Big eaters and real idiots: evidence for adnominal degree modification?

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Abstract. This paper examines certain types of adjectival modification that have been taken as evidence in favour of the existence of gradable nouns and of adnominal degree modifiers/ operators. It shows that the distribution and interpretation of the modifiers in question (i.e. adjectives such as *big* and *real*) does not support such a view, and argues instead for a different account. Size adjectives are uniformly analysed as size adjectives, which, depending on the type of noun they modify, may receive a concrete or an abstract interpretation, while *real* is analysed as an epistemic adjective. In certain cases, the interpretation is misleadingly similar to interpretations obtained by means of degree modification in the adjectival domain (e.g. the abstract size interpretation); it is, however, arrived at via different mechanisms. This, in combination with facts concerning the distribution of cross-categorial degree modifiers like *more*, is taken to show that no grammatically accessible gradable structure of the type familiar from the adjectival domain is represented in the lexical semantics of nouns. The study also provides evidence in favour of the existence of instances of properties (tropes) and their relevance for the lexical semantics of particular classes of nouns and for their composition with particular types of modifiers (in particular, size adjectives).

1.   Introduction

Adjectives like *big*, *terrible* and *complete* usually denote physical size, negative qualitative evaluation and completeness, respectively, as in (1). However, when they modify nouns that, intuitively, encode a gradable property in their lexical meaning, as in (2), these adjectives seem to indicate that this property holds to a high degree. Thus, the relation between an adjective like *big* and a noun like *idiot* seems to parallel the relation between a degree modifier and the corresponding gradable adjective, as in (3).

(1)   a. a big {lad/ house}
       b. a terrible {doctor/ idea}
       c. a complete description

(2)   a. a big {idiot/ eater}
       b. a terrible {coward/ bore}
       c. a complete idiot

(3)   a. very idiotic
       b. terribly boring
       c. completely idiotic

These data raise the following question: do the adjectives in (2) indeed function as degree modifiers or operators in the nominal domain similarly to how expressions like *very* are generally argued to function in the adjectival domain (cf. (3))? Can their distribution and interpretation be taken as evidence in favour of the presence of a semantic gradable structure and of a DegP in the syntax of certain nouns?

The answer given in the literature is often affirmative. These types of adjectival modification have been taken to constitute evidence in favour of the existence of gradable nouns and of adnominal degree modifiers/ operators (Bolinger 1972, Paradis 2001, Morzycki 2009). In this paper, however, I will propose a negative answer (see also Constantinescu 2011). I will show that, although the interpretations are often very similar to those obtained by means of degree modification in the adjectival domain, they are in fact arrived at not by operating on gradable structures in a way that would be similar to how degree modification applies to gradable adjectives, but by other mechanisms, which are independently attested and needed to account for other phenomena as well. These observations, in combination with some observations concerning the distribution of degree expressions like *more*, which may combine both with adjectives and with nouns, support the conclusion that no gradable structure of the type found with gradable adjectives is represented in the lexical semantics of nouns.

When one looks at gradability in the nominal domain, there are several classes of nouns that are possible candidates for gradable expressions, e.g. nouns denoting human individuals characterized by a property (e.g. *idiot*, *blunderer*, *coward*, *genius*), nouns denoting abstract objects characterized by a property (e.g. *problem*, *failure*, *blunder*), nouns naming properties (e.g. *idiocy*, *courage*, *wisdom* etc.) and certain nouns when used with a figurative interpretation (e.g. *palace*, *clown*). Different tests are used to decide which nouns are gradable, and, depending on the test, different sets of nouns come out as gradable (cf. Constantinescu 2011). In this paper I will focus on two types of expressions that look like degree modifiers in the nominal domain, namely size adjectives (e.g. *big*, *huge* etc.) and epistemic adjectives (e.g. *real* etc.), and investigate their behaviour with respect to certain classes of nouns which have been claimed to be gradable at some point or other in the literature, in particular (A) nouns which denote individuals characterized by an abstract property (e.g. *idiot*, *fool* etc.) and (B) abstract mass nouns which denote properties (e.g. *idiocy*, *courage* etc.). I will show that their distribution and interpretation does not support an analysis of these adjectives as adnominal degree expressions and I will propose an alternative account for each type of adjective. The paper is structured as follows: in section 2 I examine size adjectives, section 3 offers an analysis of epistemic adjectives, and in the last section I briefly investigate the implications that the conclusions drawn in sections 2-3 have for gradability across categories (in particular nouns vs. adjectives) and for its representation.

