Article

Where is the Standard? An Analysis of Size Adjectives as Degree Modifiers at the Semantic–Pragmatic Interface*

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Size adjectives in languages such as English or Mandarin Chinese can have degree readings when they modify gradable nouns. The determiner phrase 'big idiot,' for example, can characterize an individual with a high degree of idiocy. It has been argued in the literature that this degree use of size adjectives is available only for positive size adjectives (e.g. "big" and "huge"), not for negative size adjectives (e.g. "small" and "tiny"). Although this generalization holds in most cases, in this paper, I identify several "exceptional" cases where negative size adjectives indeed can felicitously modify gradable nouns. I propose an analysis at the interface between the semantics and pragmatics of gradability that can account for both the general applicability of the "Bigness Generalization" and the exceptional cases to it. A negative size adjective can serve as a degree modifier, except in those contexts where the standard for the negative size adjective falls below the standard for the gradable noun that is modified. Such exceptional contexts have a very wide distribution, leading to the perception of general applicability of the Bigness Generalization.

Key words: gradable nouns, polarity, size adjectives, standard, zone of indifference

1. Introduction

There may exist a "gap" between the denotation of a gradable predicate and that of its antonymous counterpart.[1] Take "tall" and "short," for instance. Saying that John, who is a 30-year-old man and measures 5′7″ in height, is not tall for an adult man is not *necessarily* equivalent to saying

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1 Certain gradable adjective antonyms, such as "pure" vs. "impure" and "true" vs. "false," are always complementary to each other. Such gradable adjectival antonyms, however, are irrelevant to the discussion in the current paper.
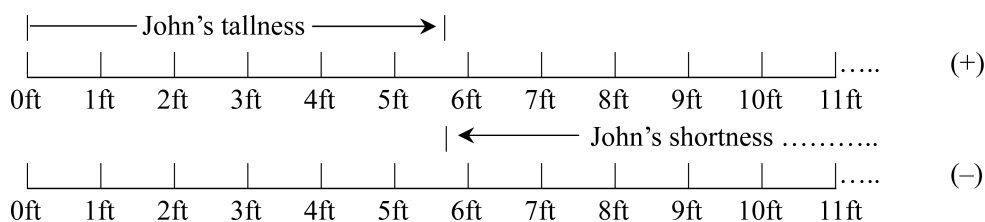
Figure 1: Scale for an antonym pair of gradable adjectives

that John is short for an adult man, because John may be neither tall nor short. That is, John may meet neither the standard of being tall nor the standard of being short in the relevant utterance context. This means that, in a given utterance context, the standard of being tall may be different from the standard of being short. There may be a "gray area," or "zone of indifference" in Sapir's (1944) terminology, between the standards for the antonym pair "tall" and "short." Those individuals who are neither tall nor short in the relevant context would fall within the zone of indifference (Horn 1989; Kennedy 1999, 2001; Krifka 2007, among others).

At the same time, in the interval-based representation of degrees, degrees are modeled as intervals, as opposed to points, on a scale (Kennedy 1999, 2001; Schwarzschild & Wilkinson 2002). An antonym pair of gradable predicates makes use of a common scale, but will have different directionalities (Cresswell 1976; Kennedy 2001; Seuren 1984; Winter 2005).[2] Figure 1 illustrates the scale for the antonym pair "tall" and "short," with a scenario in which John measures 5′7″ in height. John's "tallness" and "shortness" (so to speak) cover complementary regions on the scale. The directionality of the scale is marked with a rightward arrow ("+" henceforth) for the positive-polarity adjective "tall" and a leftward arrow ("−" henceforth) for the negative-polarity adjective "short."

The standards for an antonym pair of gradable predicates, and the zone of indifference (if any) between the two standards, can be schematically represented on the scale as well. Let us continue to take "tall" and "short" as our example. The standards for "tall" and "short," being relative gradable adjectives, are context dependent (Kennedy 2001; Kennedy & McNally 2005; Klein 1980). Suppose the standard of being tall (*stnd*(**tall**))[3] for an adult man in an utterance context is 6 feet, and the contextual specification has 6 feet as the standard for being short (*stnd*(**short**)) for an adult man, as well. There is no adult man in the utterance context who can be neither tall nor short. That is, the standards for the antonym pair in that context are strictly complementary to each other, and there is no zone of indifference with respect to being tall or short. This scenario is illustrated in Figure 2.[4] For an adult man (say, Tom) to be tall, his "tallness" (i.e. height) should exceed *stnd*(**tall**).

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[2] For clarity in representing scale directionality and illustrating the relation between degrees for antonym pairs of gradable predicates, I schematize the common scale for an antonym pair of gradable predicates as if they were two separate scales. This is for convenience of illustration only, and does not affect the validity of any argument I make in this paper.

[3] In this paper, the denotation of a lexical item is marked with bold typeface.

[4] At various places in this paper, I simplify matters by talking about the "value" or "position" of a degree, as if degrees were points on a scale. Figure 2, for example, is an instance of this sort of simplification (cf. Figure 1, where John's tallness and shortness are explicitly represented as intervals on a scale). In such places,
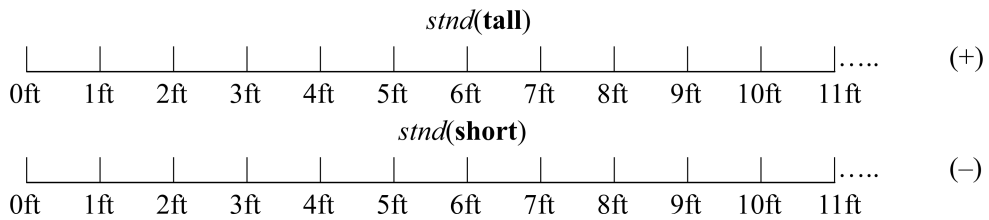
Figure 2: Strictly complementary standards, with no zone of indifference

Since "tall" is represented, in Figure 2, to be of a positive polarity, this means that Tom's "tallness" falls to the right of *stnd*(**tall**). Likewise, for an individual adult man (say, Sam) to be short, his "shortness" should exceed *stnd*(**short**). Since "short" is represented to be of a negative polarity, this means that Sam's "shortness" falls to the left of *stnd*(**short**).

Imagine another scenario, in which there are a large number of adult men and their heights are normally distributed. Assume that the standard for being tall for an adult man remains at 6 feet, and that the standard for being short for an adult man "downgrades" to 5 feet. In other words, the two standards no longer stand in a strictly complementary relation. There exists a zone of indifference between the two standards, which is designated by a shaded area on the scale in Figure 3. Within the shaded area are the heights of those individual adult men who qualify neither as being tall nor as being short. In addition, note that *stnd*(**tall**) always falls above *stnd*(**short**); otherwise, there would exist individuals who are tall and short at the same time in the same context (Kennedy 2001; Winter 2005).

This paper is organized as follows. In the next section, I introduce the phenomenon in which a size adjective modifies a gradable noun, and characterizes the degree to which the gradable noun holds. After reviewing a generally applicable pattern of size adjectives that degree-modify gradable nouns, I point out several exceptional cases to the general pattern. These cases concern acceptability of negative size adjectives such as "small" and "tiny" used as degree modifiers for gradable nouns. The exceptions constitute the empirical contribution of the current work to the study of gradability and degree modification, especially in the nominal domain. In §3, I first provide a brief
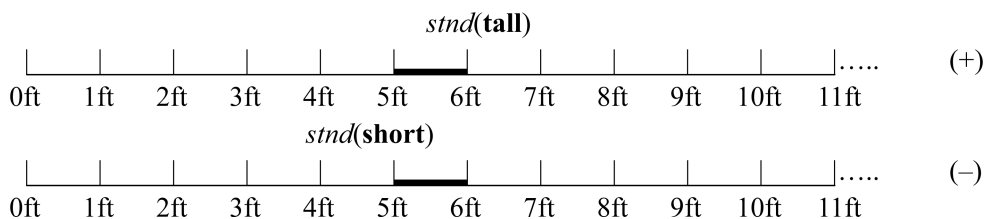

Figure 3: Non-complementary standards, with a zone of indifference.

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the reader can understand the terms "value" or "position" as corresponding to the end point (or the maximum element) of the degree interval (or the corresponding representation in set talk; see Kennedy 2001). This simplification does not affect the overall argument in this paper.

review of the existing analyses of size adjectives that degree-modify gradable nouns by Morzycki (2005, 2009) and Constantinescu (2011). Primarily focusing on Morzycki's work, I then discuss some of the problems with these analyses. In particular, Morzycki's analysis can only explain the general pattern of size adjectives that degree-modify gradable nouns, but is unable to explain the exceptional cases discussed in §2 of this paper. Next, I propose an adapted version of Morzycki's analysis of size adjectives as degree modifiers. I claim that the acceptability of a negative size adjective that degree-modifies a gradable noun hinges upon the relation between the standard for the negative size adjective and the standard for the modified gradable noun. In turn, this relation is, at least partially, determined by the zone of indifference for the negative size adjective and its positive counterpart. When the zone of indifference contains the standard for the gradable noun, modification of the gradable noun by the negative size adjective is unacceptable. This is where the theoretical contribution of the current work lies. I also, albeit less conclusively, discuss cases where size adjectives, intended as degree modifiers, receive degree modification on themselves. Concluding remarks are presented in §4.

2. Empirical observations: size adjectives that degree-modify gradable nouns

2.1 The general pattern

It has been long noted that gradability is not specific to the categories of adjectives and adverbs; rather, it is a cross-categorial feature (e.g. Bolinger 1972; Sapir 1944; Sassoon 2007). In particular, many nominal expressions encode gradability, as well.[5] Of interest to the current work is one particular subset of such gradable nouns, that is, those that can be modified by adjectives that typically express size notions and that characterize the degree to which the modified gradable nouns hold (Morzycki 2005, 2009). Take (1a) below, for instance. Under the most natural reading, the size adjective "big" in the sentence is not used in any of the non-degree uses, and does not predicate the physical stature, importance, fame, or the like, of the car salesman. Rather, it denotes that the degree of idiocy of the car salesman is high. The claim is supported by the fact that the sentence in (1a) is intuitively similar to the sentence in (1b), but distinguished from the sentence in (1c), where "big" most naturally characterizes the physical size of the salesman. The sentences in (2) are some more examples that illustrate this degree use of size adjectives.

(1) a. The car salesman is a big idiot.
     b. The car salesman is very idiotic/stupid.
     c. The car salesman is an idiot, and he is big.

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[5] Gradable nouns can be further classified into different subsets based on their scale structures. The current work will not delve into discussion of this classification, but the interested reader can refer to Sassoon (2007, 2010). I focus on the questions of how certain gradable nouns are modified by size adjectives and how they are interpreted, without attempting to answer the related (but definitely different, and important) question of why those gradable nouns can be thus modified while other gradable nouns cannot.

(2)   a.   The two huge fans of "Buy American" are willing to pay several more dollars if the item says "Made in the USA."
b.   Rush is such an enormous asshole, and he totally deserves humiliation like this.

As Morzycki (2005, 2009) observed, this degree use of size adjectives is available not just in the canonical prenominal attributive position, but is also attested in a variety of other syntactic contexts, including comparatives, equatives, exclamatives, and *how*-questions (3).

(3)   a.   The senator is a bigger idiot than his secretary.
b.   Vincent is as huge an auto enthusiast as his brother.
c.   What an enormous fan he is of healthy eating!
d.   How big an idiot is the senator?

In addition, the degree use of size adjectives is not unique to English; this phenomenon has been observed in many typologically distinct languages. Morzycki (2009) cited examples from Spanish, German, Hebrew, and Polish, while Constantinescu (2011:fn.223) noted similar facts in French. Xie (2010a, 2010b, 2011) noted that this use of size adjectives also exists in Mandarin Chinese, and is licensed in many syntactic constructions in the language; for example, see (4)–(7). The current paper assumes that the degree reading of size adjectives behaves similarly across (at least) all these languages. For practical considerations, in this paper I shall draw on data only from English and Mandarin Chinese to illustrate my discussion.[6,7]

(4)   Mandarin Chinese
Qu   le   tang Shaanxi, zai   nar   pengdao le   liang ge da   haoren.
go   ASP CL   Shaanxi   at   there meet   ASP two   CL big good-person
(literal) 'I visited Shaanxi, and met two big good-persons there.'
(natural) 'I visited Shaanxi, and met two very kind people there.'

(Xie 2010a: ex.(3))

(5)   Mandarin Chinese
Jintian wo   yao   shuoshuo   shenbian   zhe   ge   da   shabi.
today   I   want   talk about body-side   this CL   big   dumbass
'Today, I want to talk about the big dumbass next to me.'

(6)   Mandarin Chinese
Ta   zhouwei de   ren   dou   shi geng da   de   baichi.
he   nearby   MOD   people DOU   be   even big MOD   idiot
'The people near him are even bigger idiots.'

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[6]   Most acceptable data in this paper is adapted from naturally occurring sentences found on the web (via Google search). Unacceptable data are mostly my own creations.
[7]   The abbreviations used in this paper are as follows: ASP = aspect marker, BI = Mandarin Chinese comparative marker *bi*, CL = classifier, DOU = *dou* in Mandarin Chinese, EMP = emphatic marker, EXT = extent marker, INTJ = interjection marker, MOD = modifier marker, PL = plural marker, SUPL = superlative marker.

(7)   Mandarin Chinese
     Yi dun jiu hua le ji   qian,   tamen gai shi duo da de   chihuo a!
     one CL   EMP spend ASP a few thousand they   must be how big MOD eater   INTJ
     'Spending several thousand just for one meal, what big eaters they are they!'

Morzycki (2005, 2009) claimed that there are two generalizations to regulate the distribution of size adjectives intended as degree modifiers. The "Position Generalization" stipulates that only when appearing prenominally can size adjectives have degree readings. Degree readings are not available for size adjectives that appear in predicative positions. This is illustrated by the contrast between the sentences in (8) and (9), below. In (8), the size adjective appears in the attributive prenominal position and receives the degree reading; in (9), the same size adjective in the predicative position cannot be likewise interpreted.

(8)   He is a big idiot.
(9)   The idiot is big.   (≠ The idiot's degree of idiocy is big.)

The so-called "Bigness Generalization" observed by Morzycki (2005, 2009) stipulates that the degree reading is only available for size adjectives that predicate bigness such as "big" and "enormous" ("positive size adjectives" henceforth). Size adjectives that predicate smallness such as "small" and "tiny" ("negative size adjectives" henceforth) cannot receive a degree reading when modifying gradable nouns. Morzycki's evidence includes such sentences as are presented in (10)–(11):[8]

(10)   George is a(n) big/enormous/huge/colossal/mammoth/gargantuan idiot.
(11)   George is a %small/%tiny/%minuscule/%microscopic/%diminutive/%minute idiot.

2.2 Exceptional cases to the "Bigness Generalization"

Morzycki took both the Position Generalization and the Bigness Generalization to be categorical constraints. The current work, however, takes issue with the claimed categoricality of the Bigness Generalization, by showing that there indeed exist contexts where a negative size adjective can be interpreted in the degree reading. Anticipating a formal analysis to be given later in this paper, those exceptional cases all arise when the contextual standard for the negative size adjective falls on or above the standard for the modified gradable noun. Before I explain why this is the case, however, let me first discuss three manifestations of such exceptional cases.

First, we have seen that the zone of indifference for an antonym pair of gradable adjectives does not exist in all contexts. This claim, of course, applies when the antonym pair consists of size adjectives. When there is no zone of indifference for an antonym pair of size adjectives in relation to their characterization of the property associated with a gradable noun, the negative size adjective in the antonym pair is able to modify the gradable noun felicitously.

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[8] In this paper, I use the "%" symbol to indicate absence of degree reading for a size adjective, "☺" (in (50)) to indicate acceptability of the degree reading for a size adjective, "?" to indicate variable acceptability of the degree reading for a size adjective, and "*" to indicate ungrammaticality.

This exhaustive dichotomization can be achieved by contextual or linguistic means. Take the sentence in (12), below, as an example. It can be understood as correlating the degree of idiocy of an idiot with whether the idiot makes the same mistakes over and over again. That is, according to the context specified by the sentence, idiots are exhaustively classified in a binary manner. The sentence allows a degree reading of "small" (and, of course, "big").

(12)   ?Big idiots make the same mistakes over and over again; small idiots don't.

Some linguistic means of achieving similar exhaustive dichotomization include using such conjunction markers as "either . . . or" and "whether . . . or." They exhaustively classify relevant possibilities into two disjointed groups (Guerzoni 2007; Hendriks 2002). In (13), by using "whether . . . or," fans of the Beatles are divided up into two opposite categories with regard to their degree of liking the band. The bifurcation rules out the existence of a "gray area" with respect to the antonym pair (i.e. "small" and "big") evaluated against the property expressed by the modified gradable noun ("fan"). The sentence is acceptable in the intended degree reading of "small." Similar remarks apply to the English sentence in (14), as well as to the Mandarin Chinese sentence in (15).

(13)   Whether you are a big or a small fan of the Beatles, they are familiar and classic.

(14)   There will either be a big mess or a small mess.

(15)   Zhe   zhong   shoubing,   wulun   da   wanjia   haishi xiao   wanjia
        this   CL   console   regardless   big   game player   or   small   player
        dou   neng   jiayu.
        DOU   can   maneuver
        'Whether one is a big or small game player, s/he can maneuver this console.'

Second, a negative size adjective can felicitously modify a gradable noun when the gradable noun is explicitly specified to hold of the individual(s) that a "negative size adjective + gradable noun" phrase characterizes. The first clause of the sentence in (16a), for example, makes it explicit that the speaker is a fan of detective novels. This information can be understood as background for the second clause, via which the speaker ascribes herself as being a "small fan" (of detective novels). Without such contextual information, the second clause (16b, *mutatis mutandis*) is not acceptable in the intended degree reading of "small." The first clause in (17a) provides similar background information for the second clause, which would be unacceptable if it stood alone (17b, *mutatis mutandis*).

(16)   a.   I am a fan of detective novels, but just a small fan.
        b.   %I am a small fan of detective novels.

(17)   a.   Lian'ai   zhong   de   ren   dou   shi   baichi,
              love   in   MOD   man   DOU   be   idiot

> lia xiao baichi xiangxiang zhe weilaide meihao.
> two small idiot imagine PROG future beauty
> 'People in love are idiots; two small idiots imagine about their beautiful future.'
> b. % lia xiao baichi xiangxiang zhe weilaide meihao.

Third, I observe that a negative size adjective modifying a gradable noun can have a degree reading when the negative size adjective is focused. For example, "small" in (18) associates with the focus-sensitive element "even," and the sentence fares much better in the degree reading of "small" than does its counterpart without "even" and without focus intonation on "small." Similar remarks apply to the Mandarin Chinese sentence in (19).

(18) You can't go wrong with this CD if you are even a [small]$_F$ fan of the Monkees.

(19) Yinwei ta renren dou ke canyu, [xiao]$_F$ wangjia ye neng zhong jiang.
   because it everyone all can participate small game player also can win prize
   'Because everyone can participate (in the game), even small game players can win a prize.'

To summarize this section, we seem to have a rather complex picture in regard to the Bigness Generalization proposed by Morzycki (2005, 2009). I have shown that the generalization, insightful as it is, is not a categorical constraint. Among the three types of exceptions discussed, the first type is particularly important and revealing. It very likely suggests that whether the modification of a gradable noun by a negative size adjective is acceptable is not a purely semantic issue, but has to do with pragmatic factors, too.[9] Therefore, the semantic–pragmatic interface may be a good place to seek for a satisfactory account of size adjectives as degree modifiers, to which I turn next.

3. The Bigness Generalization at the semantic–pragmatic interface

In this section, I aim to provide a unified explanation of the Bigness Generalization and the exceptional cases. My analysis does not start from scratch, but is a natural extension and adjustment of the idea pursued by Morzycki (2005, 2009). A brief review of his proposal is therefore in order.

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[9] A *Language and Linguistics* reviewer observed that certain acceptable examples of the degree use of negative size adjectives in Mandarin Chinese appear not to require special contextual support at all. Examples s/he cited include *xiao renwu* 'an insignificant person, a small potato' and *xiao mingxing* 'a petty movie star'. I do not think *xiao* 'small' in such examples has a true degree reading. Rather, it means 'insignificant, petty' and is different from the degree use discussed in this paper. The reader can refer to Morzycki (2009) for some discussion of the differences. Moreover, even if *xiao* in those phrases has a true degree reading, which I do not think is very likely (especially for *xiao renwu* between the two phrases), they are still not valid counterexamples because they may be considered to be compounds and, thus, are different from the other "negative size adjective + gradable noun" examples discussed in this paper.

3.1 Morzycki (2005, 2009)

Morzycki's analysis of gradable nouns makes explicit reference to degrees, in a parallel fashion to Kennedy's (1999, 2007) treatment of gradability in the adjectival domain. A gradable noun G is associated with a degree, and denotes a measure function from individuals to their degrees of being a G:

(20) $[idiot] = \lambda x_e.\ \iota d_d\ [\text{x is } d\text{-stupid}]$ (= **idiot**)

Just as in the domain of adjectival gradability, a gradable noun also comes with its own functional projection ($Deg_N P$). This projection hosts some (overt or covert) degree morphology that transforms the gradable noun from a measure function (of type <e,d>) to a property of individuals (of type <e,t>). Size adjectives, when intended as degree modifiers for gradable nouns, have a very similar semantic function to ad-adjectival measure phrases, in that both include a covert licensing degree morpheme. For a measure phrase modifying an adjective, the degree morpheme $meas_A$ (21)[10] (Svenonius & Kennedy 2006) requires that the degree to which the adjective holds of an individual equals or exceeds the minimum element of the set of degrees denoted by the measure phrase.
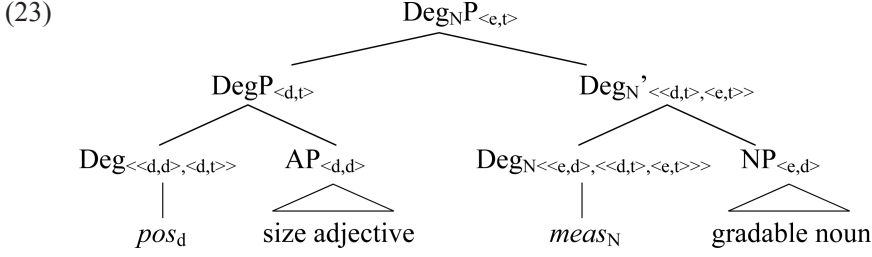
(21) $[meas_A] = \lambda g_{<e,d>}\ \lambda m_{<d,t>}\ \lambda x.\ \text{MIN}\{d:\ m(d)\} \leq g(x)$

The degree morpheme $meas_N$ (22), which mediates the interpretation of the degree use of size adjectives, can be defined in a similar fashion. There is an interesting difference, however, which deserves a few more words. When a measure phrase modifies a gradable adjective, the modification results in a neutral reading: the degree to which the adjective holds of an individual need not satisfy the contextual standard for the adjective. Normally speaking, an adult man who is 4 feet tall is not tall. However, as Morzycki (2009) pointed out, when a size adjective modifies a gradable noun, a neutral reading is not available. Hence, the definition of $meas_N$ should incorporate a *pos*-like requirement that the individual's degree on the scale associated with the gradable noun should be at least as great as the corresponding standard. Thus, $meas_N$ requires that an individual x satisfy the gradable noun to some degree that: (i) "is at least as great as the smallest degree that satisfies the size adjective DegP" and (ii) "is at least as great as the standard for the gradable predicate" (Morzycki 2009:195). The syntactic structure for size adjectives that modify gradable nouns, proposed by Morzycki and adopted in the current paper, is given in (23). The degree head pos_d (24), identical to the degree head pos_e for adjectival gradability except for a type difference, serves to capture the intuition that a big idiot definitely has a degree of idiocy that is contextually big.

(22) $[meas_N] = \lambda g_{<e,d>}\ \lambda m_{<d,t>}\ \lambda x_e.\ \text{MIN}\{d:\ d \in \text{scale}(g) \land m(d)\} \leq g(x) \land stnd(g) \leq g(x)$

where m is the "measure phrase" corresponding to a size adjective, g is the gradable noun modified by the size adjective, and the MIN operator picks out the smallest degree that lies on the scale associated with g and that satisfies m.

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[10] In this paper, I use the following subscripts to differentiate similar degree morphemes: $_A$ = adjectival, $_N$ = nominal, $_e$ = individual, $_d$ = degree.

(23)

$DegNP_{\langle e,t\rangle}$ branching to $DegP_{\langle d,t\rangle}$ and $DegN'_{\langle\langle d,t\rangle,\langle e,t\rangle\rangle}$; $DegP$ branches to $Deg_{\langle\langle d,d\rangle,\langle d,t\rangle\rangle}$ and $AP_{\langle d,d\rangle}$; $DegN'$ branches to $DegN_{\langle\langle e,d\rangle,\langle\langle d,t\rangle,\langle e,t\rangle\rangle\rangle}$ and $NP_{\langle e,d\rangle}$; Deg dominates pos_d; AP dominates size adjective; $DegN$ dominates $meas_N$; NP dominates gradable noun

(24)　$[pos_d] = \lambda g_{\langle d,d\rangle}\ \lambda r_d.\ stnd(g) \leq g(r)$

With the above set-up, the semantic interpretation of "big idiot" under Morzycki's analysis is given in (25). In prose, the formula in (25) says that "big idiot" denotes a set of individuals x, such that (i) the degree of x's idiocy is at least as great as the smallest degree on the idiocy scale whose "bigness" meets the contextual standard of being big, and (ii) x's degree of idiocy meets the standard of being an idiot. It amounts to saying that a big idiot is an idiot whose idiocy meets the standard of being big.

(25)　$[\ [pos_d\ \text{big}]\ meas_N\ \text{idiot}\ ]$
$= \lambda x.\ \text{MIN}\{d: d\epsilon\,\text{scale}(\textbf{idiot}) \wedge [pos_d\ \text{big}]\,(d)\} \leq \textbf{idiot}(x) \wedge stnd(\textbf{idiot}) \leq \textbf{idiot}(x)$
$= \lambda\text{x.}\ \text{MIN}\{d: d\epsilon\,\text{scale}(\textbf{idiot}) \wedge stnd(\textbf{big}) \leq \textbf{big}(d)\} \leq \textbf{idiot}(x) \wedge stnd(\textbf{idiot}) \leq \textbf{idiot}(x)$

There is nothing inconsistent, trivial, or infelicitous in the semantics of "big idiot," and, by extension, of all gradable nouns modified by positive size adjectives. The real problem with Morzycki's analysis, however, is that it categorically bars negative size adjectives from degree-modifying gradable nouns. This runs afoul of the exceptional cases to the Bigness Generalization observed in the previous section. To see this, let us take "small idiot" as an example. Its semantics (26) requires that (i) the degree of an individual x's idiocy is at least as great as the smallest degree on the idiocy scale whose "smallness" meets the smallness standard, and (ii) x's degree of idiocy meets the standard of being an idiot. According to Morzycki (2005, 2009), the first requirement is vacuous. The idiocy scale has a minimum element (d_0), which is "(just next to) not idiotic at all." Given the polarity opposition between the idiocy scale and the smallness scale, d_0 corresponds to the maximum on the smallness scale. Hence, no matter what the standard for smallness is, d_0 will be able to meet it. That is, the first chunk in the semantics (26) is just "$d_0 \leq \textbf{idiot}(x)$." However, to say that x's degree of idiocy meets or exceeds d_0 just amounts to saying nothing at all.

(26)　$[\ [pos_d\ \text{small}]\ meas_N\ \text{idiot}\ ]$
$= \lambda x.\ \text{MIN}\{d: d\epsilon\,\text{scale}(\textbf{idiot}) \wedge stnd(\textbf{small}) \leq \textbf{small}(d)\} \leq \textbf{idiot}(x) \wedge stnd(\textbf{idiot}) \leq \textbf{idiot}(x)$
$= [pos_e\ \text{idiot}]$

Here arises a problem. Truth conditionally, what matters in the semantics of "small idiot" is its second chunk, namely that x must meet the standard for idiocy. The negative size adjective "small" simply melts away. According to Morzycki (2005, 2009), this undesirable semantic vacuity is responsible for the unacceptability of negative size adjectives modifying gradable nouns. Moreover,

it is obvious that the vacuity does not hinge upon any contextual or pragmatic factors, so negative size adjectives should be categorically prohibited from degree-modifying gradable nouns. Hence, Morzycki's analysis would predict there to be no exception to the Bigness Generalization. The exceptional cases previously discussed suggest that his analysis at least should be revised.

