Assignment 3

Lectures 05–07

Due on February 8, 2024

Exercise 1 (20 points)

Please explain what kind of functions fall under the following semantic types:

(1) a. $\langle e , t \rangle$
b. $\langle e , \langle e , t \rangle \rangle$
c. $\langle \langle e , t \rangle , e \rangle$
d. $\langle \langle e , t \rangle , \langle e , t \rangle$
e. $\langle \langle e , t \rangle , \langle \langle e , t \rangle , t \rangle \rangle$

In your answers to this exercise, it might be useful to use indentation to improve readability. For example, the hypothetical type $\langle x , \langle y , z \rangle \rangle$ might be:

functions that map
x to functions that map
y to z

Exercise 2 (50 points)

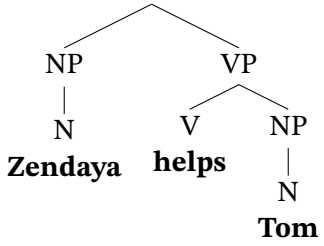
Please compute the truth conditions of the following sentence.

(2) Zendaya helps Tom.

In order to do this, you will need to do the following:

A. Provide lexical entries stipulating the extensions of the lexical items.

B. Using your lexical entries from Part A and our rules of composition, provide a step-by-step proof of the following truth-conditional statement:

(3) “  ” is *T iff* Zendaya helps Tom.

Your answer should have the structure of the proofs presented in the lecture notes. Be sure to include any subproofs as necessary.

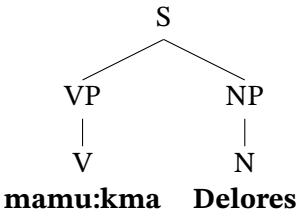
Exercise 3 (30 points)

The language Nuu-chah-nulth (Wakashan; British Columbia) is a Verb-Initial language. That is, the verb appears as the first word in a sentence, as shown below:

(4) mamu:kma Delores
works Delores
"Delores is working."

Assume that such sentences have the following structure:

(5)

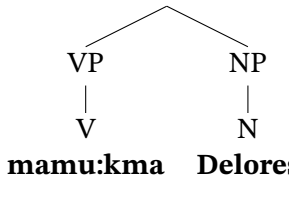


Let us also assume the following lexical entries:

(6) a. $[\![\text{Delores}]\!] = \text{Delores}$
b. $[\![\text{mamu:kma}]\!] = f : D_e \rightarrow D_t$
for every $x \in D_e$, $f(x) = T$ *iff* x is working

Given the translation of (4), the following truth-conditional statement seems to be accurate:

(7) " " is T *iff* Delores is working.



With these things in mind, please explain whether our rules of composition are able to derive the truth-conditional statement in (7). If so, please provide a step-by-step proof for them. If not, please explain why not.