

Comments on Hans Kamp's
Syntax and Semantics for Russell's
'I thought your yacht was larger than it is'

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Russell's sentence

- (1) I thought your yacht was longer than it is.
(The owner replied, “No, my yacht is not larger than it is.”)
(Russell, 1905, 489)

von Stechow (1984): “Russell obviously assumes that (1) has the analyses (2) and (3)”:

- (2) The size x [I thought your yacht is x] is greater than
the size x [your yacht is x]
[sensible reading]
- (3) I thought the size x [your yacht is x] is greater than
the size x [your yacht is x]
[contradictory reading]

Three main approaches to the sensible reading

How to generate a sensible (not contradictory) reading?

1. Scope movement of *-er+than*-clause
doesn't work for counterfactuals
2. Scope movement of *than*-clause alone or its complement
Kamp's paper fits here
3. "Double-indexing" with an ACTUALLY operator
de re without scope movement

Phenomena

Counterfactuals (Postal, 1974; Williams, 1977; von Stechow, 1984)

(4) If Mary smoked less than she does, she would be healthier.

Intermediate scope (von Stechow, 1984; Kennedy, 1995)

(5) Mona had a dream in which a novelist thought he was more clever than he was.

Binding into the standard clause

(6) We expect that every schoolboy thinks he is brighter than he is.
(Hoeksema, 1984, 104)

(7) If at least one member of the team were faster than he is, we could win the game. (Heim, 1985, 14)

Intensional nouns, sentential subjects (Horn, 1981; von Stechow, 1984)

(8) Max maintained the illusion that the job was less boring than it was.

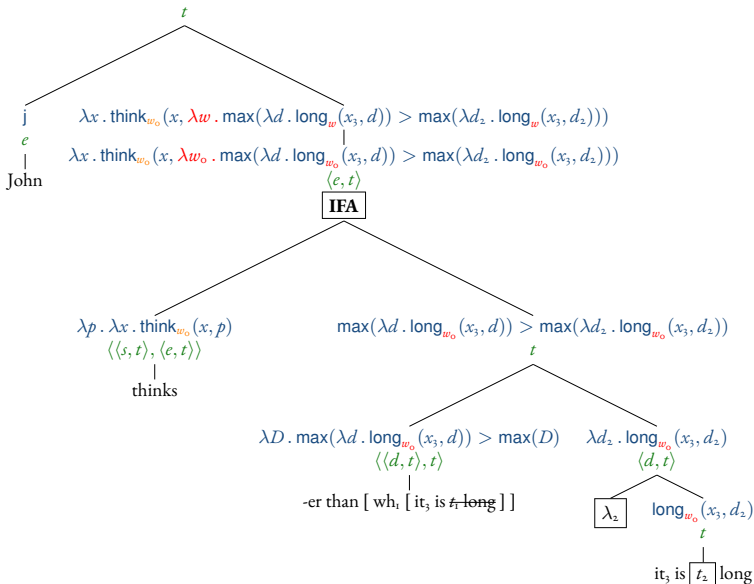
Degree operators can take scope (Heim, 2001)

- (9) John needs to drive the fastest.
- a. John_{t_1} needs [t_1 -est₂ to drive t_2 fast] no speed minimum
 - b. John_{t_1} -est₂ λ_1 [needs [t_1 to drive t_2 fast]] e.g. he's farthest away

Is Russell's ambiguity a case of this? **No.**

John thinks it is longer than it is [contradictory reading]

$\text{think}_{w_o}(j, \lambda w . \max(\lambda d . \text{long}_w(x_3, d)) > \max(\lambda d_2 . \text{long}_w(x_3, d_2)))$



Translating Montague's IL to Gallin's Ty2:

- ▶ Every non-logical constant gets designated world variable w_o
- ▶ $\hat{\alpha}$ becomes $\lambda w_o . \alpha$