2.   Size adjectives

The relevant types of examples are given in (4). Morzycki (2009) proposes a degree-based analysis for the cases of size adjectives modifying type A nouns, cf. (4)a, which is parallel to degree-based approaches to gradable adjectives. For the examples where the size adjective modifies a type B noun, cf. (4)b, he proposes a different analysis. He argues that these are cases of regular predication involving an interpretation in terms of metaphorical, abstract size. In this section I will show that in fact the second type of view, proposed to account for cases like (4)b, can be extended to all cases (i.e. also (4)a), and that degree modification is never involved. I will propose an analysis on which size adjectives are always size adjectives.

(4)   a. a big idiot   [type A noun]
         b. enormous generosity   [type B noun]

There are two relevant properties of size adjectives that need to be examined when searching for a proper account of these cases. The first one concerns their syntactic distribution and associated interpretation, or Morzycki's 'position generalization'. The second one concerns the lack of low degree interpretations obtained by means of (small) size adjectives, or Morzycki's 'bigness generalization'. These will be examined in turn in the following two subsections. In subsection 2.3, I will offer an alternative account.

2.1.   The position generalization

The relevant interpretation of size adjectives is only available in the prenominal attributive position, as in (5)a; when the adjective is postnominal or in predicative position, as in (5)b and (5)c, only a concrete size interpretation is available (Morzycki 2009):

(5)   a. He's a big idiot.
       b. That idiot is big.
       c. He's an idiot bigger than anyone I know.

However, there are a number of exceptions to this generalization, as illustrated in (6). Importantly, the interpretation of the predicative adjectives in (6) does not seem to be distinct from that of their prenominal uses: *huge mess* and *enormous generosity*, respectively. The indistinctness of the two readings in the context of type B nouns explains the contradiction in (7)b and the contrast with (7)a, where a type A noun is used and the two distinct interpretations the size adjective receives in the prenominal and predicative positions ensure a felicitous, non-contradictory assertion:

(6)   a. The mess they left behind was huge.
       b. Her generosity was enormous.

(7)   a. Harry isn't enormous, but he's an enormous idiot.   (Morzycki 2009)
       b. #The courage he showed wasn't enormous, but it was an enormous courage.

The question that arises is how these two patterns, namely (5) and (6), should be interpreted (and reconciled). Morzycki (2009), for whom the position generalization is a necessary feature identifying size adjectives as degree modifiers (cf. (5)), adopts the following position with respect to these facts. First, he argues that the acceptable predicative cases, i.e. (6), do not involve the 'degree' use of the adjective; the interpretation is in terms of size but in a metaphorical, abstract sense, and it only has a degree flavour because of the type of noun used. Secondly, the examples containing type B nouns (cf. (6)) never involve the 'degree' use of the adjective, and these nouns are not gradable (i.e. they are not of type $<e,d>$, while the noun *idiot* is, just like gradable adjectives such as *stupid*, *tall* etc.).

Morzycki's first point is correct: on any type of approach to gradability, a degree operator/ modifier has to be adjacent to the noun which provides the gradable structure on which it needs to operate and in whose extended functional projection the DegP that hosts it is located. It will, therefore, be banned from the predicate position. Consequently, a size adjective that functions as a degree modifier cannot occur in predicative position and any predicative uses need to be excluded as cases of degree modification and accounted for in a

different way. However, Morzycki's second conclusion is not necessary: analysing the predicative uses as suggested above does not automatically entail (i) that the adjectives can never function as 'degree modifiers' when used attributively with these nouns (e.g. *enormous generosity*), and (ii) that these nouns are not gradable. The attributive cases (e.g. *enormous generosity*) could be ambiguous; it's just that, unlike with type A nouns, the two interpretations would be virtually indistinguishable with type B nouns. In other words, the difference boils down to the fact that type A nouns have concrete size (which ensures a clearly distinct interpretation), while type B nouns have abstract size, and the two readings – the (abstract) size reading and the degree reading – are indistinct. But is this enough to warrant that these classes of nouns should be assigned different semantic types (i.e. *idiot* – type $<e,d>$ and *generosity* – type $<e,t>$)? In other words, given the similarity of the 'abstract size' reading and the 'degree' reading, the question arises whether the view of the predicative uses suggested above can be extended to all cases. Or is there really evidence in favour of analysing size adjectives as degree modifiers in any of the cases and adopting the same semantic type for both gradable adjectives and type A nouns?

