

# Negative Indefinites and the Degree Equative: A Solution to Penka (2011)'s Puzzle

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**Abstract.** Degree extraction across a negation in the standard clause of a comparison construction is well documented to result in ungrammaticality (Rullmann 1995; Fox & Hackl 2006). Negative Indefinites in German appear to be an exception to this generalization when they occur in the complement clause of an equative. When they do, they generate a reading that cannot be derived by traditional scope-taking mechanisms (Penka 2011). In this talk, we propose a solution to this puzzling behavior adopting a decompositional approach to Negative Indefinites (e.g. Jacobs 1980, 1982; Kratzer 1995), under which they consist of two independent operators at Logical Form, negation and an existential quantifier. We suggest that in the case of the equative, negation takes scope over an exhaustification operator, while the existential is interpreted within the complement clause. Under this analysis, Penka (2011)'s puzzle is a result of an interesting interaction at the interface between semantics and pragmatics, which in turn provides additional support for a grammatical view of scalar implicatures (e.g. Chierchia, Fox & Spector 2012).

## 1 Introduction

### The topic of today's talk:

a long-standing puzzle in the semantics of comparison constructions,  
the interpretation of Negative Indefinites in the complement clause of German degree equatives  
(von Stechow 1984b, Penka 2011)

- (1) *Helena ist so schön [wie keine andere Frau].* – degree equative –  
Helena is so beautiful how no other woman  
'Helena is more beautiful than any other woman.' (!)

Why this particular interpretation? Why not ungrammatical?

(Like other negation. Like in the comparative. And like in English, I believe.)

- (2) \**Anne ist so groß [wie Peter nicht].* – Negative Island Effect (NIE) –  
Ann is so tall how Pete not  
Like English: \**Ann is as tall as Pete isn't.*
- (3) \**Helena ist schöner [als keine andere Frau].* – comparative –  
Helena is beautiful+er than no other woman  
Like English: \**Helena is more beautiful than no other woman.*

Negative Island Effects, the generalization:

No degree extraction across a negation.

(e.g. Rizzi 1990, Rullmann 1995, Fox & Hackl 2006)

\*[wh [<sub><d,t></sub> λ1, d [neg. [<sub>t<sub>1,d</sub></sub> (gradable adjective)]]]]  
↑ \_\_\_\_\_ |

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## The plot for today's talk:

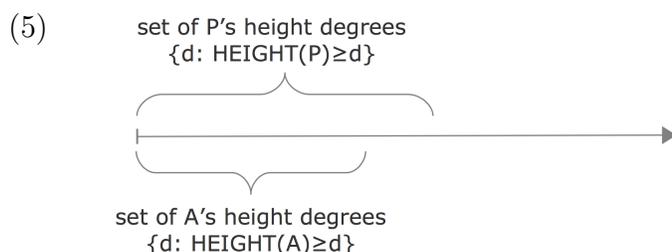
1. Take a step back and look at the syntax of the comparative clause and the semantics of the comparative and the equative.
2. Re-visit the behavior of negation in the comparative clause and a standard explanation. Then, re-visit the puzzle from Negative Indefinites.
3. Introduce my proposal, under which the decomposition of the Negative Indefinite interacts with the generation of scalar implicatures.
4. Discuss some repercussions of the proposal and conclude.

## 2 Some Background

### 2.1 The Syntax of the Comparative Clause and the Semantics of the Degree

“When we make comparisons, we have in mind points on a scale.” (Cresswell 1976, p. 266)

- (4) *Peter ist größer [als (wie) Anne groß-ist].* – comparative –  
Pete is taller than how Ann tall is  
'Pete is taller than Ann.'



Some core ingredients of **degree semantics**:

(von Stechow (1984a,b), Heim (1985, 2001), Beck (2011))

- (i) a new semantic type  $d$  for degrees, abstract entities on scales, which
- (ii) are introduced into the semantics by gradable predicates, which express relations between degrees and an individual<sup>2</sup>, and
- (iii) a set of operators which bind these degrees by quantifying over them, among them a clausal comparative operator and an equative operator.<sup>3</sup>

<sup>2</sup> There are a number of different approaches to how degrees enter the grammar. Under the most prominent alternative to the semantics of gradable adjectives (e.g. Bartsch & Vennemann 1972; Kennedy & McNally 1999; Svenonius & Kennedy 2006), these denote measure functions of type  $\langle e, d \rangle$ , rather than relations of type  $\langle d, \langle e, t \rangle \rangle$ . For our plot, nothing hinges on the choice between the two semantic types, though.