Semantic Composition Rules

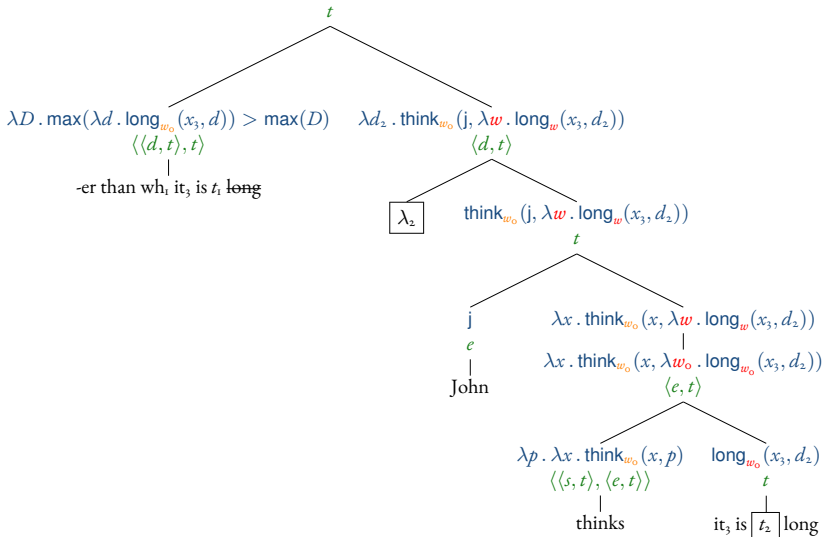
- ▶ **FA:** $\{\alpha, \beta\} \rightsquigarrow \alpha(\beta)$ α : type $\langle \sigma, \tau \rangle$, β : type σ
- ▶ **IFA:** $\{\alpha \beta\} \rightsquigarrow \alpha(\lambda w_o . \beta)$ α : type $\langle \langle s, \sigma \rangle, \tau \rangle$
- ▶ **Pred. Abs.:** $\lambda_i / wh_i \beta \rightsquigarrow \lambda u_i . \beta$
- ▶ **Pronouns/Traces:** $\alpha_i \rightsquigarrow u_i$

Assumptions about the *than*-clause

- ▶ Forms constituent with *-er* at semantic level (Bresnan, 1973; Rullmann, 1995; Heim, 2001)
contra Kennedy (1999): [[Deg [AP]] [than ...]]
- ▶ Involves comparative deletion (Bresnan, 1973, 1975)
- ▶ Contains operator-variable construction $wh_i[...t_i...]$ (Chomsky, 1977; Heim, 1985; Rullmann, 1995)
- ▶ Max operator for comparative clause (von Stechow, 1984)

John thinks it is longer than it is [sensible reading, movement of *-er* + *than*-clause]

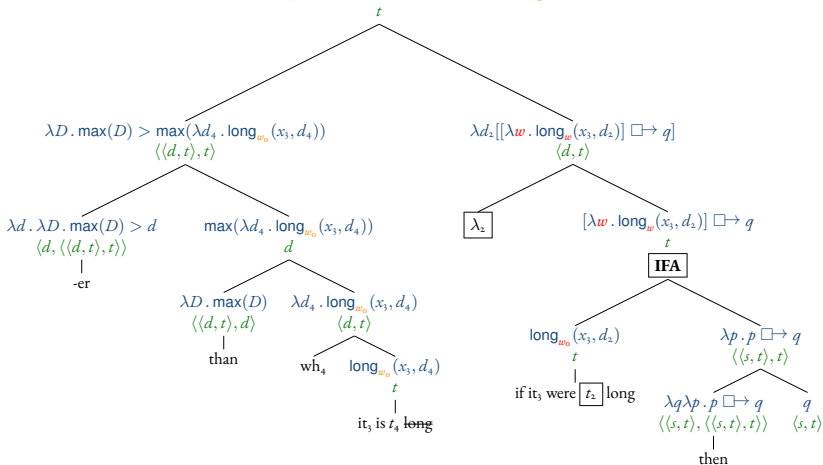
$$\max(\lambda d . \text{long}_{w_o}(x_3, d)) > \max(\lambda d_2 . \text{think}_{w_o}(j, \lambda w . \text{long}_w(x_3, d_2)))$$



Length in evaluation world differs from length in doxastic alternatives. ✓

If it were longer than it is, then ... [movement of *-er* + *than*-clause]

$$\max(\lambda d_2 [[\lambda w \cdot \text{long}_{w_0}(x_3, d_2)] \square \rightarrow q]) > \max(\lambda d_4 \cdot \text{long}_{w_0}(x_3, d_4))$$



Not correct (von Stechow, 1984): predicts *some* degree above actual necessitates the consequent; the sentence says *any* degree above actual does.

