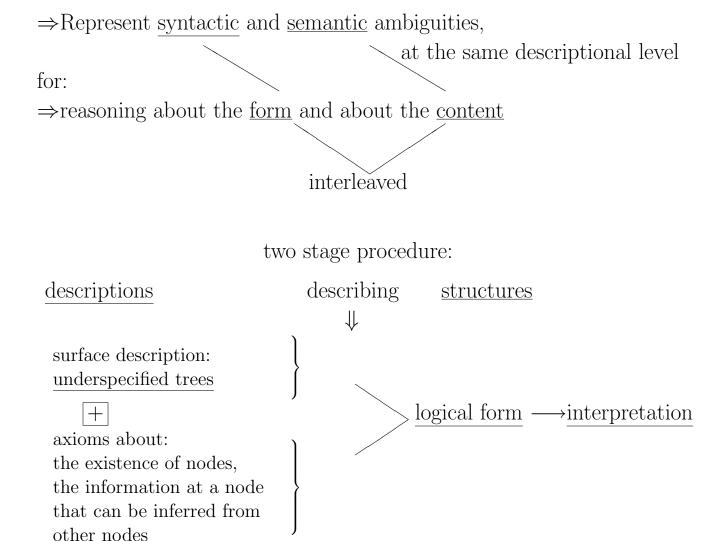
Comments on R. Muskens' Underspecified Semantics

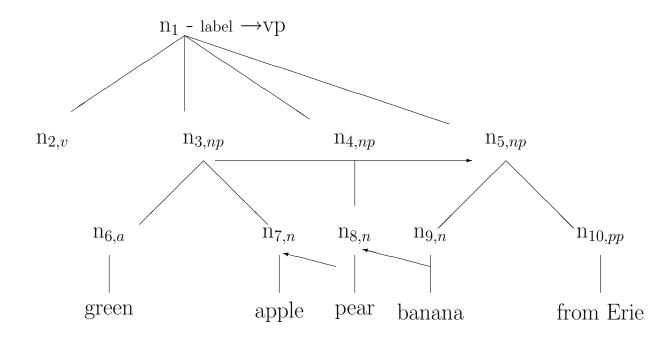
Kurt Eberle
Institute for Logic and Linguistics
IBM Deutschland Informationssysteme GmbH
Vangerowstr. 18
D-69115 Heidelberg

Motivation of the theory:

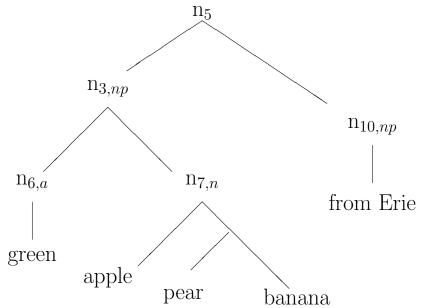


underspecified syntactic description:

They sell green apples, pears and bananas from Erie



among other things, this underspecified tree subsumes: (according to the arrow-specification)



⇒constraints can narrow down the set of possible (minimal models, i.e. (unambiguous) structures

semantic underspecification:

on top of syntactic (underspecified) description build semantic description, by adding

• semantic <u>labels</u> to nodes

 $\sigma_0 \rightarrow$ intermediate interpretation

 $\sigma \longrightarrow$ final interpretation

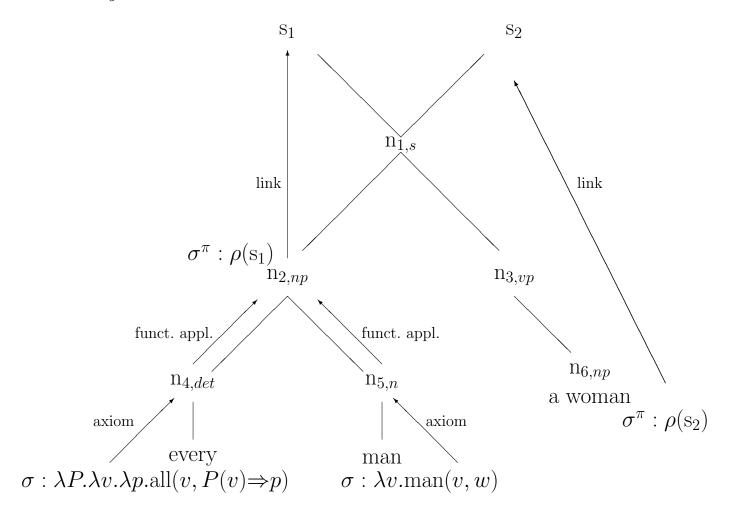
functional relations between nodes and 'meaning'

expressions of different types (over indices)

• new <u>nodes</u> (sentence nodes, assigned to (quantified) NPs)

semantic labels and nodes

Every man kissed a woman.