<sup>3</sup> See Beck (2011) as well as Hohaus (2015) for overviews. For the quantificational analysis of the comparative, see Heim (2001) and Stateva (2002), among many others. See Heim (1985) and Kennedy (1997) for a non-quantificational semantics for degree operators.



Entailment relation:  $A \subset P \rightarrow A \subseteq P$

(See also Horn (1972, pp. 51-52).)

**Scalar implicature** of the degree equative:  $\neg(A \subset P)$ . Thus,  $A = P$ .

(See also Rett (2015).)

This exactly-implicature can be canceled or even be explicitly asserted:

(12) *Nadine ist so groß wie Anna. Sie ist sogar noch größer.*  
 Nadine is so tall how Anna she is even even taller  
 ‘Nadine is as tall as Anna. In fact, she is even taller.’

(13) *Nadine ist so groß wie Anna, aber nicht größer.*  
 Nadine is so tall how Anna but not taller  
 ‘Nadine is as tall as Anna, but she is not taller than her.’

### Taking stock.

The standard quantificational approach to degree operators:

- Not without challenges.  
 (See e.g. von Stechow (1984a), Schwarzschild & Wilkinson (2002), Rett (2010), and Penka (2011))
- Attractive as it provides us with a systematic view of the semantics of degree operators (as generalized degree quantifiers).
- Captures the close relation between the comparative and the equative, which extends beyond the entailment relation:

## 2.2 Negative Island Effects

Descriptively, lambda-abstraction over degrees does not appear possible across negation.

(e.g. Rizzi 1990, Rullmann 1995, Fox & Hackl 2006, Hofstetter 2012)

\*[wh [<sub><d,t></sub> λ1, d [neg. [t<sub>1,d</sub> (gradable adjective)]]]]  
 ↑ \_\_\_\_\_ |

(14) \**I wonder [how old Ann isn't].*

– degree question –

(15) a. \**Peter ist älter [als Anne nicht].*

Pete is older than Ann not

Like English: \**Pete is older than Ann isn't.*

b. \**Peter ist so alt [wie Anne nicht].*

Pete is so old how Ann not

Like English: \**Pete is as old as Ann isn't.*

$\{d : \text{AGE}(A) < d\} \subseteq \{d : \text{AGE}(P) \geq d\}$

A semantic explanation for NIEs:

The type of set denoted by the comparative clause is the source of the infelicity.

$\llbracket [\text{wh} [\text{how} \lambda 1, d [\text{Ann} [\text{not} [t_{1,d} \text{old}]]]] \rrbracket^g = \{d : \neg(\text{AGE}(A) \geq d)\} = \{d : \text{AGE}(A) < d\}$

If  $\text{AGE}(A) = 33 \text{ yrs}$ , then  $\{d : \text{AGE}(A) < d\} = \{34 \text{ yrs}; 35 \text{ yrs}; 36 \text{ yrs}; \dots\}$ , an infinite set.

This set can never be a subset or equal to the finite set of degrees to which Peter is old.

**Aside #1:** The effect does not arise if negation is low and targets only the verb.  
 Natural if uttered by a frustrated teacher at some point during the term.  
 Denotation of the complement clause is a finite set, though:  
 $\{d : \text{CARD}(\text{days of school that P attended } (\neq \text{ didn't miss})) \geq d\}$ .

- (16) *Peter hat jetzt so viele Tage gefehlt [wie er nicht gefehlt hat].*  
 Peter has now so many days missed how he not missed has  
 ‘Peter has now missed as many days of class as he hasn’t missed.’

**Aside #2:** Contextual domain restriction is available as a rescue strategy to lift the NIE.  
 Context makes available three years as an upper limit of the age scale.  
 The scalar particle *noch* (‘still’) is anaphoric to this degree.