In an alternative attempt to explain the Bigness Generalization, Constantinescu (2011) claimed that the interpretation of gradable nouns degree-modified by size adjectives[11] is standard-/norm-related or evaluative (Bierwisch 1989; Rett 2008), in that the gradable nouns make reference to degrees that exceed their standards. According to Constantinescu, the Bigness Generalization arises from the lack of meaning neutralization with the "negative size adjective + gradable noun" phrase. More specifically, because idiots are characterized by a high degree of idiocy, "[i]ndividuals whose idiocy is small will not qualify as idiots" (p. 181). I think that Constantinescu's analytic intuition regarding standard-relatedness of gradable nouns degree-modified by size adjectives is on the right track. However, merely claiming standard-relatedness to be the responsible factor is not sufficient. The question remains of how to represent standard-relatedness and implement the analytic intuition in a precise manner. Besides, what is the relationship between the two scales associated with the negative size adjective and the gradable noun modified by it? Why are negative size adjectives allowed to degree-modify gradable nouns in certain contexts? What about cases where negative size adjectives themselves are degree-modified (e.g. appearing in the comparative and superlative constructions), where the notion "meaning neutralization" and the lack thereof appears to be irrelevant? I shall take up these questions, among others, in the remainder of this section.

3.2 Incorporating a pragmatic component into Morzycki's analysis

Morzycki's analysis does not allow negative size adjectives to degree-modify gradable nouns under any circumstances. This categorical prohibition arises from the vacuous contribution of negative size adjectives to the degree reading for which they are intended. The vacuity, in turn, comes from the "greater than or equal to" relation between a degree d on the scale for the gradable noun and the minimum element on that scale, in the context of d being measured by a negative size adjective. If the relation involved in the definition of $meas_N$ is not "greater than or equal to," or the minimum element is somehow done away with, then we may be able to eliminate the vacuity. This is exactly the route that I am going to take.

Morzycki (2005, 2009) drew an interesting analogy between gradable nouns that are degree-modified by size adjectives and gradable adjectives that are degree-modified by measure phrases, and defined the $meas_N$ degree morpheme for the former as parallel to the $meas_A$ degree morpheme for the latter. According to Morzycki, measure phrases have an "at least" reading, which is furnished by the $meas_A$ operator. That is, the "at least" reading of measure phrases is "externalized" into an operator. In my opinion, the externalization is an undesirable move. A measure phrase typically consists of a number word/numerically quantified word and a measurement word. It is reasonable to assume that the measurement word is not responsible for the "at least" component in the

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[11] Constantinescu argued that this use of size adjectives is an abstract size reading. Within her proposal, the term "degree-modified" here should be taken as a mere convenient paraphrase.

interpretation of the measure phrase. Rather, it should be the number word or the numerically quantified word that contributes the "at least" component. In fact, the idea that number words/numerically quantified words have the "at least" interpretation has been proposed as early as 1972 by Horn and developed by many researchers in subsequent works (e.g. Schulz & van Rooij 2006).[12] Whatever the interpretation mechanism is for a number word/numerically quantified word to have the "at least" interpretation, it should carry over to the interpretation of measure phrases. The "at least" interpretation should not be "externalized" into the measure phrase-specific $meas_A$ degree morpheme.[13]

Hence, I assume that the "at least" reading of a measure phrase is "wired" in the denotation of the phrase, that is, contributed by the number word in it. The function of $meas_A$, rather, is merely to relate the denotation of an adjective to that of a measure phrase. It specifies the existence of an individual's degree that lies on the scale associated with the adjective and that satisfies the measure phrase, which (presumably) directly contributes an "at least" reading in its own lexico-semantics (27). That is, the morpheme only provides a "linking" mechanism. By doing so, it forms a predicate of individuals out of the measure phrase and the adjective. The phrase "six feet tall," for instance, denotes a set of individuals whose degree of tallness is 6 feet or more (28). This "at least" reading of "six feet tall" directly comes from the number word "six" in it, which means "six or more" in the lexico-semantics.

(27) $[meas_A] = \lambda g_{<e,d>} \lambda m_{<d,t>} \lambda x. \exists d [d = g(x) \wedge m(d)]$

(28) $[\text{six feet } meas_A \text{ tall}] = \lambda x. \exists d [d = \textbf{tall}(x) \wedge \textbf{six feet}(d)]$

The $meas_N$ morpheme for gradable nouns degree-modified by size adjectives can be defined in a similar fashion, modulo the standard-relatedness for $meas_N$ in order to accommodate the observation that, when a size adjective modifies a gradable noun, a neutral reading is not available (29) (cf. the discussion around the definition in (22)). The $meas_N$ morpheme essentially serves to specify a set of individuals whose degree d on the scale determined by the gradable noun (i) satisfies the contextual standard for the size adjective as if d is "projected" onto the scale associated with the size adjective, and (ii) is at least as great as the contextual standard for the gradable noun.

(29) $[meas_N] = \lambda g_{<e,d>} \lambda m_{<d,t>} \lambda x. \exists d [d = g(x) \wedge m(d) \wedge stnd(g) \leq d]$

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[12] At the same time, I should note that many authors, such as Breheny (2008), Geurts (2006), and König (1991), argued that number words receive an "exactly" interpretation. This paper will not take up the argument of which side is (more) on the right track. Whether number words, and measure phrases by extension, are taken to have an "at least" or "exactly" interpretation actually does not have any significant bearing on the analysis developed in this paper. What is most important for the purpose of this paper is that the interpretation is encoded in the lexico-semantics of number words/measure phrases, rather than contributed by an associated external operator.

[13] Morzycki (2009:191–192) noticed this possibility, but did not give it a full consideration. It is "crucial" (in his own words) for him to maintain his definition of $meas_N$ in order for his proposal to work for the data he discussed.

With this new definition of $meas_N$, the semantic interpretation of gradable nouns modified by size adjectives will have some important differences from what Morzycki (2005, 2009) gave. I shall consider gradable nouns modified by positive size adjectives first. The phrase "big idiot" has the semantic derivation as in (30). In plain English, the end result in (30c) says that "big idiot" denotes a set of individuals x such that x has a degree of idiocy that is at least as great as the bigness standard and, at the same time, x meets the standard of being an idiot.

(30) a. $[pos_d \text{ big}] = [\lambda g_{<d,d>} \lambda r_d. \; stnd(g) \leq g(r)] \; (\textbf{big}) = \lambda r_d. \; stnd(\textbf{big}) \leq \textbf{big}(r)$

 b. $[meas_N \text{ idiot}]$
 $= [\lambda g_{<e,d>} \lambda m_{<d,t>} \lambda x. \; \exists d \; [d = g(x) \; \wedge \; m(d) \; \wedge \; stnd(g) \leq d] \; (\textbf{idiot})$
 $= \lambda m_{<d,t>} \lambda x. \; \exists d \; [d = \textbf{idiot}(x) \; \wedge \; m(d) \; \wedge \; stnd(\textbf{idiot}) \leq d]$

 c. $[\text{big idiot}] = [meas_N \text{ idiot}] \; ([pos_d \text{ big}])$
 $= \lambda m_{<d,t>} \lambda x. \; \exists d \; [d = \textbf{idiot}(x) \; \wedge \; m(d) \; \wedge \; stnd(\textbf{idiot}) \leq d] \; (\lambda r. \; stnd(\textbf{big}) \leq \textbf{big}(r))$
 $= \lambda x. \; \exists d \; [d = \textbf{idiot}(x) \; \wedge \; stnd(\textbf{big}) \leq \textbf{big}(d) \; \wedge \; stnd(\textbf{idiot}) \leq d]$

In fact, (30c) can be further simplified. To see this, we need an additional mechanism regarding the comparison of degrees across two scales. The semantics of "big idiot" involves degrees on two different scales. One is the idiocy scale, and the other is the scale associated with the degree use of "big." The two scales are not totally independent of each other. Intuitively speaking, the idiocy scale "superimposes" on the scale for the degree use of "big." Alternatively, one can say that the scale for the degree use of "big" provides an additional means or perspective for measuring degrees of idiocy. Degrees on the two scales still can be compared, at least indirectly. Bale's (2006, 2008) idea of cross-scalar comparison by way of a universal scale is useful for articulating this intuition.

Bale (2006, 2008) defined scales by means of a linear order relation. In his theory, cross-scalar comparison is a two-step process. In the first step, entities are mapped onto their primary scales, such as height, width, and happiness. In the second step, the values on the primary scales are mapped onto a universal scale, which encodes the values' relative positions on their primary scales. "The positions can be compared in much the same way that two rational numbers can be compared" (Bale 2008:1). An individual's degree of idiocy is a value (v_i) on the idiocy scale. At the same time, this degree corresponds to a value (v_i') on the scale associated with the degree use of "big." The two scales, essentially, can be understood as providing two distinguished dimensional perspectives of measuring a degree of idiocy. A degree of idiocy would occupy the same relative position on the two scales. Thus, after v_i and v_i' on two separate primary scales are mapped onto the perspective-neutral universal scale—which is a scale that isomorphically encodes the relative position of a degree on its primary scale—the two values correspond to the same position on the universal scale. This is exactly what holds of the two degrees $\textbf{idiot}(x)$ and $\textbf{big}(d)$ (where $d = \textbf{idiot}(x)$) in (30). Two different degrees on the idiocy scale, by contrast, correspond to two different degrees on the scale associated with the degree use of "big," as well as to two different positions on the universal scale. The universal scale provides a convenient means for comparing a degree on the scale associated with "idiot" and a degree on the scale associated with the degree-modifier "big."