Double indexing

Heim (1985, 14):

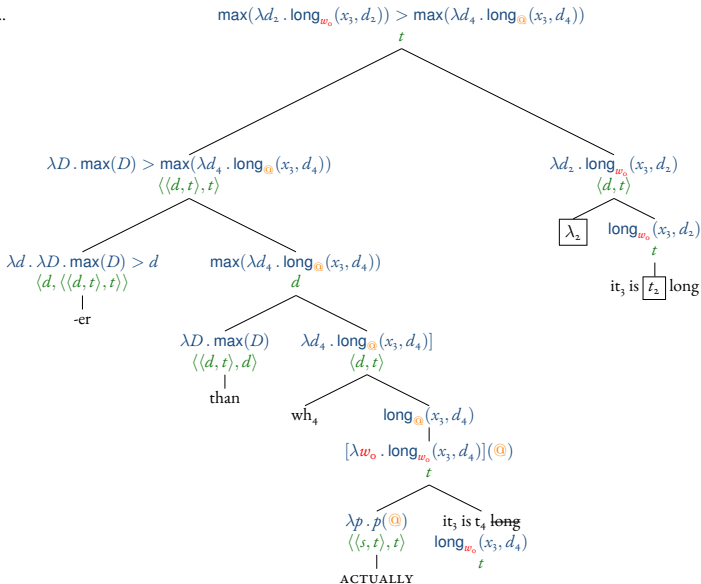
- (10) a. John thinks_{w_o} that λw [Mary is_w taller than she is_w]
(**contradictory**)
- b. John thinks_{w_o} that λw [Mary is_w taller than she is_{w_o}]
(**sensible**)

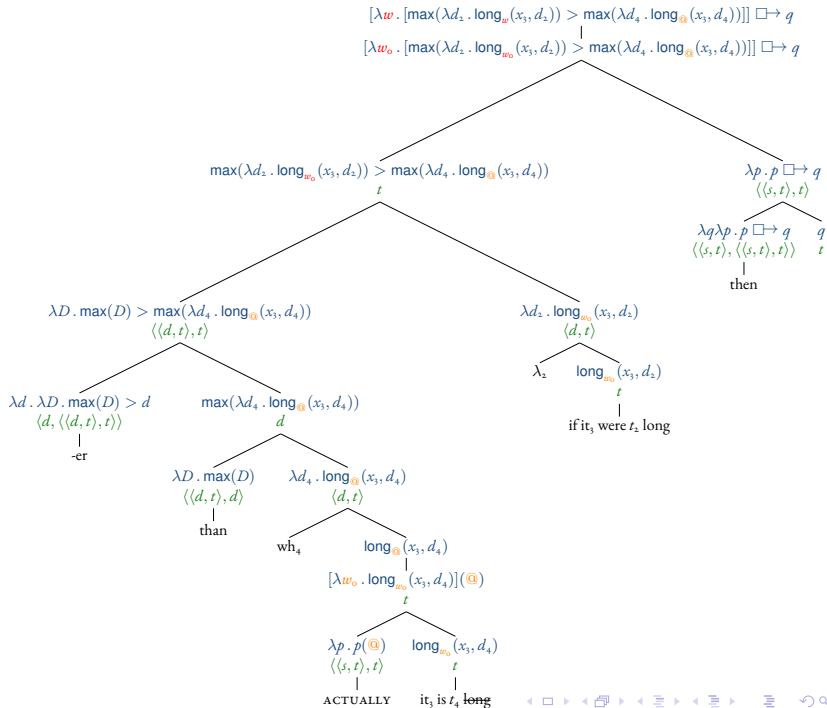
Heim (2001, 51):

We conclude with von Stechow that the Russell-ambiguity is a matter of de re or de dicto interpretation of the than-clause. There is merely a one-directional connection with DegP scope: a de dicto interpretation of the than-clause is possible only if the DegP is in the scope of the relevant intensional verb, but a de re interpretation is compatible with either wide or narrow scope.

Implementation: ACTUALLY-operator, from von Stechow's discussion of Postal (1974)