<u>labels:</u>

$$n_2$$
: $\sigma^{\pi}: \rho(s_1)$ — 'register' with values for indices "discourse referent"

further (inferrable) labels:

$$n_2$$
: $\sigma_0^{\mu} : \lambda v.\lambda p.all(v,man(v,w) \Rightarrow p)$

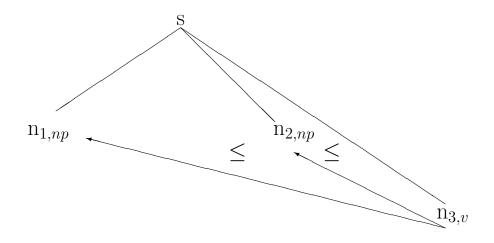
$$n_1$$
: σ : kiss $(\rho(s_1), \rho(s_2), w)$

$$s_1$$
: σ_0 : all $(\rho(s_1), man(\rho(s_1), w) \Rightarrow p)$, given $\sigma(s_1', p)$

s₂:
$$\sigma_0$$
: some $(\rho(s_2), woman(\rho(s_2), w) \Rightarrow p)$, given $\sigma(s_2', p)$ with $s_i' > s_i$

Question 1:

What is the motivation for introducing additional nodes instead of assuming a partial ordering relation over the quantifier nodes, as in UDRT-style underspecified representations?



where:

the scopal ordering relation (\leq) extends the dominance relation (\triangleright):

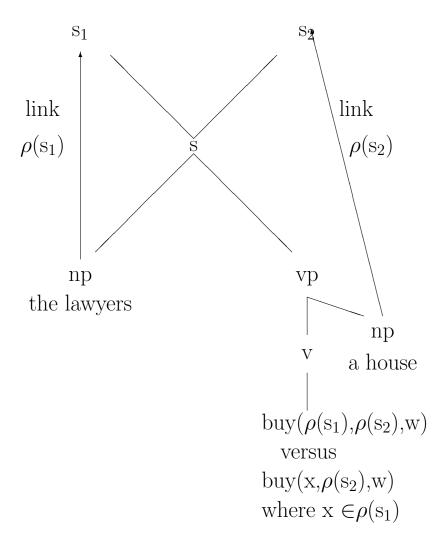
$$x \triangleright y \rightarrow x \leq y$$

Question 2:

The new (sentence) nodes provide the referents of the quantifiers (one-to-one).

What about optional distribution? (Is one referent sufficient?)

The lawyers bought a house (each).



Does the theory provide an underspecified solution which avoids the splitting into two representations (reflecting the collective and the distributive meaning of the quantifier)?

Question 3:

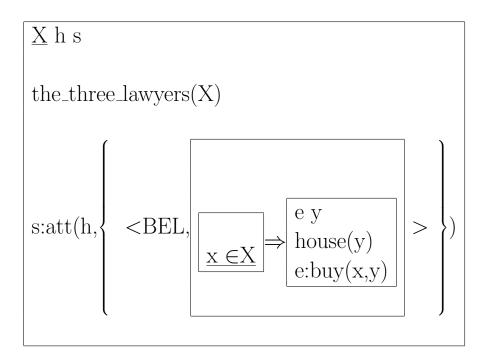
It seems that there are wide scope (de re) quantifiers with narrow scope distribution.

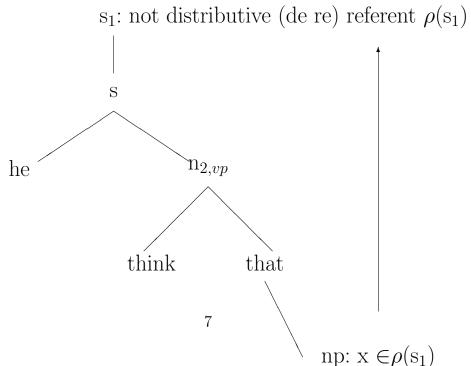
Can this be treated within the suggested theory?

In such cases, where would be introduced the referent (the referents)?

He thought that the lawyers bought a house.

DRT-representation:



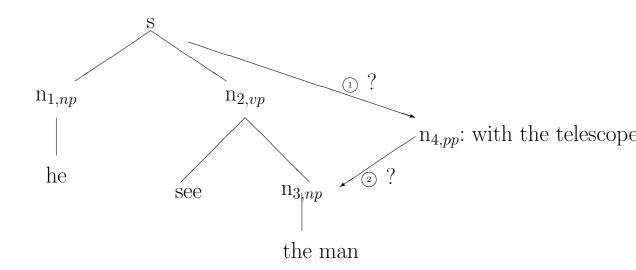


Question 4:

Does this theory allow for underspecified (semantic) representation of PP-attachment?

He saw the man with the telescope.

what is the realization of the syntactic ambiguity?



what about the (corresponding?) semantic ambiguity, in particular with respect to the identity of the external argument of the PP-representation,

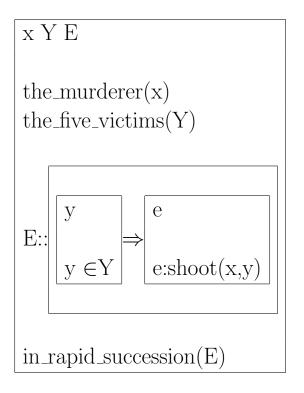
$$with ('seeing-referent', 'telescope')$$
 i.e., w.r.t. the difference between: versus
$$with ('man', 'telescope')$$

Is this, or can this be, incorporated within the S-node introduction technique?

Question 5:

In general, how can adjuncts be treated which refer to (complex) events (not to propositions)?

In rapid succession, the murderer shot the five victims.



(Should discourse referents for events and event sums be assigned to the different partial representations and, if so, could the theory be extended to handle the correct introduction and percolation of these referents?)