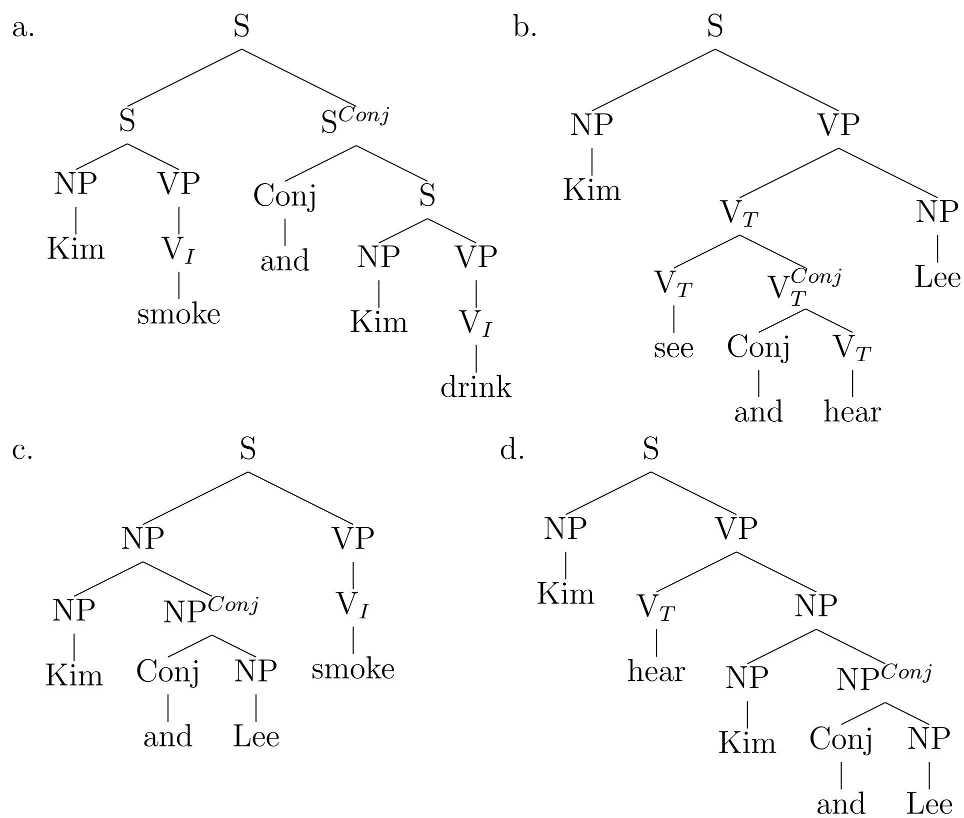
b.



Part B Consider simple sentences of (actual) English in which *without* coordinates intransitive VPs, such as 'Kim ate without chewing', 'Lee sings without breathing', 'Lee ran without stopping', etc. Setting aside issues of tense, habituality and so forth (which arise from the particular forms of the verbs that show up in this construction), and assuming that the (relevant part of the) syntax of English is the same as it is for English$_x$, do you think that denotation you have hypothesized for 'without' in English$_x$ can capture the core semantic properties of English 'without'? Or is there some feature of meaning that is introduced by English 'without' that your analysis isn't equipped to account for? In thinking about this problem, you should compare sentences with 'without' (in English) to paraphrases with 'and ... not', and you should compare the truth conditions that your analysis assigns to (9a) in English$_x$ with your understanding of the corresponding sentence of English in (9b).

(9) a. Kim not smoke without drink.
  b. Kim doesn't smoke without drinking.

Part C In Part A, we assumed that conjunction only targets VPs. The conjunction rule in (1) is actually quite a bit more general, however, and allows for conjunction of any category. In particular, it generates all of the following of structures in English$_x$:

(10)


Assume that these are all grammatical in English$_x$ and that they have the same truth conditions as the corresponding sentences of English. the following question:

- Will the denotation for 'and' that you proposed in Part A provide a way of deriving truth conditions for all of the different structures in which it occurs? If so, say how; if not, say what the problem is, and propose a solution.

In addressing this question, be sure to explain your reasoning in clear, well-organized prose. Note, also, that whenever you are uncertain about whether a particular semantic analysis actually works or not (e.g., whether your ideas about how to deal with the range of structures in (10) actually get the right results), you should run through the relevant semantic derivation(s). A derivation is a kind of proof that a set of assumptions about lexical meaning and composition do — or do not — provide an adequate account of truth conditions.

Note: For this part of the assignment, just focus on ‘and’ and ignore the fact that our current grammar for English$_x$ also allows us to generate the same range of structures for ‘without’.