John thinks $\lambda w_0 \dots$





Von Stechow's objection and Heim's response

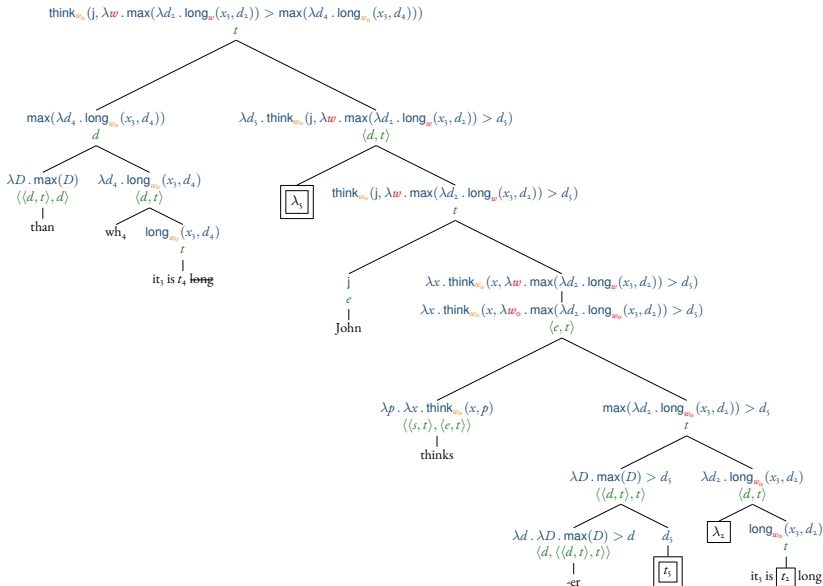
Heim (2001):

- (II) a. John thinks_{w_o}
 $\lambda w [[\text{-er than wh it is } \epsilon \text{long}_{\overline{w}}] [\text{the yacht is } t \text{ long}_w]]$
 $\forall w \in \text{Acc}(w_o) : \max(\lambda d . \text{long}_w(y, d)) > \max(\lambda d . \text{long}_{w_o}(y, d))$
- b. John thinks_{w_o}
 $\lambda w [[\text{-er than wh it is } \epsilon \text{long}_{\overline{w_o}}] [\text{the yacht is } t \text{ long}_w]]$
 $\forall w \in \text{Acc}(w_o) : \max(\lambda d . \text{long}_w(y, d)) > \max(\lambda d . \text{long}_{w_o}(y, d))$

Heim (2001), fn. 17 (responding to later von Stechow):

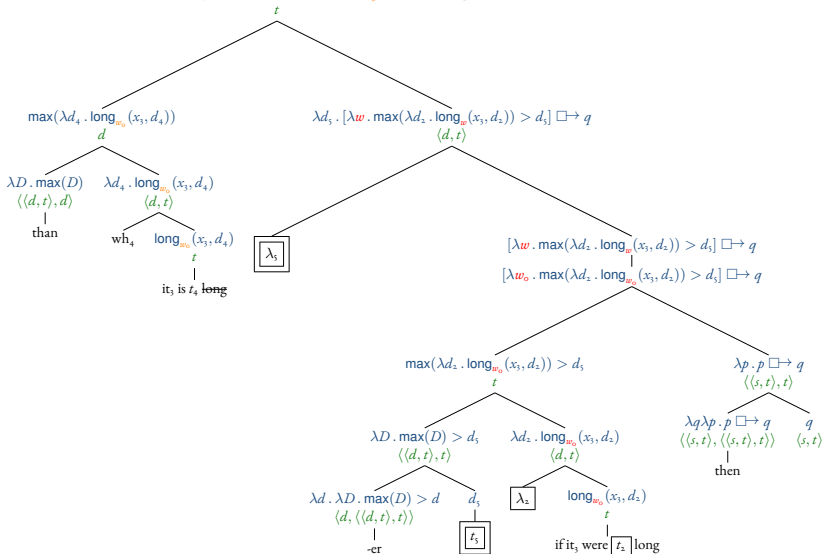
The problem [von Stechow] saw is that (b) has a comparison in the complement of think, but intuitively the thought reported by [the sentence] need not have a comparative content. I don't see the force of this objection (at least not given the semantics I am assuming here). (b) just says that in every doxastic alternative of John's, the yacht is longer than it is in the actual world. This is true if he thinks it is 14' long. Despite its form, (b) does not actually say he has a comparative thought.

John thinks that it is longer than it is [movement of *than*-clause – Works!]



If it were longer than it is, then ... [movement of *than*-clause – Works!]

$$[\lambda w . \max(\lambda d_2 . \text{long}_{w_0}(x_3, d_2)) > \max(\lambda d_4 . \text{long}_{w_0}(x_3, d_4))] \square \rightarrow q$$



Intermediate scope

Raising the *than*-clause correctly predicts intermediate scope (von Stechow, 1984):

- (12) Mona had a dream in which a novelist thought he was more clever than he was.

Mona had a dream _{w_0} in which

λw_1 [MAX λd he was d clever _{w_1}]

a novelist thought _{w_1} λw_2 λd he was more clever _{w_2} than d

The *than*-clause is scoped out of the thinking context but stays inside the dream one, picking up an intermediate world.

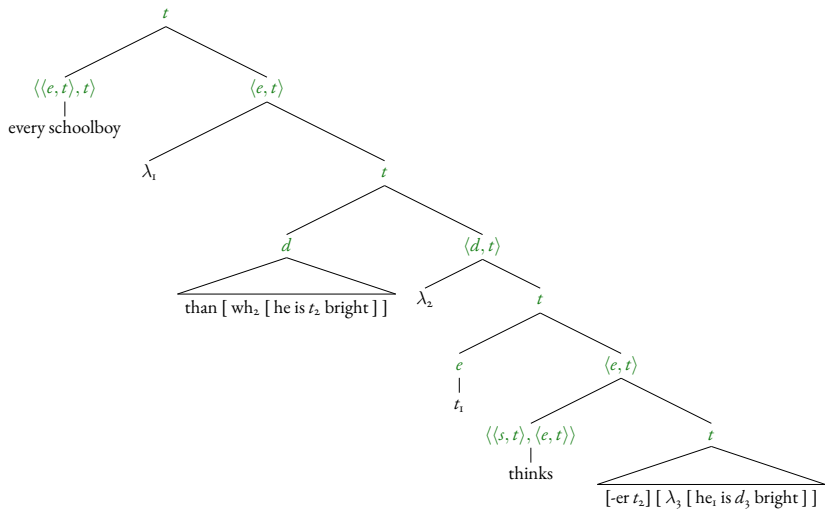
Binding into the standard clause

- (13) We expect that every schoolboy thinks he is brighter than he is.
(Hoeksema, 1984, 104)

Hoeksema (1984):

[The correct reading] can hardly be obtained by quantifying-in the comparative clause than he is, since that would mean that he cannot be bound by every schoolboy, unless that expression is quantified-in as well. Since the operator approach [e.g. with an ACTUALLY operator] does not have any difficulties with such examples, I take it that it is superior to the quantifying-in solution [i.e., raising just the standard clause].

Response: A parasitic scope configuration works for this case.



Heim's variant: scope paradox

- (I4) If at least one member of the team were faster than he is, we could win the game. (Heim, 1985, 14)

If we want *at least one member* inside the antecedent, we can't scope the *than*-clause outside the whole conditional.

Scope paradox. This appears to be a genuine problem for *than*-clause movement.

Additional potential problems

Intensional nouns:

- (15) Max maintained the illusion that the job was less boring than it was.

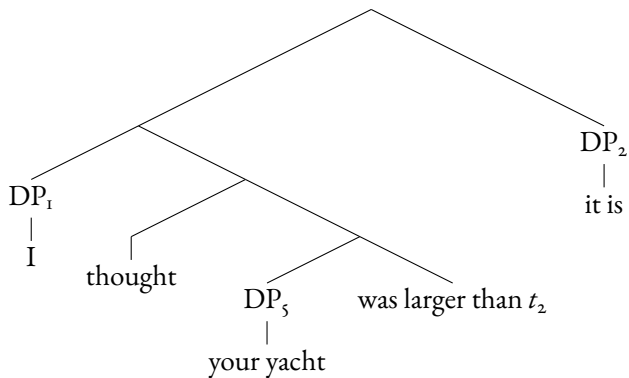
How would you scope the *than*-clause over *illusion* in *maintain the illusion that ...*?

Similarly for sentential subjects.

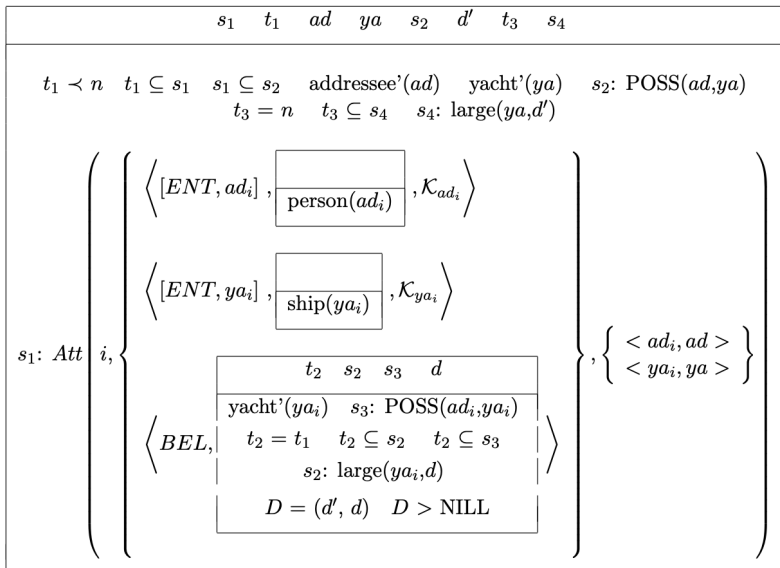
- (16) That lead weighs more than it does was assumed by our class in order to simplify calculations.

