Semantic Theory 2015: Exercise sheet 5

Exercise 1

Sentences (1) and (2) can be represented as (1') and (2').

(1) Two hobbits travelled.

(1') $\exists^2 x(\text{hobbit'}(x) \wedge \text{travel'}(x))$

(2) Two hobbits gathered.

(2') $\exists X(\text{hobbit'}(X) \wedge \text{gather'}(X) \wedge \text{card}(X) = 2)$

The representations in (1') and (2') use "$\exists^2 x$" and "card$(X) = 2$" as abbreviations. These expressions are not part of our logical representation language, but can be defined in the language. Give the definitions for these expressions, and reformulate (1') and (2') in their properly expanded versions.

Exercise 2

2.1 Translate the two following sentences into our logic of mass terms. For simplicity, interpret "the One Ring" and "the Flame of Mount Doom" as type e expressions.

(3) The One Ring is made of gold and the Flame of Mount Doom.

(4) The One Ring is powerful, but the gold in the ring is not.

2.2 Compute the truth conditions for both representations.