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It's so NP! The case for gradable individuals

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Disclaimer

This is work in progress. It grew from e-mail discussions about a couple of particular examples with the following people: Anna Graschenkova, Barbara Partee, Marcin Morzycki, Meredith Landman, Muffy Siegel, Rick Nouwen and Ora Matushansky. Most of the observations belong to them. All mistakes are, of course, my own.

The construction

The construction we are concerned with is illustrated by the following examples from the web (as well as by the title of the work):

(1) Matching shirt and hat is so McDonalds. (≈ cheap, unfashionable)
(2) Buying DVDs is so 2004! (≈ out-of-date)
(3) Yeah, that is so Obama! (≈ cool)

The characteristic properties of the construction are: a) a noun phrase in the predicate position; b) a degree item (*so*) in preposition to this NP.

Typically the position taken by an NP in (1-3) is filled by a gradable adjective rather than a noun. Near-synonymous substitutions that are given in parentheses are also gradable adjectives. So the question is what is going on in this construction – semantically and syntactically – that allows nouns to occupy the position they are not supposed to occupy.

Background on degrees and gradability

The core assumptions shared by most analyses of gradability (e.g. Bartsch and Vennemann 1973; Bierwisch 1989; Cresswell 1977; Heim 1985, 2000; Hellan 1981; Kennedy 1999, 2007, Kennedy and McNally 2005; Klein 1991; Rett 2008; Seuren 1973; von Stechow 1984), as formulated in Kennedy 2007: 4 for adjectives:

a. Gradable adjectives map their arguments onto abstract representations of measurement, or DEGREES
b. A set of degrees totally ordered with respect to some DIMENSION (height, cost, etc.) constitutes a SCALE.

A new semantic type 'degree' (*d*) is introduced along with individuals (*e*), truth values (*t*), possible worlds (*s* or *w*), etc.

Various compositional implementations of this core idea include different typing of the gradable adjective:

- $\langle d, \langle e, t\rangle\rangle$ - relation between degrees and individuals (Seuren 1973; Cresswell 1977; Bierwisch 1989; Klein 1991; Kennedy and McNally 2005):

(1) [[expensive]] = $\lambda d\, \lambda x.$ expensive(x) = d (= 12 Kennedy and McNally 2005)

- $\langle e, \langle d, t\rangle\rangle$ - relation between individuals and degrees (Seuren 1984; Hellan 1981; Hoeksema 1983; von Stechow 1984; Heim 1985; Gawron 1995; Rullman 1995; Izvorski 1995; Heim 2000; Rett 2008):

(2) [[tall]] = $\lambda x\, \lambda d.$ tall (x, d) (= 10a Rett 2008)

- ⟨*e*, *d*⟩ - measure function. E.g., *expensive* is a function from the subset of the domain of individuals that have some cost value to (positive) degrees of cost (Bartsch and Vennemann 1972, 1973; Kennedy 1999, 2007)

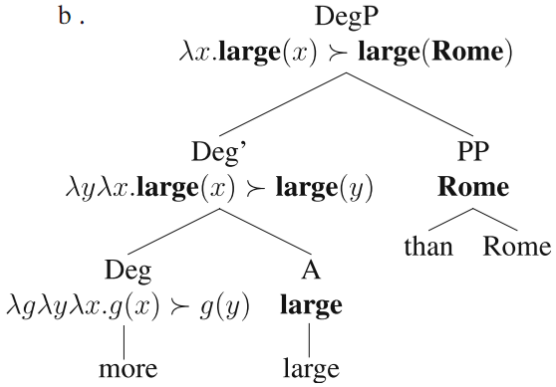
See Kennedy 1999; Heim 2000; Meier 2003; Bhatt and Pancheva 2004; Neeleman, Van de Koot and Doetjes 2004 for discussion of the issues at stake in choosing between the approaches.

In any case, gradable adjectives are converted to properties of individuals by degree morphology (*more*, *less*, *as*, *very*, *quite*, *rather*, *too*, *enough*, *so*, *how*, etc.) – referred to as 'degree quantifiers' (Doetjes 1997; Heim 2006; Bhatt and Pancheva 2004) or 'degree modifiers' (Paradis 1997; Kennedy and McNally 2005; Rett 2008), depending on one's views. Syntactically, gradable adjectives project a Degree Phrase headed by degree morphology rather than an Adjective Phrase (Abney 1987; Corver 1990; Grimshaw 1991; Kennedy 1999).