In this paper, for simplicity, the idiocy scale and the scale associated with the degree use of "big" will be represented isomorphically, and put parallel to each other, in such a way that a degree

$$S_{idiocy} \quad \underline{\hspace{3cm}|\hspace{4cm}} \quad (+)$$
$$v_1$$
$$S_{degree\text{-}size} \quad \underline{\hspace{1.5cm}|\hspace{5cm}} \quad (+)$$
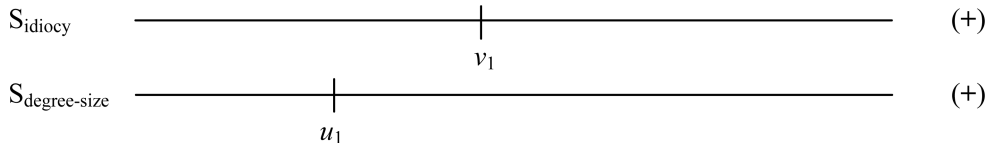$$u_1$$

Figure 4: The idiocy scale and the degree-size scale (of the same polarity)

from one scale can be directly compared to a degree from the other scale just by comparing the positions of the two degrees relative to each other. Comparing the two degrees in this way is equivalent to comparing them by projecting them from their primary scales onto the universal scale. In Figure 4, the degree v_1 on the idiocy scale exceeds the degree u_1 on the scale for "big," because the two degrees, both of positive polarity (indicated by the "+" symbol after the scales), are ordered such that v_1 falls above (i.e. to the right of) u_1.

Thus, **idiot**(x) and **big**(d) (where $d = $ **idiot**(x)) in (30) are prima facie the same degree measured from different dimensional perspectives. At the same time, note that the semantics in (30) requires "$stnd(\mathbf{big}) \leq \mathbf{big}(d)$" and "$stnd(\mathbf{idiot}) \leq \mathbf{idiot}(x)$." If $stnd(\mathbf{idiot})$ and $stnd(\mathbf{big})$ can be ordered with respect to each other from independent grounds, one of the two "$\leq$" comparative relations can be dispensed with, because it will be entailed by the other relation. Toward this end, it is useful to compare "big idiot" to the adjectival (near-)counterpart "very idiotic." According to native intuition, which is also reported in Constantinescu (2011), "a big idiot" is "a very idiotic person." That is, as a degree modifier, "big" has an interpretation intuitively similar to "very," modulo the categorial difference. The contextual standard for an unmodified gradable predicate P is a norm or average of the property associated with P that is calculated from a contextually relevant comparison class. At the same time, "the *very* standard is a norm or average calculated . . . on the basis of those objects to which the unmodified predicate truthfully applies" (Kennedy & McNally 2005:369–370). Hence, the "very" standard in the context of "very P" exceeds the standard of being P. Then, given the interpretation similarity between "big" and "very," the standard for "big," in the context of "big idiot," should exceed the standard of being an idiot, that is, $stnd(\mathbf{idiot}) \leq stnd(\mathbf{big})$. Then, it follows that $stnd(\mathbf{big}) \leq \mathbf{big}(d)$ entails $stnd(\mathbf{idiot}) \leq \mathbf{idiot}(x)$. Therefore, the semantics for "big idiot" can be further simplified as (31), which says that a big idiot is an individual whose degree of idiocy exceeds the standard of being big (in relation to idiocy). As such a degree always exists, the phrase "big idiot" has a non-empty denotation. This explains why "big idiot," which is used in this paper to represent all gradable nouns that are modified by positive size adjectives, is always acceptable in the intended degree reading of "big." Hence, the first part of the Bigness Generalization, that is, that positive size adjectives can always degree-modify gradable nouns, is captured in my adapted version of Morzycki's (2005, 2009) analysis.

(31) $[big\ idiot] = \lambda x.\ \exists d\ [d = \mathbf{idiot}(x) \wedge stnd(\mathbf{big}) \leq \mathbf{big}(d)]$

My previous discussion has revealed that negative size adjectives can degree-modify gradable nouns in a limited set of contexts, but not in others. The next task of this paper is to explain the heterogeneous behaviors of negative size adjectives. Let us still take the phrase "small idiot" as our example. Its semantics are given in (32), which basically asserts that an individual x is a small

S_{idiocy} ——————————————————|—————————————————— (+)

stnd(**idiot**)

$S_{degree-size}$ ————————————|————————————|———————— (−)

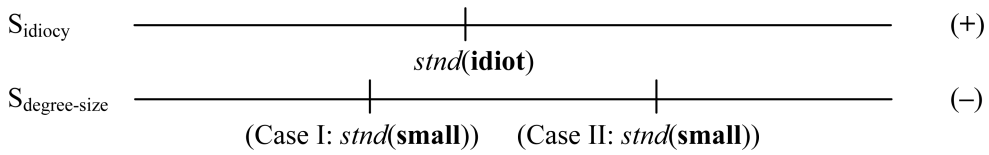(Case I: *stnd*(**small**))   (Case II: *stnd*(**small**))

Figure 5: The idiocy scale and the degree-size scale (opposite polarity)

idiot if the smallness of *x*'s degree of idiocy exceeds the standard of being small and, at the same time, *x* is an idiot. Different from "big idiot," the semantics for "small idiot" in (32) cannot be further simplified by eliminating either of the two "≤" relations. The degree use of "small" shares the same scale as the degree use of "big," but with the opposite polarity. In other words, though the mapping between the idiocy scale and the negatively polarized scale for the degree use of "small" (indicated by the "−" symbol after the scale) can still be obtained, the order of mapping is reversed as compared to the case for "big idiot." Regardless of the position of *stnd*(**small**) in relation to *stnd*(**idiot**) (see the two possibilities represented by Case I and Case II in Figure 5), "*stnd*(**small**) ≤ **small**(*d*)" does not entail "*stnd*(**idiot**) ≤ **idiot**(x)"; nor does the reverse hold.

(32)   [small idiot] = λ*x*. ∃*d* [d = **idiot**(*x*) ∧ *stnd*(**small**) ≤ **small**(*d*) ∧ *stnd*(**idiot**) ≤ *d*]

I have already indicated that *stnd*(**small**), in the context of "small" modifying "idiot," does not necessarily exceed *stnd*(**idiot**). It is not unusual that a degree modifier does not encode/entail the positive extension of the modified gradable predicate. Klein (1980), for example, noted that "fairly" is just such a degree modifier. To say "Bill is fairly tall" in a context is to say that Bill is tall relative to all relevant individuals in the context except for those who are very tall (cf. the discussion above regarding "very"). Bill *can* be fairly tall in a context without being tall in the same context.

I shall argue that the relative position of *stnd*(**small**) to *stnd*(**idiot**), of opposite polarities, has a direct effect on whether "small idiot" is acceptable in the intended degree reading of "small." The basic claim is that when *stnd*(**small**) falls below (i.e. to the left of) *stnd*(**idiot**) (Case I in Figure 5), "small idiot" is unacceptable, whereas, when *stnd*(**small**) falls above (i.e. to the right of) *stnd*(**idiot**) (Case II in Figure 5), it is acceptable. Here is the reason. The idiocy scale has the opposite polarity of the scale for the degree use of "small." At the same time, "big" and "small" map the same argument onto a common scale, and the resulting degrees are different only in terms of polarity. I also have argued that **idiot**(*x*) and **big**(*d*) (where *d* = **idiot**(*x*)) can be seen as the same degree with different dimensional perspectives. It follows that **idiot**(*x*) and **small**(*d*) (where *d* = **idiot**(*x*)) in (32) are minimally different only in terms of polarity. Moreover, *stnd*(**idiot**) has the same polarity as **idiot**(*x*) and *stnd*(**small**) has the same polarity as **small**(*d*). Whether there is a degree of idiocy *d* = **idiot**(*x*) that satisfies both "*stnd*(**small**) ≤ **small**(*d*)" and "*stnd*(**idiot**) ≤ *d*" depends on whether *stnd*(**small**) and *stnd*(**idiot**) are ordered in such a way that there is an "overlap" (represented with a shaded area) between them. I shall illustrate this analysis through schematic representations.

The standards for "big" and "small," *stnd*(**big**) and *stnd*(**small**), are degrees on the same scale, but with opposite polarities. If every degree of idiocy is either big or small in the relevant context, then there is no zone of indifference between *stnd*(**big**) and *stnd*(**small**), and the two standards would be in a strictly complementary relation. I have argued that *stnd*(**big**) always falls above *stnd*(**idiot**).
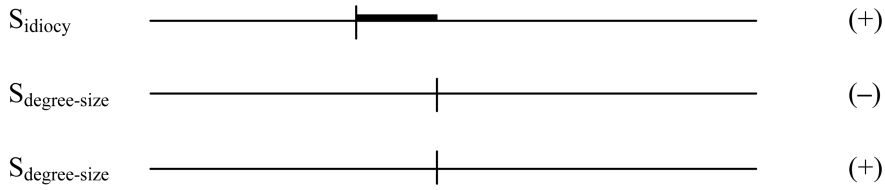
Figure 6: Situations with no zone of indifference

It then follows that, when there is no zone of indifference between *stnd*(**big**) and *stnd*(**small**), *stnd*(**small**) is also located above *stnd*(**idiot**). This situation corresponds to Case II in Figure 5, and can be schematically elaborated in Figure 6, in which the vertical lines on the scales represent (the end points of) the respective standards. The shaded area corresponds to (the end points of) the degrees of idiocy of those individuals whose degree of idiocy exceeds *stnd*(**idiot**) and the "small-ness" of those whose degree of idiocy exceeds *stnd*(**small**). The set containing those individuals is the denotation of "small idiot" evaluated in such contexts. This means that "small idiot" does not denote an empty set of individuals and can be felicitously interpreted in such contexts.