- (17) a. Context: Sammy is really looking forward to his third birthday next week.  
 Tine just celebrated her third birthday.  
 b. *Tine ist jetzt so alt wie Sammy noch nicht ist.*  
 Tine is now so old how Sammy still not is  
 ‘Tine has now reached an age that Sammy has not yet reached.’

### 3 The Puzzle Revisited

The puzzle from German:

Negative indefinites only give rise to NIEs with the comparative, but not with degree equatives.  
 Von Stechow (1984b, p. 187, no. (17)) and Penka (2011, pp. 73-75)

- (1) *Helena ist so schön [wie keine andere Frau].*  
 Helena is so beautiful how no other woman  
 ‘Helena is more beautiful than any other woman.’  
 (3) \**Helena ist schöner [als keine andere Frau].*  
 Helena is beautiful.er than no other woman  
 ‘Helena is more beautiful than no other woman.’

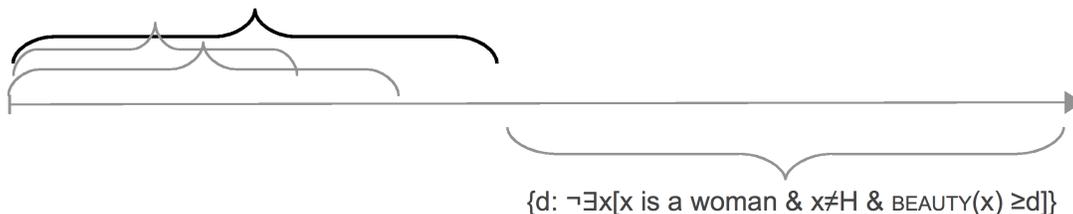
“...under the standard analysis, which parallels that of comparatives, it is not possible to derive the correct interpretation for a sentence with an NI in the complement.” (Penka 2011, p. 74)

#### Why?

- (18) Interpreting the Negative Indefinite (NI) within the complement clause:

$\{d : \neg\exists x [\text{woman}(x) \ \& \ x \neq H \ \& \ \text{BEAUTY}(x) \geq d]\}$       *Infinite set! Would trigger NIE.*

set of beauty degrees across women (w/o Helena)  
 = set of beauty degrees of the most beautiful woman  
 $\{d : \exists x [x \text{ is a woman} \ \& \ x \neq H \ \& \ \text{BEAUTY}(x) \geq d]\}$



- (19) Scoping the NI outside of the complement clause:  
 $\llbracket (1) \rrbracket = 1$  iff  $\neg \exists x [\text{woman}(x) \ \& \ x \neq H \ \& \ \{d : \text{BEAUTY}(x) \geq d\} \subseteq \{d : \text{BEAUTY}(H) \geq d\}]$   
 ‘There is no woman whom Helena equals or surpasses in beauty.’  
*Helena the least beautiful woman!*

Independently problematic:

Complement clause, essentially degree relative clause, might be an island.

\* $\llbracket [\textit{Which moat}]_1 \textit{ is the drawbridge longer [than } t_{1,e} \textit{ is wide}] \rrbracket?$

Maybe adopting a more sophisticated analysis of German Negative Indefinites will work?

- (20) *Bei der Operation muss kein Anästhesist anwesend sein.*  
 at the operation must no anesthesiologist present be  
 (Penka 2012, p. 517, no. (2)-(3))
- (21) a. neg.  $\gg$  modal  $\gg$   $\exists$  (split scope): *Prominent reading!*  
 ‘It is not required that an anesthesiologist is present during the operation.’  
 b. modal  $\gg$  neg.  $\gg$   $\exists$ :  
 ‘It is required that no anesthesiologist be present during the operation.’  
 c. neg.  $\gg$   $\exists$   $\gg$  modal:  
 ‘No anesthesiologist is required to be present during the operation.’
- (22) Decomposing the NI into sentential negation and an existential quantifier:  
 (Jacobs (1980, 1982), Kratzer (1995), Penka (2011, 2012))  
 $\llbracket (1) \rrbracket = 1$  iff  $\neg \{d : \exists x [\text{woman}(x) \ \& \ x \neq H \ \& \ \text{BEAUTY}(x) \geq d]\} \subseteq \{d : \text{BEAUTY}(H) \geq d\}$   
 iff  $\{d : \text{BEAUTY}(H) \geq d\} \subset \{d : \exists x [\text{woman}(x) \ \& \ x \neq H \ \& \ \text{BEAUTY}(x) \geq d]\}$   
 ‘Helena’s beauty is less than that of the most beautiful other woman.’