An example of a DegP derivation:

(3) a. Chicago is larger than Rome. (= 4 Kennedy 2007)

b.



It is usually assumed that unmodified AdjPs as in 'John is tall' actually contain a null degree morpheme *pos* (for POSITIVE FORM) relating the degree argument of the adjective to an appropriate standard of comparison (Bartsch and Vennemann 1972; von Stechow1984; Cresswell 1977; Bierwisch 1989; Kennedy 1999):

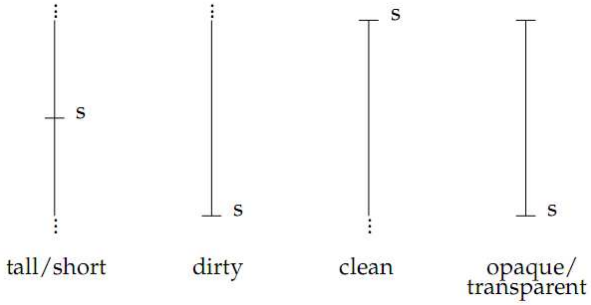
(4) $[[\text{POS}]] = \lambda A_{\langle e, \langle d, t\rangle\rangle}\lambda x \exists d\, [A(x)(d) \wedge d > s]$ (= 3.4 Rett 2008)

Thus it has basically the same semantic function as the overt degree morphology: it takes a gradable adjective denotation and returns a property of individuals (a set of individuals which are *A* to some high degree *d* – high relative to some standard *s*). For a type-shifting alternative to null *pos* see e.g. Neelman, Van de Koot and Doetjes 2004).

Rotstein and Winter 2004 and Kennedy and McNally 2005 observe that the scales associated with different gradable adjectives differ in structure: they can have only a lower bound, only an upper bound, be completely open or completely closed. Hence the typology of scale structures, where *R* and △ the ordering relation and dimension for the scale, respectively:

(5) The typology of scale structures (= 23 Kennedy and McNally 2005)

a. $\langle D_{(0,\,1)}, R, \triangle\rangle$ (TOTALLY) OPEN SCALE
b. $\langle D_{[0,\,1)}, R, \triangle\rangle$ LOWER CLOSED SCALE
c. $\langle D_{(0,\,1]}, R, \triangle\rangle$ UPPER CLOSED SCALE
d. $\langle D_{[0,\,1]}, R, \triangle\rangle$ (TOTALLY) CLOSED SCALE

(6) 

(= Figure 3.1 Rett 2008)

(7) Open scales (= 62-65 Kennedy 2007)
a. ??perfectly/??slightly {tall, deep, expensive, likely}b. ??perfectly/??slightly {short, shallow, inexpensive, unlikely}

(8) Lower closed scales
a. ??perfectly/slightly {bent, bumpy, dirty, worried}
b. perfectly/??slightly {straight, flat, clean, unworried}

(9) Upper closed scales
a. perfectly/??slightly {certain, safe, pure, accurate}
b. ??perfectly/slightly {uncertain, dangerous, impure, inaccurate}

(10) Closed scales
a. perfectly/slightly {full, open, opaque}
b. perfectly/slightly {empty, closed, transparent}

More upper closed scale modifiers: *absolutely*, *completely*, *totally*, *perfectly*, *100%*.

The antonyms *tall* and *short*, on this view, correspond to the same scale except for the ordering:
(11) **tall**: $\langle D_{(0,\infty)}, \preccurlyeq, \textit{height}\rangle$; **short**: $\langle D_{(0,\infty)}, \succcurlyeq, \textit{height}\rangle$
Problem: all this is about adjectives, but in (1-3) we seem to have a gradable noun phrase!

Gradable nouns

No problem here: there are gradable nouns. The fact that gradability is a property not just of adjectives, but of nouns, verbs, adverbs and prepositions as well goes back to Sapir 1944. See also Bolinger 1972; Doetjes 1997; Kennedy and McNally 1999; Hay et al. 1999; Tsujimura 2001; Van den Wyngaerd 2001; Paradis 2001; Wechsler 2005.