Now, let us consider situations where there is a (non-empty) zone of indifference between *stnd*(**big**) and *stnd*(**small**). In such situations, *stnd*(**big**) and *stnd*(**small**) no longer stand in a strictly complementary relation: *stnd*(**small**) consistently falls below *stnd*(**big**). For *stnd*(**big**), I have already established that it always falls above *stnd*(**idiot**). For *stnd*(**small**), there are two logical possibilities regarding its relation to *stnd*(**idiot**). One possibility is that it falls above *stnd*(**idiot**). Such cases typically occur when the size of the zone of indifference between *stnd*(**big**) and *stnd*(**small**) is small, so small that *stnd*(**small**) is not, figuratively speaking, "pushed" below *stnd*(**idiot**). As can be seen from the schematization in Figure 7, in such cases, "small idiot" has a non-empty set of individuals in its denotation (i.e. corresponding to the shaded area) and can be felicitously interpreted.[14]
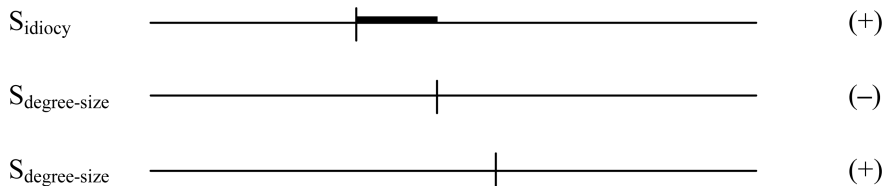

Figure 7: Situations with a zone of indifference, yet *stnd*(**idiot**) < *stnd*(**small**)

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[14] Unfortunately, I have not found (using Google) any *naturally occurring* sentence in a context corresponding to this type of situation. The reason, I think, is that, generally speaking, there is no practical need or natural means to explicitly specify a zone of indifference to be small. Nevertheless, the following constructed scenario appears to illustrate Figure 7. Imagine a tiny kingdom with 1,000 citizens. Of these, 500 are very idiotic (i.e. big idiots), 480 have average or above-average IQs, and the remaining 20 people have varied, yet below average, IQs. Within the third group, some are fairly idiotic, and the others are less idiotic. The idiocy of those fairly idiotic people, if measured by size, falls into the zone of indifference between *stnd*(**small**) and *stnd*(**big**). The size of the zone, relative to the extensions of "big (idiot)" and of "small (idiot)" in the context, is small, and this renders it possible for *stnd*(**small**) to fall above *stnd*(**idiot**). In this context, I think, the king
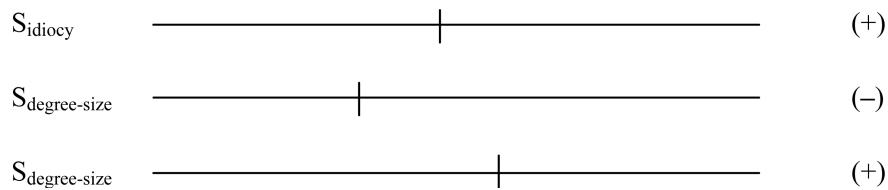
Figure 8: Situations with a zone of indifference, and *stnd*(**idiot**) ≥ *stnd*(**small**)

On the other hand, there may well be a proportionally large subgroup of individuals in the comparison class, whose degree of idiocy is neither big enough to meet *stnd*(**big**) nor small enough to meet *stnd*(**small**). In such cases, *stnd*(**small**) may fall on or below *stnd*(**idiot**). This scenario is schematically represented in Figure 8. There cannot be any degree of idiocy that satisfies *stnd*(**idiot**) and whose smallness satisfies *stnd*(**small**) at the same time. In other words, "*stnd*(**small**) ≤ **small**(*d*)" and "*stnd*(**idiot**) ≤ *d*" in (32) cannot be satisfied simultaneously in such contexts. Hence, "small idiot" would denote an empty set and would have no felicitous interpretation.

Therefore, whether "small idiot" is acceptable in the degree interpretation of "small" depends on the ordering relation between *stnd*(**small**) and *stnd*(**idiot**). An important, though not exclusively decisive, factor in determining this ordering relation is (the relative size of) the zone of indifference between *stnd*(**big**) and *stnd*(**small**).[15] When the zone of indifference is zero or contextually small so that *stnd*(**small**) falls above *stnd*(**idiot**), "small idiot" can have the degree interpretation. On the other hand, when the zone of indifference is contextually large so that *stnd*(**small**) falls below *stnd*(**idiot**), "small idiot" denotes an empty set—in which case, "small" has to be interpreted in an alternative, non-degree way.[16]

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can felicitously instruct his servants to "go and find a small idiot for me," where "small" is understood to degree-modify "idiot." Among the five native English consultants I asked, three agreed with the judgment and the other two reported a murky judgment. I do not know if the collective murky judgment of the latter group was due to the rather unnatural set-up of the context or something else.

[15] Another important factor is the position of the zone of indifference relative to *stnd*(**idiot**), which I do not consider in this paper.

[16] My analysis is built on the assumption that size adjectives that degree-modify gradable nouns are interpreted with a parallel mechanism to measure phrases that modify gradable adjectives. However, adjective phrases modified by measure phrases, such as "two inches short" and "five years young," are systematically out, as opposed to "two inches tall" and "five years old" (see Kennedy 2001 and Winter 2005 for possible explanations). One may suspect that the parallel mechanism would predict negative size adjectives never to have a degree use (exactly as Morzycki's analysis would predict). However, it seems that people holding this idea ignore some important differences between, say, "two inches short" and "small idiot." First, between "two inches tall" and "two inches short," it is the modified elements ("tall" vs. "short") that are different; by contrast, between "big idiot" and "small idiot", it is the modifying elements ("big" vs. "small") that are different. Second, the semantics of "two inches short" (and "two inches tall," for that matter) do not make reference to any contextual standard, and the notion of "zone of indifference" is irrelevant for determining the unacceptability of the phrase. By contrast, the semantics of "small idiot" (and "big idiot," for that matter) make reference to the standards for both "small" and "idiot," and the notion of "zone of indifference" is relevant for determining the (un)acceptability of the phrase.

3.3 Explaining the exceptional cases to the Bigness Generalization

My analysis, coupled with a reasonable assumption, is able to explain the general applicability of the Bigness Generalization as well as the exceptional cases to it that I have observed. The semantics of "big/small idiot" essentially involves comparison of a degree of idiocy to *stnd*(**idiot**), and comparison of the isomorphic mapping of this degree of idiocy onto the scale for "big/small" to *stnd*(**big**)/*stnd*(**small**). Whether this semantics has a non-empty denotation or not depends on whether *stnd*(**big**)/*stnd*(**small**) falls below *stnd*(**idiot**) or not. "Big idiot" is always acceptable, because *stnd*(**big**) consistently falls above *stnd*(**idiot**). By contrast, whether "small idiot" is acceptable is, partially, determined by the relative size of the zone of indifference between *stnd*(**big**) and *stnd*(**small**), in the context of talking about idiocy. The relative size of the zone of indifference, in turn, is normally a function of the distribution of individuals in the comparison class with respect to their degree of idiocy. When the comparison class is not (extra-)linguistically specified or implied, it is reasonable to identify it, by default, to a large, "unmarked" population that is conceptually accessible to the speaker. This may even be the whole population in a community as big as the world, as perceived by the speaker. Given the size and "unmarkedness" of this population, it seems reasonable to assume a normal distribution of idiocy among the individuals in the comparison class. Then, the population is very likely to contain a large zone of indifference between *stnd*(**big**) and *stnd*(**small**), which, in turn, contains *stnd*(**idiot**). Then, *stnd*(**small**) would fall below *stnd*(**idiot**), and this makes the phrase "small idiot" unacceptable in the intended degree reading of "small." Furthermore, the large comparison class is, presumably, the default and most often observed type of situation where "small idiot" is used. This explains why "small idiot" is most often perceived to be unacceptable in the intended degree reading of "small," even to the extent that Morzycki (2009) categorically rejected it as unacceptable. In order for "small idiot" to be acceptable, some (extra-)linguistic contexts are required to specify that *stnd*(**small**) falls above *stnd*(**idiot**).

Now, let us turn to the relatively trivial task of explaining why and how the exceptional cases observed in the previous section are allowed. The first type of exception occurs when individuals in the contextually relevant discourse domain are exhaustively dichotomized into two opposite polar groups, with respect to their degrees on the scale associated with the relevant gradable noun. This exhaustive dichotomization can be achieved either by contextual means (12) or by linguistic means (13)–(15). When the dichotomization is expressed by way of an antonym pair of size adjectives, the zone of indifference between the standards for the antonym pair is zero, which is why the negative size adjective can modify the gradable noun. Take the sentence in (13) (repeated next in (33)) as an example. The conjunction "whether . . . or" has been argued in the literature (e.g. Guerzoni 2007) to encode exhaustivity in its semantics. For (33), fans of the Beatles are exhaustively classified into two categories: big fans and small fans. There are no contextually relevant fans whose degree of liking of the band is neither big nor small. Thus, the linguistic context specifies that *stnd*(**small**) necessarily falls above the standard for "fan."[17]

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[17] Contexts where negative size adjectives can degree-modify gradable nouns usually are contexts where negative size adjectives stand in contrast to positive size adjectives. This may lead one to suggest that, for the sentence in (33), "small" is interpreted as excluding "big," and "a small idiot would be someone who is not

(33)   Whether you are a big fan or a small fan of the Beatles, they are familiar and classic.

The second type of exception to the Bigness Generalization occurs when the gradable noun is explicitly specified by the linguistic context to hold of the individual(s) that the relevant "negative size adjective + gradable noun" phrase characterizes. The sentences in (16)–(17) illustrate such cases. The sentences in (34) are yet another minimal pair in support of the claim. The first clause in (34a) specifies that the degree of idiocy for each person in the group referred to by "they" exceeds the standard of being an idiot. The second clause specifies that, for some members in the group, their degree of idiocy is small. However, the first clause already guarantees that the degree of idiocy of these individuals is not small to the extent of disqualifying them from being an idiot. If *stnd*(**small**), constructed from the second clause, falls below *stnd*(**idiot**), then we would have the second clause contradicting the first clause. We can understand this as *stnd*(**small**) being contextually "coerced" to fall above *stnd*(**idiot**). By contrast, for the sentence in (34b), no such coercion is available from the context, which is why it is generally held to be unacceptable.