Maybe our analysis of the German equative is not quite right, then?

(Doris Penka, recent unpublished work)

## 4 The Proposal

**In a nutshell:** We also adopt a decompositional approach to Negative Indefinites, but suggest that in the case of the equative, negation takes scope over an exhaustivity operator that generates the exactly-implicature, while the existential is interpreted within the complement clause.

Let’s take a step back.

### 4.1 Deriving the Scalar Implicature

How exactly does the exactly-reading of the degree equative come about?

- (9) *Susanne ist so groß [wie Anne ~~groß~~ ist].*  $A \subseteq S$   
 Susan is so tall how Ann tall is  
 ‘Susan is as tall as Ann.’

The intuitive reasoning behind the exactly-reading:

The comparative operator  $\subset$  competes with the equative operator  $\subseteq$ .

The speaker used  $\subseteq$  and not  $\subset$ , therefore  $\neg \subset$ . If  $\neg(A \subset S)$ , then  $A = S$ .

Deriving the scalar implicature at Logical Form with the help of an exhaustification operator, an exclusive focus-evaluating operator modified from Beck (2016, p. 23, fn. 4)<sup>4</sup>:

(see e.g. Chierchia, Fox & Spector 2012)

$$(23) \quad [\text{EXH} [\langle s, t \rangle \lambda 0, s \text{ [DegP } so_{\text{alt}} [\lambda 1, d \text{ [Anna } t_{1,d}\text{-tall}_{w_0,s}]]] [\lambda 2, d \text{ [Nadine } t_{2,d}\text{-tall}_{w_0,s}]]]]]$$

$$(24) \quad \begin{aligned} \llbracket \text{EXH}(\phi) \rrbracket_{\text{ord}}(w) &= 1 \text{ iff } \forall q \in \llbracket \phi \rrbracket_{\text{alt}} \& \ q \neq \llbracket \phi \rrbracket_{\text{ord}} : q(w) = 0 \\ \llbracket \text{EXH}(\phi) \rrbracket_{\text{ord}}(w) &\text{ is defined iff } \llbracket \phi \rrbracket_{\text{ord}}(w) = 1 \end{aligned}$$

Assume that the relevant alternative set contains only the comparative and the equative:

$$(25) \quad \begin{aligned} \llbracket so \text{ ('as')} \rrbracket_{\text{ord}} &= \lambda D'_{\langle d, t \rangle} \cdot \lambda D_{\langle d, t \rangle} \cdot D' \subseteq D \\ \llbracket so \text{ ('as')} \rrbracket_{\text{alt}} &= \{[\lambda D'_{\langle d, t \rangle} \cdot \lambda D_{\langle d, t \rangle} \cdot D' \subseteq D]; [\lambda D'_{\langle d, t \rangle} \cdot \lambda D_{\langle d, t \rangle} \cdot D' \subset D]\}. \end{aligned}$$

The derivation of the exactly-implicature then schematically proceeds as follows:

$$(26) \quad \begin{aligned} \text{definedness conditions: } & A \subseteq S \\ \text{truth conditions: } & \text{EXH}(A \subseteq S) \text{ iff } \neg(A \subset S) \text{ iff } A \not\subset S \qquad \Rightarrow A = S \end{aligned}$$

In more detail:

$$(27) \quad \begin{aligned} \text{ALT} &= \{[\lambda w. \{d : \text{HEIGHT}_w(A) \geq d\} \subseteq \{d : \text{HEIGHT}_w(S) \geq d\}]; \\ &[\lambda w. \{d : \text{HEIGHT}_w(A) \geq d\} \subset \{d : \text{HEIGHT}_w(S) \geq d\}]\} \end{aligned}$$