Morzycki to appear discusses gradable nouns (a phenomenon exemplified in 12) in detail:

(12) a. George is an enormous idiot. (= 1 Morzycki to appear)
b. Gladys is a big beer-drinker.
c. Three huge goat-cheese enthusiasts were arguing in the corner.
d. Most really colossal curling fans are difficult to understand.

This is not a claim about size; rather, the nominal predicate is claimed to hold to a high degree. The reading persists in comparatives, *how*-questions and *too*-constructions:

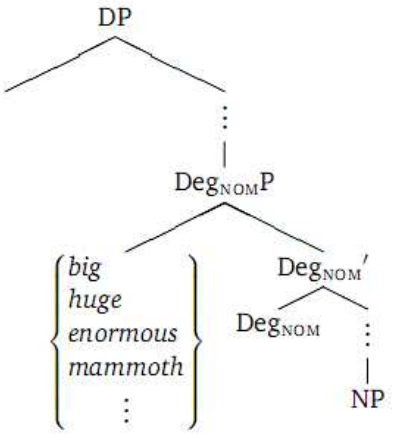
(13) a. Gladys is a bigger idiot than Floyd. (= 2 Morzycki to appear)
b. How big an idiot is Gladys?
c. Gladys is too big an idiot to talk to.

The degree reading of a size adjective seems to be unavailable in predicative positions:

(14) a. that big beer-drinker (= 5-6 Morzycki to appear)
b. *That beer-drinker is big.

(15) a. George is an enormous idiot.
b. *George is an idiot, and he is enormous.

The size adjective supposedly occupies the Deg head that comes with gradable nouns, i.e. nouns – at least some of them – have degree arguments and associated with scales (an assumption in e.g. Matushansky 2001):

(16) 

(= 47 Morzycki to appear)

This analysis states two distinct Deg heads that project different phrases: one is Deg_N (for gradable nouns) and the other is Deg_A (for gradable adjectives). They differ distributionally, and we can see whether our construction patterns with gradable nouns. In fact, it does not; rather, it patterns with Deg_A:

(17) a. George is a(n) {enormous/big/huge/slight/minor/*so/#pretty/*very/*so very/*rather} idiot.
b. Matching shirt and hat is {*enormous/*big/*huge/*slight/*minor/so/pretty/very/so very/rather} {McDonalds/cheap}.
c. How very {Obama/*idiot/cool/cheap}!

(18) a. *Those very 1994 shoes of yours are creeping everyone out.
b. Those shoes of yours are very 1994.

In short, *McDonalds*, *Obama* and *1994* are gradable adjectives, which is further supported by a *seem*-test (see Kennedy and McNally 2005 and the work cited there) and coordination with gradable adjectives:

(19) He {is/seems/felt/became} so Obama!
(20) The martini always seems so James Bond, so "Sex in the City," so elegant.

The pattern in (19) is one of the tests for adjectiveness, and it also helps to differentiate between the construction we are discussing and a construction that sometimes looks similar but presumably has a VP-modifying *so.* Interestingly, it's only the proper names and definite description (i.e., type *e*) that pass the test:[1]

(21) a. This {is/*seems} so a vegan brownie!
b. This {is/*seems} so professor.

[1] For a discussion of new and noncanonical uses of *so* see a topic on Linguist List: http://linguistlist.org/ask-ling/message-details2.cfm?AsklingID=200430661

‘Gradable individuals’

We have arrived at a conclusion that a noun phrase of type *e* somehow occupies a position of a gradable adjective of type ⟨*e*, *d*⟩ (or ⟨*d*, ⟨*e*, *t*⟩⟩, or ⟨*e*, ⟨*d*, *t*⟩⟩). It might be a case of conventionalization of a property being associated with an individual – encoded in the lexicon. I.e., *McDonalds* might get conventionally to mean ‘cheap’.

This is not the case though. One might get arbitrarily long and unconventional *e* expressions in this construction, which indicates that it is a live shift in the conversation process:

(22) a. This is so [Madonna at Golden Globes (when she won for Evita)]!
b. That’s so Harvey! (both the speaker and the hearer, say, know Harvey to be charming but ineffectual)

Importantly, the expressions need not function as predicates that described the actual entity they literally name (though they can – cf. 23a). In fact, they can even not match in animacy (cf. 20 and below):

(23) a. That was so Alice of Alice!
b. John’s article is so Einstein!