Kamp's LF structure

(17)



Kamp's (24.b):



In Kamp's words

*The link between DP_2 and its trace t_2 ... triggers the lowering of the degree dref d' that DP_2 introduces into the Universe of the main DRS ... into the left bound position of the interval D that is part of the content representation of the belief. [**How does this work?**]*

Inserting d' into this position renders this belief content into a singular proposition about the degree d' (24.b) involves an attitude with singular propositional content which is expressed without the mediation of an ER.

That comparatives too can be used to specify attitude contents in terms not available to the attributee may not have been observed before.

I hear echoes of Heim's footnote here.

Questions about *de re* and entity representations

- ▶ What is an attitude *de re*? Is it always in relation to a particular *res* (i.e., an entity representation)?
- ▶ If not, is *de re* a misnomer?
- ▶ If an attitude can be *de re* without an entity representation, then can we do without them?
- ▶ Conversely, in the Ponce de Leon example, why isn't the fountain in Florida among the entity representations for the mental state?
- ▶ What is a comparative thought? Is the guest having one about the yacht? If not, how do we square that with the form of the belief-DRS?

Summary

In favor of *than*-clause movement, vs. ACTUALLY operator:

- ✓ Predicts availability of intermediate scope

In favor of proposed syntax:

- ✓ Cannot generate the incorrect weak reading for counterfactuals
- ✓ May also explain *#a taller man than my mother, the most expensive lunch option* (just my conjecture)

But:

- × Heim's counterfactual binding variant: scope paradox
- × Intensional nouns and sentential subjects may be problematic

Do we need both *than*-clause movement *and* an ACTUALLY operator?

References I

- Bresnan, Joan. 1973. Syntax of the comparative clause construction in English. *Linguistic Inquiry* 4(3). 275–343.
- Bresnan, Joan. 1975. Comparative deletion and constraints on transformations. *Linguistic Analysis* 1(1). 25–74.
- Chomsky, Noam. 1977. On *wh*-movement. In Peter Culicover, Thomas Wasow & Adrian Akmajian (eds.), *Formal syntax*, 71–132. New York: Academic Press.
- Heim, Irene. 1985. Notes on comparatives and related matters. Ms., Semantics Archive.
- Heim, Irene. 2001. Degree operators and scope. In Caroline Féry & Wolfgang Sternefeld (eds.), *Audiatur Vox Sapientiae: A Festschrift for Arnim von Stechow*, 214–239. Berlin: Akademie-Verlag: CLC Publications.
- Hoeksema, Jack. 1984. To be continued: The story of the comparative. *Journal of Semantics* 3. 93–107.

References II

- Horn, Laurence R. 1981. A pragmatic approach to certain ambiguities. *Linguistics and Philosophy* 4. 321–358.
- Kennedy, Christopher. 1995. Comparatives, indices, and scope. In L. Gabriele & R. Westmoreland (eds.), *Proceedings of FLSM VI*, Bloomington: Indiana University Linguistics Club.
- Kennedy, Christopher. 1999. *Projecting the adjective: The syntax and semantics of gradability and comparison*. New York: Garland.
- Postal, Paul M. 1974. On certain ambiguities. *Linguistic Inquiry* 5. 367–425.
- Rullmann, Hotze. 1995. *Maximality in the semantics of wh-constructions*. Amherst, Mass.: University of Massachusetts at Amherst dissertation.
- Russell, Bertrand. 1905. On denoting. *Mind* 14. 479–93.
- von Stechow, Arnim. 1984. Comparing semantic theories of comparison. *Journal of Semantics* 3. 1–77.
- Williams, Edwin. 1977. Discourse and logical form. *Linguistic Inquiry* 8(1). 101–139.