(34)   a.   They are all idiots, but some can congratulate themselves on being a small idiot.
       b.   %Some of them can congratulate themselves on being a small idiot.

The third type of exceptional case, which involves putting contrastive focus intonation on the negative size adjective that modifies a gradable noun, can be explained similarly to the second type of exception. Focus phrases trigger alternative sets (Rooth 1985). Alternative sets, in turn, can trigger presuppositions in the local context (Abusch 2010). Take the sentence in (18) (repeated below in (35)) as an example. The focus phrase "small" in the *if*-clause triggers an alternative set whose elements are of the form "a _ fan of the Monkees," where "_" is filled by appropriate size adjectives. This alternative set triggers the presupposition that the addressee is a fan of the Monkees. This presupposition provides the same mechanism for (35) as the first clause in (34a) does for the whole sentence in (34a). Thus, my explanation for (34a) can easily carry over to (35).

(35)   You can't go wrong with this CD if you are even a [small]$_F$ fan of the Monkees.

Therefore, the theory I developed in the previous sub-section can account for why the Bigness Generalization is mostly applicable, and why there are exceptions in certain contexts. However, my consideration of the Bigness Generalization so far is limited to the simple degree use of size adjectives. A natural question to ask at this point is how the Bigness Generalization fares with cases where degree modification exists on the degree use of the size adjective itself. Such contexts include the "as . . . as" equative (for English), comparative, superlative constructions, and so on. The superlative and equative constructions are very similar to the comparative construction (e.g. Gawron 1995; Schwarzschild 2008). Hence, in the following sub-section my analysis will primarily focus on the degree use of size adjectives in the comparative construction.

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a big idiot." According to this suggestion, negative size adjectives in their degree use would always be interpreted in relation to their positive counterpart. An apparent shortcoming with this suggestion is that "small" makes no independent contribution in the compositional semantics. In addition, it is not clear to me how to represent the idea precisely by formal semantic/pragmatic means.

3.4 Degree modification of size adjectives in the degree reading

Let us, first, look at the comparative (and superlative) form of size adjectives that modify gradable nouns. I observe that the Bigness Generalization is still mostly applicable and negative size adjectives can serve as degree modifiers only in a limited set of contexts. The English sentence in (3a) (repeated below in (36)) and the Mandarin Chinese sentence in (37) illustrate the comparative form of positive size adjectives intended as degree modifiers. The sentences in (38)–(39) illustrate the superlative form of positive size adjectives intended as degree modifiers. Focusing on the comparative construction, and ignoring irrelevant distinctions between comparatives in English and Mandarin Chinese, I assume that the comparative form of size adjectives intended for degree modification has the Logical Form in (40). The semantics of the phrase "bigger idiot than his secretary" can be derived as shown in (41). It means that "bigger idiot than his secretary" denotes a set of (male) individuals who are idiots and whose degrees of idiocy measure larger than that of their secretary. There are no "extra strings" attached with regard to what the secretary's degree of idiocy should look like. It does not matter whether the secretary is an idiot or not. There is nothing that potentially could make the semantics inconsistent, trivial, or infelicitous. Thus, the phrase "bigger idiot than his secretary" and, by extension, all comparative uses of positive size adjectives degree-modifying gradable nouns are acceptable in the degree reading in question.

(36)   The senator is a bigger idiot than his secretary.
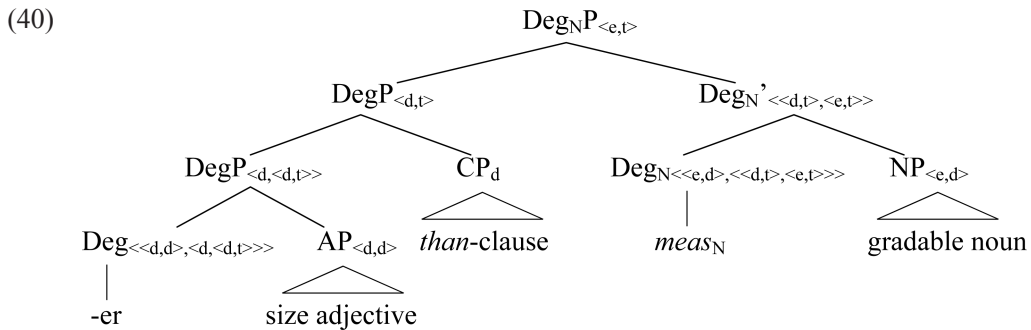
(37)   Mandarin Chinese
Renlei   lishi   fazhan dao jintian, bi wo da de   baichi hai mei you   guo.
human kind history develop to   today BI I   big MOD idiot   still not have ASP
'There has been no bigger idiot than me in the development of human history so far.'

(38)   I've never been the biggest fan of the *Mission Impossible* franchise.

(39)   Mandarin Chinese
Zhinengshouji zui   da   de   aihaozhe jiu   shi nianqing ren.
smart phone   SUPL big MOD lover   EMP is   young   man
'Young men are the biggest lovers of smart phones.'

(40)

$$\text{Deg}_N\text{P}_{<e,t>}$$

with branches: $\text{DegP}_{<d,t>}$ and $\text{Deg}_N\text{'}_{<<d,t>,<e,t>>}$; $\text{DegP}_{<d,<d,t>>}$ and CP_d; $\text{Deg}_{<<d,d>,<d,<d,t>>>}$ (-er) and $\text{AP}_{<d,d>}$ (size adjective); CP_d (*than*-clause); $\text{Deg}_{N<<e,d>,<<d,t>,<e,t>>>}$ (*meas*$_N$) and $\text{NP}_{<e,d>}$ (gradable noun).

(41) a. $[\textit{-er}] = \lambda g_{<d,d>}\,\lambda c_d \lambda n_d.\ c \leq g(n)$

    b. [-than his secretary (is a d big idiot)] = **big**(**idiot**(**his secretary**))

    c. [bigger than his secretary] = $\lambda n.$ **big**(**idiot**(**his secretary**)) $\leq$ **big**(n)

    d. [bigger idiot than his secretary] = $\lambda x.\ \exists d\ [d =$ **idiot**$(x)\ \wedge\ $**big**(**idiot**(**his secretary**))
        $\leq$ **big**$(d)\ \wedge\ stnd$(**idiot**) $\leq d]$

When it comes to the comparative (and superlative) form of negative size adjectives intended as degree modifiers, the picture appears to be just as mixed as the simple form of those adjectives I have discussed. There exist cases where the comparative (and superlative) form of a negative size adjective can serve as a degree modifier for a gradable noun, as suggested by the acceptable sentences in (42)–(45). Meanwhile, there are other instances in which such a use is unacceptable, as shown in (46)–(47).

(42) Both idiots are competing to be the smaller idiot.

(43) Mandarin Chinese

?Wo	zhi	shi	yi	ge	putong	aihaozhe,
I	only	be	one	CL	common	lover
bi	yeyu	wanjia	hai	xiao	de	aihaozhe.
BI	amateur	game player	still	small	MOD	lover

'I am only a regular lover (of game playing), a "smaller" lover than an amateur player.'

(44) ?(After talking about what an idiot Lee Corso is, the speaker continues) but he does deserve credit for being the smallest idiot at that moment.

(45) Mandarin Chinese

Zhexie	qiumi		zhong,	wo	suanshi		zui	xiao	de	baxi	fensi.
these	(soccer) fan	among	I	considered to be		SUPL	small	MOD	Brazil	fan	

'Among all the soccer fans, I am (just) the smallest fan of the Brazil team.'

(46) a. %George is a smaller idiot than Dick is.

    b. %George is the smallest idiot in the room. (Morzycki 2009:ex.(93b–c))

(47) Mandarin Chinese

a.

%Ta	shi	yi	ge		bi	ta	didi	xiao	de	baichi.
he	is	one	CL		BI	his	younger brother	small	MOD	idiot

b.

%Ta	shi	women	zhongjian	zui	xiao	de		baichi.
he	is	us	among	SUPL	small	MOD		idiot

To explain the mixed pattern with regard to negative size adjectives in the comparative construction, it would still be helpful to start with the semantics. The semantics of the phrase "smaller idiot than Dick is" in (46a) is represented in (48). From the semantics, for George to be a smaller idiot than Dick, George has to be an idiot (as specified by "$stnd$(**idiot**) $\leq d$"). At the same time,

George's degree of idiocy should measure less than Dick's degree of idiocy. This, of course, entails/ requires that Dick is/be an idiot as well. Awaiting further research, I suspect that the standard-relatedness requirement on the gradable noun that both George and Dick be idiots is responsible for the oddness of the sentence in (46a). By contrast, when the requirement is explicitly specified to hold, the acceptability of negative size adjectives as degree modifiers in the comparative construction improves. This is precisely what happens in (42)–(43). However, how exactly an absence of overt satisfaction of the standard-relatedness requirement disqualifies the degree use of negative size adjectives in the comparative construction is a topic that I have to set aside for future research.