With this in mind we are ready to come up with a first attempt to sketch what is going on in these examples semantically.

(24) **The first attempt**

- Familiar type-shift from individuals to sets of properties of that individual (cf. Partee 1986)

$$John \rightarrow \lambda P[P(John)] \qquad \left\{ \begin{array}{c} \lambda x \lambda d.tall(x,d)(John) \\ \lambda x \lambda d.smart(x,d)(John) \\ \lambda x \lambda d.elegant(x,d)(John) \\ \ldots \end{array} \right\}$$

- One contextually salient property gets picked from the set:

$$\left\{ \begin{array}{c} \lambda x \lambda d.tall(x,d) \\ \underline{\lambda x \lambda d.smart(x,d)} \\ \lambda x \lambda d.elegant(x,d) \\ \ldots \end{array} \right\} \rightarrow \lambda x \lambda d.smart(x,d)$$

- The individual-denoting NP gets interpreted as a property-denoting adjective:
$\|John\| = \lambda x \lambda d.smart(x,d)$

Various questions immediately arise:

(25) **Questions**

1. How does one of the properties get picked?
2. What kinds of properties can get picked?
3. What types of scales get associated with the property?

Good candidates for being picked are those properties that have the NP-denoted individual very high on the scale associated with the property. At least there should be an inference that Harvey exceeds some contextual standard of smartness and counts as smart:

(26) #That’s so Harvey! (meaning ‘smart’ and assuming the degree of Harvey’s smartness isn’t particularly high)

Intuitively, the property that gets picked from the set is prominent precisely because the individual possesses it to a significantly high extent (as in 'smart' about Einstein), and probably to the highest extent compared to all the other (conversationally active) individuals, so that the individual that gets mentioned serves as some kind of prototype or the maximum of all other available candidates:

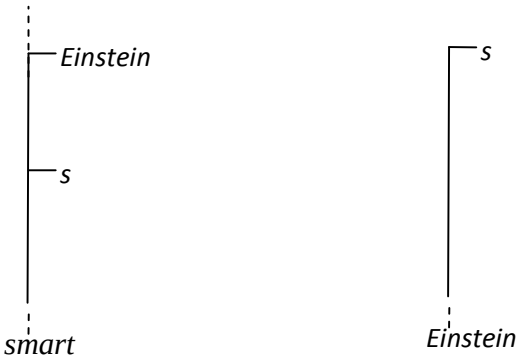
(27) His term paper is so Einstein!

The idea of an maximum, imposed on a scale by the individual, does get some support from degree modifier distribution:

(28) a. Those shoes are {totally/absolutely} {1994/clean}.
b. That's totally {Einstein/accurate}!
c. ??That's totally/absolutely {old/smart}.

It might be that the scale structure of these adjectives is like that of upper-closed scale adjectives (*certain, safe, pure, accurate*; *straight, flat, clean, unworried*):

(28)



The hypothesis is that there is a function taking an individual as its input, and returning a gradable property such that the input individual has the highest degree wrt this property compared to all other (contextually salient) individuals. There might in principle be more than one such property for each individual (one might be extraordinarily tall as well as extraordinarily good cook) – an element of this set might be picked by some contextual prominence.

The side effect on the scale structure is that the individual sets an upper boundary on the scale that acts as a degree standard. Thus the adjective *Einstein* is an upper-closed scale gradable adjective, with Einstein as a maximal standard wrt smartness.

Extreme adjectives

There are complications, though. Consider the following examples:

(29) a. Those shoes are {downright/positively/straight-up} 1994!
b. These cookies are {flat-out/downright} St. John! (St. John being a good restaurant)
b. ??{downright/positively/straight-up} {safe/pure}.

As far as degree modifiers distribution are concerned, individuals pattern with extreme adjectives rather than with upper-closed scale ones.

Extreme adjectives include, for example, the following: *fantastic, wonderful, fabulous, gorgeous, resplendent, magnificent, glorious, sumptuous, spectacular, outstanding, tremendous, huge, gigantic, ginormous*…

Extreme degree modifiers: *simply, just, positively, absolutely, flat-out, full-on, out-and-out, downright, outright, straight-up, balls-out*.

Moreover, this would help explain the fact that individuals are not that good in comparative constructions (though not completely ungrammatical):

(30) a. ?Those shoes seem more 1994 than any I've actually seen in 1994!
b. ?She is more Audrey Hepburn than any of the girls I've met.
c. ?His term paper isn't as Einstein as I expected it to be.

(31) a. ?Godzilla is more gigantic than Mothra. (= 10 Morzycki in print)
b. ?Monkeys are less marvelous than ferrets.
c. ?Everything is more scrumptious than natto.

Alarmingly, individuals in our construction can be modified by very, cf. *very 1994* vs. **very gigantic*, but it is not too big a problem – they might be 'contextual extreme adjective' like *brilliant*, *certain*, *obvious* etc., a class also described in Morzycki to appear, which does make sense.

What does it mean to be an extreme adjective and how can Einstein become one?

(32) **The speedometer metaphor and zones of indifference** (= 1 Morzycki in print)

> It … extends beyond the highest marked speed, and includes all speeds that are too fast for the speedometer to register them—that is, all the speeds that are literally off the scale. The speedometer is not designed to distinguish among such speeds, and if asked, we would probably report such a speed as 'way too fast' or with other words to this effect. (Morzycki in print: 2)

The account uses a contextual domain restriction variable *C* (von Fintel 1994) that was designed to quantify over individuals and pick a contextually salient subset:

(33) a. Everyone$_C$ had a good time.
b. $\forall x$ [[$x \in C$ & x is a person] $\rightarrow$ x had a good time]

The idea is that maybe there are contextual restriction that restrict the domain of *degrees*? Than the denotations for gradable adjectives will look like this:

(34) a. [[*big*$_C$]] = $\lambda x \lambda d.\ x \in C$ & x is d-big (= 49 Morzycki in print)
b. [[*gigantic*$_C$]] = $\lambda x \lambda d.\ d > max(C)$ & x is d-big (= 51 Morzycki in print)

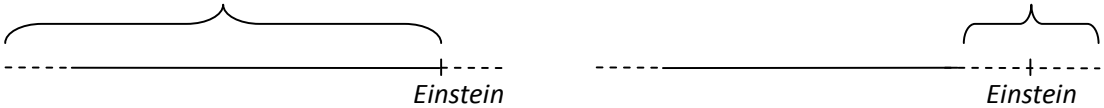
Then Einstein in (27) can have interpretation along the lines of (35):

(35) [[*Einstein*]] = $\lambda x \lambda d.\ d > max(C)$ & x is d-smart

I.e., the property of being smart to a degree *d* higher than any of the contextually salient degrees of smartness.

In fact, the two readings ('upper-closed scale' and 'extreme') are not that different, and both of them are attested though people differ in preferences. The difference between the readings basically comes from location of the individual on the relevant scale:

(36)



‘Resemblance’ issues

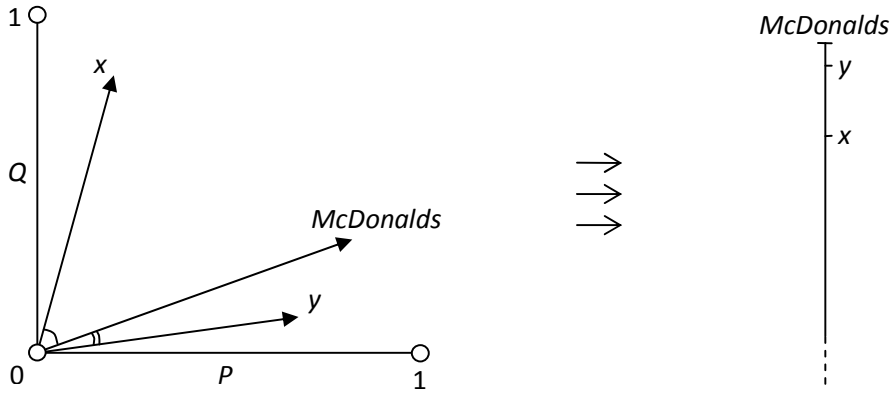
Some of the English speakers I have consulted noted that smth like *That’s so McDonald’s!* can have two readings: a. ‘very bad/cheap’; b. ‘resembles McDonald’s’ – some speakers believe them to be distinct, though they of course do not exclude each other. It brings up the ‘resemblance’ issues.