I propose that the restriction to the prenominal position is not enough to assume that these modifiers depend on gradable structures and the presence of a DegP in the syntax of nouns. There are two facts that argue in favour of reconsidering the relevance of the restriction. First of all, this restriction is generally found with non-intersective adjectives, independently of degree and gradability. This is illustrated below with two subsective adjectives which give rise to the well known intersective / non-intersective ambiguity (cf. Siegel 1976, Larson 1998 a.o.). That is to say, when an adjective like *beautiful* is used prenominally, as in (8), the example can be interpreted either as 'Olga is a dancer and she is beautiful', i.e. intersectively, or as 'Olga is beautiful as a dancer' (or 'Olga dances beautifully'), i.e. non-intersectively. Such adjectives have been called subsective precisely because on their non-intersective interpretation they license the inference that anything that is [A N] is an N, but not that it is A. Thus, (8)a.i on its non-intersective reading entails that Olga is a dancer (who dances beautifully) but not that she is a physically beautiful individual. Similarly, (8)a.ii can have either a non-intersective interpretation, which is in fact the most salient one, on which it is about someone who has been a friend for a long time, or an intersective interpretation, in which case it is about a friend who is aged. These interpretations are absent when the adjectives are used predicatively or postnominally, as in (8)b and (8)c; in these positions the adjectives can only be interpreted intersectively: *beautiful* is used to describe the individual's physical beauty, while *old* refers to the individual's age.

(8)   a. i. He's an old friend.
           ii. She's a beautiful dancer.
       b. i. My friend is old.   [only: age]
           ii. This dancer is beautiful.   [only: physical beauty]
       c. i. He's a friend older than anyone else.   [only: age]
           ii. She's a dancer more beautiful than anyone else.   [only: physical beauty]

Secondly, the sort of exceptions to the prenominal restriction illustrated in (6) are also found more generally among non-intersective adjectives: these too can occur in predicate position if the right sort of noun is used as a subject, or if the relevant 'dimension for interpretation is made salient enough in the context. For example, even notorious intensional adjectives such

as *alleged* in English and *supposé* in French, which are normally ungrammatical in predicative position, become grammatical in the predicative position when the subject is an abstract mass noun like *communism*, as pointed out by Higginbotham (1985) and Bouchard (2002). What Higginbotham and Bouchard suggest is wrong with (9) is that it is a category mistake; with an appropriate argument, we obtain a legitimate predication, as in (10).

(9) a. *That Communist is alleged.   [English]
     b. *Ce communiste est supposé.   [French]
        this communist is supposed

(10) a. His Communism was alleged.   [English]
     b. Son communisme est supposé.   [French]
        his communism is supposed

Similar facts have been noted in connection with the distribution of relational adjectives by Demonte (1999), Picallo (2002), McNally and Boleda (2004). Such adjectives do not generally make good predicates, as shown in (11)b. However, if the right noun is used as a subject, then the predicative use of the adjective becomes grammatical, as shown in (12)b. The particular type of noun required by these adjectives is different (e.g. McNally and Boleda argue that relational adjectives denote properties of kinds, where kinds are modelled as entities, following Carlson 1977), but the mechanism seems to be the same: as soon as the right type of argument is provided, the predicative use of the adjective becomes possible.

(11) a. El Martí és arquitecte tècnic.   [Catalan]
        the Marti is architect technical
        'Marti is a technical architect.'
     b. #El Martí és tècnic.
        the Marti is technical

(12) a. una malaltia pulmonar   [Catalan]
        a disease pulmonary
        'a pulmonary disease'
     b. La tuberculosi pot ser pulmonar.
        the tuberculosis can be pulmonary

Given the generality of this pattern and its general independence from degree or gradability, it may be safely concluded that the position generalization is not an argument in favour of analysing nouns such as *idiot* on a par with gradable adjectives and size adjectives as degree modifiers, nor (conclusive) evidence in favour of the existence of a Deg$_N$P. The data considered in this subsection suggest instead that size adjectives should be considered in the broader context of non-intersective modification, and that an alternative account that makes use of mechanisms that are independently needed should be taken more seriously.