$$\begin{aligned} \text{EXH}(\lambda w. \{d : \text{HEIGHT}_w(A) \geq d\} \subseteq \{d : \text{HEIGHT}_w(S) \geq d\})(w_{\text{at}}) &= 1 \text{ iff} \\ \forall q \in \text{ALT} \& \ q \neq [\lambda w. \{d : \text{HEIGHT}_w(A) \geq d\} \subseteq \{d : \text{HEIGHT}_w(S) \geq d\}] : q(w) &= 0 \\ \text{iff } \{d : \text{HEIGHT}_{w_{\text{at}}}(A) \geq d\} &\not\subseteq \{d : \text{HEIGHT}_{w_{\text{at}}}(S) \geq d\} \end{aligned}$$

$$\begin{aligned} \text{EXH}(\lambda w. \{d : \text{HEIGHT}_w(A) \geq d\} \subseteq \{d : \text{HEIGHT}_w(S) \geq d\})(w_{\text{at}}) &\text{ is defined iff} \\ \{d : \text{HEIGHT}_{w_{\text{at}}}(A) \geq d\} &\subseteq \{d : \text{HEIGHT}_{w_{\text{at}}}(S) \geq d\} \\ \Rightarrow \{d : \text{HEIGHT}_{w_{\text{at}}}(A) \geq d\} &= \{d : \text{HEIGHT}_{w_{\text{at}}}(S) \geq d\} \end{aligned}$$

## 4.2 Negation above the Exhaustification Operator

Negation appears to be able to be interpreted above the exhaustification operator and thereby to target the implicature:

- (28) a. *Joe didn't see Mary or Sue; he saw both.*  
b. *It is not just that you can write a reply. You must.*  
c. *I don't expect that some students will do well, I expect that all students will.*  
(Chierchia, Fox & Spector 2012, p. 2305, no. (16))

<sup>4</sup> For more sophisticated versions, see e.g. Krifka (1995), Fox (2007), Spector (2016) and Fox & Spector (to appear). More specifically, unlike *only*, the exhaustification operator may in fact not presuppose that  $\llbracket \phi \rrbracket_{\text{ord}}(w) = 1$ , but assert it. Also, only those propositions in  $\llbracket \phi \rrbracket_{\text{alt}}$  that are not entailed by  $\llbracket \phi \rrbracket_{\text{ord}}$  are excluded by exhaustification. We will briefly return to this question below.

Schematically applied to an example with disjunction,  
 assuming that the only relevant alternative to disjunction is conjunction.

- (29) definedness condition:  $M \vee S$   
 truth conditions:  $\neg(\text{EXH}(M \vee S))$  iff  $\neg(\neg(M \wedge S))$   
 iff  $\neg(\neg M \vee \neg S)$  iff  $\neg(\neg M) \wedge \neg(\neg S)$  iff  $M \wedge S$  (*The conjunction!*)
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### Ingredients to the solution of Penka (2011)'s Puzzle:

Decompose the Negative Indefinite at Logical Form into a negation and an existential quantifier.  
 Interpret the negation above the exhaustification operator.  
 Interpret the existential within the complement clause of the equative.

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- (1) *Helena ist so schön [wie keine andere Frau].*  
 Helena is so beautiful how no other woman  
 'Helena is more beautiful than any other woman.'
- (30) a. denotation of the complement clause:  
 $W = \{d : \exists x [x \text{ is a woman} \ \& \ x \neq H \ \& \ \text{BEAUTY}(x) \geq d]\}$   
 (*The beauty degrees of the most beautiful woman that is not Helena.*)  
 b. degree set derived by Quantifier Raising:  
 $H = \{d : \text{BEAUTY}(H) \geq d\}$
- (31) core proposition  $p$ :  
 $\lambda w. \{d : \exists x [x \text{ is a woman} \ \& \ x \neq H \ \& \ \text{BEAUTY}_w(x) \geq d]\} \subseteq \{d : \text{BEAUTY}_w(H) \geq d\}$
- (32) definedness condition:  $W \subseteq H$   
 truth conditions:  $\neg(\text{EXH}(p))$  iff  $\neg(\neg(W \subset H))$  iff  $W \subset H$  (*The comparative!*)

We derive the desired interpretation:  
 Helena is more beautiful than any other woman.

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**Disclaimer:** Depending on the definition of the exhaustification operator, the analysis of these data is slightly more complex and requires that  $\text{EXH}(\text{not}(\text{EXH}(p)))$ . See sections 7.2 and 7.3 in Fox & Spector (to appear) for a step-by-step derivation of the desired interpretation of the disjunction, which is parallel to our example.