One can notice that properties that are picked from the individual’s set in this construction, are often hard to capture and formulate. Say, when one utters *That’s so Harvey!*, Harvey being extraordinarily charming, we easily come up with the scale for charm. But if we know Harvey as both charming and very ineffectual, what would *so Harvey* mean? It’s not the case that we obligatorily have to choose one of these properties, in fact, we can refer to their combination. It is not a convention though to have a single scale for ‘charming+ineffectual’ and those are thought to be two distinct properties. Or is it just because English doesn’t have a single adjective for that?

Furthermore, in *Her hair is so Madonna at Golden Globes* the set of properties might be rather big and hard to pin down: length, curliness, color, shape, etc.

It suggests that at least for some subtype of the construction one needs a resemblance measure between individuals. We try to sketch it below.

(37)



We can try to look at this geometrically. Suppose there is some subset of the set of individual’s properties that serve as parameters of comparison to calculate the resemblance measure. The number of these properties determines the number of dimensions in properties space. So each individual has a corresponding point/vector in this space that is determined by the degrees of the individual wrt the scales of the space. As soon as we are in vector space, we can use traditional machinery for measuring distances between vectors (say, c*osine*). They can than be mapped to a scale that would order individuals by the proximity measure, i.e. ‘resemblance’ wrt the target individual – the higher on the scale, the closer to the target. The resulting scale is upper-closed!

One of the possible ways to look at the upper-closed/extreme variation: when there is a single property picked, extreme reading is possible. Otherwise it’s not.

One of the possible restrictions on target vector: it should be rather long (cf. 26).

Update form October 11. One more hypothesis about the origins of extreme and resemblance readings: it might be the case that for an extreme reading to arise, the length of vectors should be mapped to degrees on corresponding scale; for a resemblance reading, some distance measure (say, *cosine*) should be mapped to degrees on corresponding scale. Thanks everyone for enlightening comments!

Conclusion

None yet.

References

Abney, S. 1987. *The English Noun Phrase in its Sentential Aspect.* PhD Thesis, MIT, Cambridge, MA.

Bartsch, R. and Vennemann, T. 1972. The grammar of relative adjectives and comparison. *Linguistische Berichte, 20:* 19–32.

Bartsch, R. and Vennemann, T. 1973. *Semantic structures: A study in the relation between syntax and semantics.* Frankfurt: Athäenum Verlag.

Bierwisch, M. 1989. The Semantics of gradation. *Dimensional adjectives.* M.Bierwisch and E.Lang (eds.), Berlin: Springer-Verlag, 71–261.

Bhatt, R. and Pancheva, R. 2004. Late merger of degree clauses. *Linguistic Inquiry, 35*: 1–45.

Bolinger, D. 1972. *Degree words*. The Hague: Mouton.

Corver, N. 1990. The syntax of left branch extractions. Ph.D. thesis, Tilburg University.

Cresswell, M. J. 1977. The semantics of degree. *Montague grammar*. B. Partee (ed.), New York: Academic Press, 261–292.

De Clercq, K. 2008. Proper names used as Common Nouns in Belgian Dutch and German. *Linguistics in the Netherlands 2008*, Koppen, Marjo van and Bert Botma (eds.), 63–74.

Doetjes, J. 1997. *Quantifiers and Selection*. PhD Thesis, Leiden University.

von Fintel, K. 1994. *Restrictions on Quantifier Domains*. Doctoral dissertation, University of Massachusetts Amherst.

Gawron, J. M. 1995. Comparatives, superlatives and resolution. *Linguistics and Philosophy, 18:* 333–380.

Grimshaw, J. 1991. Extended projection. Unpublished ms., Brandeis University.

Hay, J., Kennedy, C., and Levin, B. 1999. Scale structure underlies telicity in 'degree achievements'. *Semantics and Linguistic Theory 9:* 127–44.

Heim, I. 1985. Notes on comparatives and related matters. Ms., University of Texas.

Heim, I. 2000. Degree operators and scope. *Semantics and Linguistic Theory 10*. B. Jackson and T. Matthews (eds.), CLC Publication Ithaca, NY, 40-64.

