1. Non-verbal predicates (nouns, adjectives, prepositions)

Many nouns and adjectives can be treated in the same way as intransitive verbs.

\[
[[\text{dog}]] = [\lambda x : x \in D_e . \text{a dog}] = [\lambda x . \text{a dog}]
\]

“the function that maps every \( x \in D_e \) to 1 if \( x \) is a dog and to 0 otherwise”

\[
[[\text{blue}]] = [\lambda x : x \in D_e . \text{is blue}] = [\lambda x . \text{is blue}]
\]

Transitive nouns, adjectives, and prepositions are analogous to transitive verbs

\[
[[\text{fond}]] = [\lambda x . [\lambda y . \text{y fond of } x]]
\]

\[
[[\text{part}]] = [\lambda x . [\lambda y . \text{y part of } x]]
\]

\[
[[\text{in}]] = [\lambda x . [\lambda y . \text{y in } x]]
\]

2. Predicates as restrictive modifiers in NP

(1) a part [PP of Asia] (argument)
(2) a city [PP in Texas] (restrictive modifier/adjunct)
(3) Bruce, [PP from New Jersey] (nonrestrictive modifier)

\[
[[\text{city in Texas}]] = [[\text{city}]] \cap [[\text{in Texas}]] \quad \text{intersective modifier}
\]

Predicative Modification (PM)

If \( \alpha \) is a branching node with daughters \{ \beta, \gamma \}, and \([ \beta ]\) and \([ \gamma ]\) are both in \( D_{<e,t>} \) (both are functions of type \( <e,t> \)), then \([ \alpha ] = [\lambda x \in D_e . [ [ \beta ](x) = [ [ \gamma ](x) = 1] \]

\[
[[\text{NP}]] = [\lambda x . [ [\text{NP}](x) = [ [\text{PP}](x) = 1 ]
\]

\[
= [\lambda x . [ [\text{NP}](x) = [ [\text{PP}](x) = 1 ]
\]

3. Non-intersective modifiers

(4) Felix is a gray cat
   = Felix is gray and Felix is a cat

(5) Felix is a gray cat entails Felix is a gray animal

(6) Fievel is a big mouse
   =? Fievel is big and Fievel is a mouse

(7) Fievel is a big mouse entails? Fievel is a big animal
\[[\text{big}]\] = \[\lambda f : f \in D_{e,t} \cdot [\lambda x : x \in D_e \cdot f(x) = 1 \text{ and the size of } x \text{ is big}]\]

\[[\text{big}]\] = \[\lambda f : f \in D_{e,t} \cdot [\lambda x : x \in D_e \cdot f(x) = 1 \text{ and the size of } x \text{ is above the average size of the elements of } \{y : f(y) = 1\}]\]

\[[\text{gray}]\] = \[\lambda f : f \in D_{e,t} \cdot [\lambda x : x \in D_e \cdot f(x) = 1 \text{ and } x \text{ is gray}]\]

\[[\text{small}]\] = \[\lambda x : x \in D_e \cdot \text{the size of } x \text{ is below that of the contextually salient standard}\]

4. Definite determiners

\[[\text{the}]\] is a function applied to a predicate (a function) to yield an individual: \(f : D_{e,t} \rightarrow D_e\)

\[[\text{the}]\] applied to [[dog]] yields “the dog Rover”

\[[\text{the}]\] applied to [[president of the USA]] yields “Clinton”

Uniqueness presupposition: a definite DP presupposes that there exists a single unique individual (in the utterance context) denoted by the DP.

(8) \([\text{the}]\) = \[\lambda f : f \in D_{e,t} \& \text{there is exactly one } x \text{ s.t. } f(x) = 1 \text{. the unique } y \text{ s.t. } f(y) = 1\]

(8)’\([\text{the}]\) = \[\lambda f : f \in D_{e,t} \& \text{there is exactly one } x \in C_e \text{ s.t. } f(x) = 1 \text{.}

\text{the unique } y \in C \text{ s.t. } f(y) = 1\text{, where } C_e \text{ is a contextually salient subset of } D_e\]

(9) I will meet you at the elevator in CAS.

(10) I will meet you at the escalator in CAS.

(11) The domain of [[the]] contains just those functions \(f \in D_{e,t}\) which satisfy the condition that there is exactly one \(x\) for which \(f(x) = 1\) (in the utterance context).

(12) A partial function from A to B is a function from a subset of A to B.

(13) John is on the escalator in CAS.

(14) \(\alpha\) is uninterpretable if it can be proved from the semantics alone that \(\alpha\) is outside the domain of [[ ]].

(15) \(\alpha\) is a presupposition failure if it is a contingent matter of fact that \(\alpha\) is outside the domain of [[ ]].

Homework:

Exercise p. 66: Kaline is a [ [ [ gray cat ] in Texas ] fond of Joe ]

Exercise 1, p. 79

Exercise 2, p. 80

Readings of interest:


