

7.1 Sentence (1a) is syntactically ambiguous between the two readings indicated in (1b) and (1c), due to the notorious “modifier attachment ambiguity.” The syntactic ambiguity induces a semantic ambiguity.

(1) a. Mary called a friend in Munich

b. [S [S [S Mary [VP called [NP a friend ] ] ] [PP in Munich ] ] PAST]

c. [S [S Mary [VP called [NP a [N' friend [PP in Munich ] ] ] ] ] PAST]

(a) Represent the readings of the formulas as predicate-logic formulas, using an event-semantic analysis of the verb call, as it has been introduced in the lecture, and give informal paraphrases of the two readings.

(b) Derive semantic representations for (1b) and (1c) compositionally, and simplify using beta-reduction. Assume the following translations for the lexical expressions in (1):

Mary  $\Rightarrow$  mary' : e

Munich  $\Rightarrow$  munich' : e

call(ed)  $\Rightarrow$   $\lambda Q \lambda x \lambda e [Q(\lambda y. \text{call}'(y)(x)(e))] : \langle \langle (e,t), t \rangle, \langle e, \langle e,t \rangle \rangle \rangle$

friend  $\Rightarrow$  friend' :  $\langle e, t \rangle$

in  $\Rightarrow$   $\lambda z \lambda F \lambda v [in'(z)(v) \wedge F(v)] : \langle e, \langle \langle e,t \rangle, \langle e,t \rangle \rangle \rangle$

PAST  $\Rightarrow$   $\lambda E \exists e [E(e) \wedge e < e_u] : \langle \langle e,t \rangle, t \rangle$

The translation of called is in the type-raised format introduced in the sentence semantics part of the course. The indefinite article is to be translated as usual. The  $\lambda$ -variables F and v in the translation of the preposition are meant to match standard predicates/entities as well as event predicates/entities.

7.2 As discussed in the lecture, the simple representation of transitive verbs (type  $\langle e, \langle e,t \rangle \rangle$ ) leads to a type conflict, and must be replaced by a type-raised analysis (type  $\langle \langle \langle e,t \rangle, t \rangle, \langle e,t \rangle \rangle$ ) like the one for “called” in 7.1. In event semantics, we get a similar problem for the subject position of all verbs: The type for walk changes from  $\langle e,t \rangle$  to  $\langle e, \langle e,t \rangle \rangle$ , and a quantified NP of type  $\langle \langle e,t \rangle, t \rangle$  is not directly applicable.

(a) Give representations with type-raised subject positions for the intransitive verb “walk” and the transitive verb “call.” Note: The idea is that the verb is applied to the subject during semantics construction.

(b) Apply the modified semantics of walk to compositionally derive the meaning of Sentence (2a) with syntactic representation (2b).

(2) a. A man is walking

[S [S [NP a man] [VP walk] ] PRES]

To be turned in Tuesday, 2013-07-09