Exercises due on: Tuesday, June 27, 10 AM (before class)

Semantic Theory 2017: Exercise sheet 6

Exercise 1

Consider the following discourses:

(1) Robin is either in love with Ted, or with Barney.

(2) Barney does not seduce every girl.

(3) Ted meets a girl. If she forgets her umbrella, he doesn't return it.

a. Give DRS representations of these discourses.

b. Determine for each DRS which discourse referents are available for anaphoric reference (i.e., from a subsequent sentence).

c. Give the truth-conditions for the resulting representations, based on the model-theoretic interpretation of DRSs using verifying embeddings.

Exercise 2

2.1 Formulate the lambda-DRSs of the following lexical items using PDRT-SANDBOX. Provide the lambda-DRS itself, as well as the internal representation from PDRT-SANDBOX (you can just send them to me in a file by email).

(i) to like :: $\langle e, \langle e, t\rangle\rangle$

(ii) no :: $\langle\langle e, t\rangle, \langle\langle e, t\rangle, t\rangle\rangle$

(iii) because :: $\langle t, \langle t, t\rangle\rangle$

2.2 Derive the representation of the following sentence using the lambda-DRSs defined above—see the slides for the lambda-DRSs of names, one-place predicates, and pronouns. Show the relevant beta-reduction steps. (Tip: you can use your lambda-terms in PDRT-SANDBOX to verify your solution!)

(4) Ted is sad because no girl likes him.

Exercise 3

PDRT-SANDBOX incorporates the function `isFOLDRS` (`DRS -> Bool`), which can be used as a constraint on the translation from DRSs to FOL formulas (using `drsToFOL`). Try to find out which property or properties of DRSs are described by this function, and explain why this would be a requirement for translating DRSs to FOL formulas.