## 5 Discussion and Concluding Remarks

Some predictions, some speculation, and questions for further research:

### Why are Negative Indefinites (NIs) ungrammatical with symmetrical equatives?

(See also von Stechow (1984b, pp. 187-188).)

- (33) \**Helena ist genauso schön [wie keine andere Frau].*  
 Helena ist exactly.so beautiful how no other woman  
 'Helena is exactly as beautiful as no other woman.'

- The analysis crucially relies on the implicature generated from the asymmetric entailment relation between  $\subset$  and  $\subseteq$ .

- If we assume that *genauso* (‘exactly so’) encodes equality of sets =, the sentence does not generate any implicatures, which negation could in turn target.
- No implicatures here then equals no exhaustification operator at Logical Form. The Negative Indefinite must be interpreted within the complement clause, which yields an infinite set and causes a Negative Island Effect.

### Why are NIs ungrammatical in the complement clause of the comparative?

- The Negative Indefinite must be interpreted within the complement clause, deriving an infinite set (and thus a Negative Island Effect).
- No other syntactic position is available as there is no exhaustification because of a lack of alternatives that entail the comparative.

### Why are NIs ungrammatical in the complement clause of both the equative and the comparative in English?

“Unlike its Germanic brethren *kein* and *geen*, *no* does not normally allow its negation to split from it, taking scope over another operator and leaving an indefinite behind.” (Potts 2000, lines 2-5)

- However:

(34) *The company need fire no employees.*  
 ‘There is no need to fire any employees.’  
 (Potts 2000, line 85, no. (9))

- The environments for scope splitting are subject to crosslinguistic variation. (See Penka (2012) for an overview.)

**Summary.** Penka (2011)’s Puzzle is the result of an interesting interaction at the semantics-pragmatics interface, which in turn provides additional support for a grammatical view of scalar implicatures (Chierchia, Fox & Spector 2012).

A special case of a split-scope reading of NIs in German:  
 Negation takes scope over an exhaustification operator,  
 while the existential is interpreted within the complement clause.

## References

- Bartsch, Renate & Theo Vennemann (1972). “The Grammar of Relative Adjectives and Comparisons.” *Linguistische Berichte* 20: pp. 19–32.
- Beck, Sigrid (2011). “Comparison Constructions.” In: *Semantics: An International Handbook of Natural Language Meaning*. Ed. by Claudia Maienborn, Klaus von Heusinger & Paul H. Portner. Vol. 2. Berlin: De Gruyter, pp. 1341–1389.
- (2016). “Temporal *noch/ still* and Further-To Readings of German *noch*.” In: *Proceedings of Sinn und Bedeutung (SuB) 20*, pp. 227–250.
- Chierchia, Gennaro, Danny Fox & Benjamin Spector (2012). “Scalar Implicature as a Grammatical Phenomenon.” In: *Semantics: An International Handbook of Natural Language Meaning*. Ed. by Claudia Maienborn, Klaus von Heusinger & Paul Portner. Vol. 3. Berlin: De Gruyter, pp. 2297–2332.