(48)   **[**smaller idiot than Dick is**]** = $\lambda x.\ \exists d\ [d = $ **idiot**$(x)\ \wedge$ **small(idiot(Dick))** $\leq$ **small**(d) $\wedge\ stnd($**idiot**$) \leq d]$

Given the semantic similarities between the comparative and equative constructions, I shall claim, without any formal argument, that positive size adjectives can act as degree modifiers in the "as . . . as" equative construction. However, when it comes to negative size adjectives, the equative construction differs from the comparative construction in one crucial aspect. When the predicate in an "as . . . as" equative sentence is an adjective of the negative polarity, the sentence is always standard related. For example, the sentence "John is as short as his brother," which contains an adjective of the negative polarity ("short"), entails that both John and his brother are short.[18] A similar entailment is absent in "John is as tall as his brother," which contains an adjective of the positive polarity ("tall"). By contrast, the comparative construction, whether containing an adjective of the positive polarity or an adjective of the negative polarity (e.g. "John is taller/shorter than his brother"), is not standard related. I have already seen that a comparative sentence (e.g. (46a)) containing a negative size adjective intended to degree-modify a gradable noun is standard related in relation to the gradable noun. The "as . . . as" counterpart is, in addition, standard related in relation to the negative size adjective. The dual standard-relatedness is strongly reminiscent of the reference to two standards in my discussion of the simple form of size adjectives intended as degree modifiers. The sentence in (49) can be deconstructed into (50). Whether (49) is acceptable in the degree reading of "small" is congruent to whether (50a–b) is acceptable. This brings us back to my discussion in the previous sub-sections.

(49)   %George is as small an idiot as Dick is.

(50)   a.   %/☺ George is a small idiot.
        b.   %/☺ Dick is a small idiot.
        c.   George's degree of idiocy is as small as Dick's degree of idiocy.

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[18]   The interested reader can refer to Rett (2008:Chapter 3) and Sassoon (2011) for two different treatments of standard-relatedness. However, which of the two proposals is correct is immaterial to the present work.

4. Concluding remarks

In this paper, I have dealt with the phenomenon of size adjectives intended as degree-modifiers for gradable nouns. A major existing analysis of the phenomenon, by Morzycki (2005, 2009), builds on the analytic intuition that the structure of size adjectives that degree-modify gradable nouns mirrors the structure of measure phrases that modify adjective phrases. Although Morzycki's analytic insight is on the right track, his actual implementation of the analytic insight incorrectly predicts that negative size adjectives are categorically barred from serving as degree modifiers for gradable nouns.

Empirical data, from English and Mandarin Chinese, show that negative size adjectives indeed can degree-modify gradable nouns in certain contexts. I propose an alternative analysis of size adjectives as degree modifiers, which lies at the interface between the semantics and pragmatics of adjectival and nominal gradability. A negative size adjective can serve as a degree modifier, except in the more often observed contexts where the standard for the negative size adjective falls below the standard for the gradable noun modified by the adjective. The relative size (and position—see footnote 15) of the zone of indifference for the negative size adjective and its positive counterpart play an important role in determining the ordering relation between the two standards. I also discuss cases where degree modification occurs with size adjectives themselves. My analysis is more pragmatic in nature than Morzycki's (2005, 2009), and correctly allows room for contextual manipulation of negative size adjectives intended as degree modifiers.

References

Abusch, Dorit. 2010. Presupposition triggering from alternatives. *Journal of Semantics* 27.1:37–80.

Bale, Alan Clinton. 2006. *The Universal Scale and the Semantics of Comparison*. Montreal: McGill University dissertation.

Bale, Alan Clinton. 2008. A universal scale of comparison. *Linguistics and Philosophy* 31.1:1–55.

Bierwisch, Manfred. 1989. The semantics of gradation. *Dimensional Adjectives: Grammatical Structure and Conceptual Interpretation*, ed. by Manfred Bierwisch & Ewald Lang, 71–261. Berlin & New York: Springer-Verlag.

Bolinger, Dwight. 1972. *Degree Words*. The Hague: Mouton.

Breheny, Richard. 2008. A new look at the semantics and pragmatics of numerically quantified noun phrases. *Journal of Semantics* 25.2:93–139.

Constantinescu, Camelia. 2011. *Gradability in the Nominal Domain*. Leiden: Leiden University dissertation.

Cresswell, Max J. 1976. The semantics of degree. *Montague Grammar*, ed. by Barbara H. Partee, 261–292. New York: Academic Press.

Gawron, Jean Mark. 1995. Comparatives, superlatives, and resolution. *Linguistics and Philosophy* 18.4:333–380.

Geurts, Bart. 2006. Take 'five': the meaning and use of a number word. *Non-definiteness and Plurality*, ed. by Svetlana Vogeleer & Liliane Tasmowski, 311–329. Amsterdam & Philadelphia: John Benjamins.

Guerzoni, Elena. 2007. Weak exhaustivity and *whether*: a pragmatic approach. *Proceedings of Semantics and Linguistic Theory* (*SALT*) *17*, 112–129.

Hendriks, Petra. 2002. "Either" as a focus particle. Manuscript. Groningen: University of Groningen.

Horn, Laurence R. 1972. *On the Semantics of Logical Operators in English*. Los Angeles: University of California dissertation.

Horn, Laurence R. 1989. *A Natural History of Negation*. Chicago: University of Chicago Press.

Kennedy, Christopher. 1999. *Projecting the Adjective: the Syntax and Semantics of Gradability and Comparison*. New York: Garland.

Kennedy, Christopher. 2001. Polar opposition and the ontology of 'degrees'. *Linguistics and Philosophy* 24.1:33–70.

Kennedy, Christopher. 2007. Vagueness and grammar: the semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy* 30.1:1–45.

Kennedy, Christopher, & Louise McNally. 2005. Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81.2:345–381.

Klein, Ewan. 1980. A semantics for positive and comparative adjectives. *Linguistics and Philosophy* 4.1:1–45.

König, Jean-Pierre. 1991. Scalar predicates and negation: punctual semantics and interval interpretations. *Chicago Linguistic Society* 27.2:140–155. Chicago: Chicago Linguistic Society.

Krifka, Manfred. 2007. Negated antonyms: creating and filling the gap. *Presupposition and Implicature in Compositional Semantics*, ed. by Uli Sauerland & Penka Stateva, 163–177. New York: Palgrave Macmillan.

Morzycki, Marcin. 2005. Size adjectives and adnominal degree medication. *Proceedings of Semantics and Linguistic Theory* (*SALT*) *15*, 116–133.

Morzycki, Marcin. 2009. Degree modification of gradable nouns: size adjectives and adnominal degree morphemes. *Natural Language Semantics* 17.2:175–203.

Rett, Jessica. 2008. *Degree Modification in Natural Language*. New Brunswick: Rutgers University dissertation.

Rooth, Mats. 1985. *Association with Focus*. Amherst: University of Massachusetts dissertation.

Sapir, Edward. 1944. Grading, a study in semantics. *Philosophy of Science* 11.2:93–116.

Sassoon, Galit. 2007. *Vagueness, Gradability, and Typicality: A Comprehensive Semantics Analysis*. Tel Aviv: Tel Aviv University dissertation.

Sassoon, Galit. 2010. Adjectival versus nominal categorization processes: the rule versus similarity hypothesis. Manuscript. Amsterdam: University of Amsterdam.

Sassoon, Galit. 2011. Be positive! Norm-related implications and beyond. *Proceedings of Sinn und Bedeutung 15*, ed. by Ingo Reich, Eva Horch & Dennis Pauly, 531–546.

Schulz, Katrin, & Robert van Rooij. 2006. Pragmatic meaning and non-monotonic reasoning: the case of exhaustive interpretation. *Linguistics and Philosophy* 29.2:205–250.

Schwarzschild, Roger. 2008. The semantics of comparatives and other degree constructions. *Language and Linguistics Compass* 2.2:308–331.

Schwarzschild, Roger, & Karina Wilkinson. 2002. Quantifiers in comparatives: a semantics of degree based on intervals. *Natural Language Semantics* 10.1:1–41.

Seuren, Pieter A. 1984. The comparative revisited. *Journal of Semantics* 3.1–2:109–141.

Svenonius, Peter, & Christopher Kennedy. 2006. Northern Norwegian degree questions and the syntax of measurement. *Phases of Interpretation*, ed. by Mara Frascarelli, 133–161. Berlin & New York: Mouton de Gruyter.

Winter, Yoad. 2005. Cross-categorial restrictions on measure phrase modification. *Linguistics and Philosophy* 28.2:233–267.

Xie, Zhiguo. 2010a. The other pole of degree modification of gradable nouns by size adjectives: a Mandarin Chinese perspective. Paper presented at the 12th International Symposium on Chinese Languages and Linguistics (IsCLL-12), June 19–21, 2010. Taipei: Academia Sinica.

Xie, Zhiguo. 2010b. "No big, no small" for the degree use of size adjectives in Mandarin: reality vs. illusion. Paper presented at the 6th International Workshop on Theoretical East Asian Linguistics (TEAL-6), August 15–16, 2010. Beijing: Peking University.

Xie, Zhiguo. 2011. *The Relevance of Gradability in Natural Language: Chinese and English*. Ithaca: Cornell University dissertation.

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關鍵在於標準的相對位置：
大小形容詞充當程度修飾詞的語意—語用界面分析

解志國

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　　諸多語言（如漢語和英語）中的大小形容詞可以修飾級差名詞，具有程度解釋。現有文獻認為正極性大小形容詞可以充當程度修飾詞，而負極性大小形容詞則不可以充當程度修飾詞。本文的討論表明負極性大小形容詞在某些「特殊」情況下也可以充當程度修飾詞。本文利用英語和漢語語料，對這些「特殊」情況進行概括總結，並提出一個位於語意–語用界面的分析。根據這一分析，對於負極性大小形容詞，只有在其標準低於其所修飾的級差名詞的標準的語境中，才不可以充當程度修飾詞。這一分析可以解釋：(1) 為什麼正極性大小形容詞總可以充當程度修飾詞，(2) 為什麼負極性大小形容詞在「一般情況」下不可以充當程度修飾詞，(3) 為什麼負極性大小形容詞在某些「特殊」情況下可以充當程度修飾詞。

關鍵詞：大小形容詞，級差名詞，模糊區域，標準，極性