2.2. The bigness generalization

There is a second set of facts that has been used as evidence in favour of a distinction between the degree use of size adjectives and their abstract size reading, namely what

Morzycki (2009) labels the "bigness generalization". This refers to the general impossibility of using small size adjectives to modify nouns and give rise to a low degree interpretation that would be the counterpart of the high degree interpretation obtained with size adjectives that predicate 'bigness'. Consider the following examples:

(13)   a. a big idiot   [very idiotic; big person]
        b. a small idiot   [only: small person]
        c. this idiot is {big/ small}   [only: big/small person]

The [A N] combination in (13)b cannot be interpreted in terms of 'being idiotic to a low degree', in a parallel way to (13)a, which can be interpreted as 'being idiotic to a high degree'. If acceptable, then the example can only receive the concrete size interpretation.[1]

Morzycki takes the bigness generalization to only apply to degree readings of size adjectives and not to affect the other uses of size adjectives, including the abstract size interpretations discussed in the previous subsection (cf. (6)). He explains this restriction within a degree-based account of gradability. Morzycki adopts a Kennedy-style analysis of gradability, and assumes both gradable adjectives and gradable nouns to denote measure functions from individuals to degrees, i.e. type $<e,d>$ (cf. Kennedy 1999a,b, 2007) and to project a DegP in syntax. In the absence of overt degree morphemes, *pos* turns the measure function into a predicate and introduces the standard. He analyses size adjectives as predicates of degrees, similar to AP-modifying measure phrases; they are generated in SpecDeg$_N$P, the head of which is occupied by a null operator, which is a version of the *meas*-head proposed by Svenonius and Kennedy (2006) to account for AP-modifying measure phrases. However, contrary to what happens when an adjective is modified by a measure phrase, the entailment to the positive form is preserved when nouns like *idiot* are modified by size adjectives:

(14)   a. He's a big idiot.   →   He's an idiot.
        b. He's 1.50m tall.   ↛   He's tall.

This leads Morzycki to assume that the nominal *meas*-head responsible for introducing size adjectives not only introduces the minimum requirement relevant for the interpretation of

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[1] Small size adjectives may be used with a different interpretation, namely to express positive or negative evaluation, similarly to an expressive expletive like *damned* and to diminutives, which are used to suggest cuteness with favourable nouns and depreciation with unfavourable ones (cf. Bolinger 1972).
(i)   a. She's a little angel, she is!
      b. You little rascal!/ He's a dirty little coward!   (Bolinger 1972)
Note also, in this context, the following contrasts in French (J. Rooryck p.c. to Constantinescu 2011):
(ii)   a. un gros   menteur   [degree]
        a   fat   liar
        'a big liar'
     b. un petit   menteur   [depreciation/negative evaluation]
        a   little   liar
        'a little liar'
(iii) a. Il est un gros   menteur, vraiment le roi   des   menteurs.
        he is a   fat   liar   indeed   the king   PART   liars
        'He's a big liar, the king of liars really!'
     b. #Il   est un petit   menteur, vraiment le roi   des   menteurs.
        he   is a little   liar   indeed   the king   PART   liars

measure phrases, but also the standard. It thus combines the properties of the adjectival *meas* and *pos* operators: it requires that the individual satisfy the gradable predicate (noun) to a degree that (i) is at least as great as the smallest degree that satisfies the size adjective, and (ii) is at least as great as the standard for the gradable noun. As a result of the particular semantics proposed for these elements, it is only *big*-type adjective that make a difference to *pos* and, consequently, may occur in SpecDeg$_N$P; when *small* modifies a noun like *idiot* the interpretation ends up being the same as that of [*pos idiot*] and is, therefore, blocked (see Morzycki 2009 for more details, and Constantinescu 2011 for criticism of this solution).

Thus, on Morzycki's account, the bigness generalization is brought about by the underlying syntax proposed and the interaction between the scale structure of size adjectives and the semantics of degree measurement in nominal projections. Consequently, size adjectives that can be used in predicative position, which are not (and cannot be) treated as degree modifiers with this particular semantics–syntax, are predicted not to obey the bigness generalization.

However, the predicted correlation between the bigness generalization and the position generalization does not exist. On the one hand, there are cases where the bigness generalization holds, but the position generalization does not hold:

(15) a. un {grand/ *petit} courage   [French]
          a   big/   small   courage
      b. a {huge/ *small} mess   [English]

(16) a. Son courage était grand.   [French]
          his   courage was   big
      b. The mess they left behind was huge.   [English]

On the other hand, there are cases where the bigness generalization does not hold, but the position generalization holds:

(17) a. un {grand/ petit} mangeur   [French]
          a   big/   small eater
      b. a {big/ small} stamp-collector   [English]

(18) a. Ce   mangeur   est {grand/ petit}.   [French]
          this eater   is big/   small
      b. That stamp-collector is {big/ small}.   [English]

Therefore, facts such as those illustrated in (13) cannot be taken as evidence in favour of distinguishing between the 'degree use' of size adjectives and their abstract size reading and as support for the particular degree-based analysis proposed by Morzycki (2009).