- Cresswell, Max J. (1976). “The Semantics of Degree.” In: *Montague Grammar*. Ed. by Barbara Partee. New York: Academic Press, pp. 261–292.
- Fox, Danny (2007). “Free Choice and the Theory of Scalar Implicatures.” In: *Presupposition and Implicature in Compositional Semantics*. Ed. by Uli Sauerland & Penka Stateva. Basingstoke: Palgrave Macmillan, pp. 71–120.
- Fox, Danny & Martin Hackl (2006). “The Universal Density of Measurement.” *Linguistics and Philosophy* 29.5: pp. 537–586.
- Fox, Danny & Benjamin Spector (to appear). “Economy and Embedded Exhaustification.” *Natural Language Semantics*.
- Heim, Irene (1985). “Notes on Comparatives and Related Matters.” Manuscript. Austin: University of Texas.
- (2001). “Degree Operators and Scope.” In: *Audiatur Vox Sapientiae: A Festschrift for Arnim von Stechow*. Ed. by Caroline Féry & Wolfgang Sternefeld. Berlin: Akademie-Verlag, pp. 214–239.
- Hofstetter, Stefan (2012). “Selected Issues in the Theory of Comparison: Phrasal Comparison in Turkish and a Crosslinguistic Perspective on Intensifiers, Negative Island Effects and the Distribution of Measure Phrases.” PhD thesis. Eberhard Karls Universität Tübingen.
- Hohaus, Vera (2015). “Context and Composition: How Presuppositions Restrict the Interpretation of Free Variables.” PhD thesis. Tübingen: Eberhard Karls Universität Tübingen.
- Horn, Laurence R. (1972). “On the Semantic Properties of Logical Operators in English.” PhD thesis. Los Angeles: University of California.
- Jacobs, Joachim (1980). “Lexical Decomposition in Montague-Grammar.” *Theoretical Linguistics* 7.1-3: pp. 121–136.
- (1982). *Syntax und Semantik der Negation im Deutschen*. München: Fink.
- Kennedy, Christopher (1997). “Projecting the Adjective: The Syntax and Semantics of Gradability and Comparison.” PhD thesis. Santa Cruz: University of California.
- Kennedy, Christopher & Louise McNally (1999). “From Event Structure to Scale Structure: Degree Modification in Deverbal Adjectives.” In: *Proceedings of Semantics and Linguistic Theory (SALT) 9*, pp. 163–180.
- Kratzer, Angelika (1995). “Stage-Level and Individual-Level Predicates.” In: *The Generic Book*. Ed. by Gregory N. Carlson & Francis J. Pelletier. Chicago: The University of Chicago Press, pp. 125–175.
- Krifka, Manfred (1995). “The Semantics and Pragmatics of Polarity Items in Assertion.” *Linguistic Analysis* 25.3-4: pp. 209–257.
- Meier, Cécile (2000). “Konsekutive Konstruktionen und relative Modalität.” PhD thesis. Tübingen: Eberhard Karls Universität Tübingen.
- (2003). “The Meaning of *Too*, *Enough*, and *So... That*.” *Natural Language Semantics* 11.1: pp. 69–107.
- Penka, Doris (2011). *Negative Indefinites*. Oxford: Oxford University Press.
- (2012). “Split Scope of Negative Indefinites.” *Language and Linguistics Compass* 6.8: pp. 517–532.
- Potts, Chris (2000). “When Even *no*’s Neg is Splitsville.” In: *Jorge Hankamer WebFest*. Ed. by Sandy Chung, Jim McCloskey & Nathan Sanders. Santa Cruz: University of California. URL: <http://babel.ucsc.edu/Jorge>.
- Rett, Jessica (2010). “Equatives, Measure Phrases, and NPIs.” In: *Proceedings of the Amsterdam Colloquium 17*. Ed. by Maria Aloni et al. Berlin: Springer, pp. 364–373.
- (2015). “Measure Phrase Equatives and Modified Numerals.” *Journal of Semantics* 32.3: pp. 425–475.
- Rizzi, Luigi (1990). *Relativized Minimality*. Cambridge: MIT Press.
- Rullmann, Hotze (1995). “Maximality in the Semantics of *Wh*-Constructions.” PhD thesis. Amherst: University of Massachusetts.
- Schwarzschild, Roger & Karina Wilkinson (2002). “Quantifiers in Comparatives: A Semantics of Degree Based on Intervals.” *Natural Language Semantics* 10 (1): pp. 1–41.
- Spector, Benjamin (2016). “Comparing Exhaustivity Operators.” *Semantics & Pragmatics* 9 (11): pp. 1–33.
- Stateva, Penka (2002). “How Different Are Different Degree Constructions?” PhD thesis. Storrs: University of Connecticut.
- Svenonius, Peter & Christopher Kennedy (2006). “Northern Norwegian Degree Questions and the Syntax of Measurement.” In: *Phases of Interpretation*. Ed. by Mara Frascarelli. Berlin: De Gruyter, pp. 133–162.
- Von Stechow, Arnim (1984a). “Comparing Semantic Theories of Comparison.” *Journal of Semantics* 3.1-2: pp. 1–77.
- (1984b). “My Reaction to Cresswell’s, Hellan’s, Hoeksema’s and Seuren’s Comments.” *Journal of Semantics* 3.1-2: pp. 183–199.