Heim, I. 2006. Remarks on comparative clauses as generalized quantifiers.

Hellan, L. 1981. *Towards an integrated analysis of comparatives*. Tübingen: Narr.

Hoeksema, J. 1983. Plurality and conjunction. *Studies in Model-Theoretic Semantics*, volume 1 of GRASS. Ter Meulen, A. G. B. (ed.), Foris, 63-83.

Izvorski, R. 1995. A solution to the subcomparative paradox. *Proceedings of WCCFL XIV*. Camacho, J., Choueiri, L., and Watanabe, M., (eds), CSLI Publications, 203–219.

Kennedy, C. 1999. *Projecting the adjective: The syntax and semantics of gradability and comparison*. New York: Garland. (1997 UCSC Ph.D thesis).

Kennedy, C. 2007. Vagueness and grammar: The semantics of relative and absolute gradable predicates. *Linguistics and Philosophy, 30*: 1–45.

Kennedy, C and McNally, L. 2005. Scale structure, degree modification, and the semantics of gradable predicates. *Language 81.2*, 345–381.

Klein, E. 1991. Comparatives. *Semantik: Ein Internationals Handbuch der zeitgenössischen Forschung.* A. von Stechow and D. Wunderlich (eds.), Berlin: Walter de Gruyter, 673–691.

Kratzer, A. 1998. Scope or pseudoscope? Are there wide scope indefinites? *Events and Grammar*, ed. S. Rothstein. Dordrecht: Kluwer: 163-196.

Landman, F. 1989. Groups II. *Linguistics and Philosophy 12*: 723–744.

Meier, C. 2003. The meaning of *too*, *enough* and *so... that*. *Natural Language Semantics, 11*: 69–107.

Matushansky, O. 2001. Obligatory scalarity (a sliding scale). Proceedings of WCCFL XX. Meger-doomian, K. and Leora A. Bar-el (eds.), Cascadilla Publications, Somerville, Mass.

Morzycki, M. (to appear). Degree modification of gradable nouns: Size adjectives and adnominal degree morphemes. *Natural Language Semantics*.

Morzycki, M. (in prep.). Degree modification of extreme adjectives. To appear in proceedings of CLS 45.

Neeleman, A., van de Koot, H., and Doetjes, J. 2004. Degree expressions. *The Linguistic Review, 21*: 1–66.

Paradis, C. 1997. Degree modifiers of adjectives in spoken British English. *Volume 92 of Lund Studies in English. Lund University Press.*

Paradis, C. 2001. Adjectives and boundedness. *Cognitive Linguistics 12*: 47–65.

Partee, B. 1986. Noun phrase interpretation and type-shifting principles. *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers*, J. Groenendijk, D. de Jongh, and M. Stokhof, eds., GRASS 8, Foris, Dordrecht, 115-143.

Reinhart, T. 1997. Quantifier scope: how labor is divided between QR and choice functions. *Linguistics and Philosophy 20*: 335-397.

Rett, J. 2008. *Degree modification in natural language*. University of New Jersey Ph.D thesis.

Rotstein, C. and Winter, Y. 2004.Total adjectives vs. partial adjectives: Scale structure and higher-order modifiers. *Natural Language Semantics, 12*: 259–288.

Rullman, H. 1995. *Maximality in the Semantics of Wh-Constructions*. PhD Thesis, University of Massachusetts, Amherst.

Sapir, E. 1944. Grading: A study in semantics. *Philosophy of Science, 11*: 93–116.

Seuren, P. A. 1973.The comparative. *Generative grammar in Europe.* F. Kiefer and N. Ruwet (eds.). Dordrecht: Reidel, 528–564.

Seuren, P. A. 1984. The comparative revisited. *Journal of Semantics*, 3: 109–141.

Stechow, A. von. 1984. Comparing semantic theories of comparison. *Journal of Semantics, 3*, 1–77.

Tsujimura, N. 2001. Degree words and scalar structure in Japanese. *Lingua 111*: 29–52.

Vanden Wyngaerd, G. 2001. Measuring events. *Language 77:* 61–90.

Wechsler, S. 2005. Resultatives under the 'event-argument homomorphism'. *The syntax of aspect*, ed. By Nomi Erteschik-Shir and Tova Rapoport. Oxford: Oxford University Press.