There is an additional observation that needs to be made in this context: the nouns that obey the bigness generalization do so systematically; neutral readings never occur. For example, even when the noun is used inside comparative or interrogative constructions like *He is a bigger idiot than his brother* or *How much of an idiot is he?*, the entailment to the positive (*He is an idiot*) is preserved. In other words, it seems that the 'high degree', or standard-

related, meaning is always part of the meaning of the noun and cannot be removed. This suggests that, rather than being 'detached' and placed in the syntax, as in Morzycki's (2009) account, it should be made part of the lexical meaning of these nouns; as a general principle, if a meaning is entailed in all the uses of an item, then it is part of its lexical meaning (cf. Rappaport-Hovav 2008, Rappaport-Hovav & Levin 2010). This 'integrated' meaning will conflict with *small*, which will thus be ruled out: idiots are individuals characterized by relatively much idiocy, i.e. their idiocy is big; individuals whose idiocy is small will not qualify as idiots.

To conclude, the bigness generalization is not an argument in favour of distinguishing between the 'degree' use of size adjectives and their abstract size reading, or in favour of adopting a degree-based account that treats nouns like *idiot*, but not *generosity*, semantically on a par with gradable adjectives, and assumes the existence of a Deg_NP. This means that the analysis in terms of abstract size may be extended to all cases (i.e. to *big idiot* as well).

2.3.   Proposal: size adjectives are always size adjectives

I propose that the so-called 'degree' use can be re-analysed as an abstract size interpretation: the adjectives still measure size, but in this case it is the size of instances of properties rather than that of objects that have concrete spatial dimensions; hence, the abstract nature of the measuring involved. The sometimes peculiar way these adjectives combine with nouns can be understood in terms of mechanisms generally available to non-intersective modification.

I propose that type B nouns, such as (19)a, denote (kinds of) tropes, and that, when a size adjective modifies such a noun, it measures the size of tropes (or instances of properties). Consider the following examples:

(19)   a. Generosity is {rare/ widespread}.   [kind of tropes]
         b. #Generosity is enormous.   [kind of tropes]
         c. Mary's generosity was enormous.   [trope]

Type B nouns, in definite/ possessive DPs, such as (19)c, refer to tropes (Moltmann 2004a,b, Nicolas 2004, 2010). Size adjectives are stubbornly distributive modifiers (cf. Schwarzschild 2009). As such, they apply to individual object-level entities, in this case instances of properties (tropes), as in (19)c, but not to kinds or collections thereof, hence the unacceptability of (19)b. This view is confirmed by the fact that in French modification of an abstract mass noun by such adjectives triggers the obligatory insertion of the singular indefinite article:

(20)   a. Il a   du   courage.   [French]
           he has PART courage
           'He has courage.'
         b. Il a   montré un/*du   grand   courage.
           he has shown   a/ PART   big   courage
           'He showed great courage.'

Tropes are objects (type $<e>$) of a particular sort (cf. Moltmann 2004a,b, 2007, 2009, 2011).

Among their peculiar properties, two are particularly relevant for the present discussion (for more details on tropes, see Moltmann 2003, 2004a,b, 2007, 2009, 2011). One is that they are dependent: they depend on another individual in which they are located, e.g. *Mary's generosity* (cf. Van de Velde 1996, Moltmann 2004a,b, 2011). Thus, *generosity* can be analysed as a two-place predicate, **generosity** (*p*, *x*), a relation between tropes and individuals in which they are instantiated. The other important feature is that tropes have abstract size; hence, the abstract interpretation when a size expression is used, e.g. **enormous** (*p*). This will be intuitively understood in terms of the degree to which the property holds. Consider the following example:

(21)   Julie's generosity was greater than Fred's.   (Nicolas 2010)

This sentence compares two instances of love using an ordering relation associated with the adjective *great*. Given the vague meaning of *great*, this may be understood as comparing the two instances of love using an ordering relation associated with the noun *love* and the corresponding verb *to love*. Hence the possibility of a paraphrase in terms of degree, which reflects just one among several possible ways of understanding the application of certain modifiers or predicates to instances of properties (cf. Nicolas 2010). But this is all this is: an intuitive paraphrase, not the basic denotation of the expressions involved.

As for type A nouns, I propose that they denote sets of individuals in which a property like idiocy is instantiated, and that, on the relevant reading, size adjectives target this instance (or trope) inside the meaning of the noun. In other words, the adjective intersectively modifies a subpart of the meaning of the noun (cf. Larson 1998, Bouchard 2002 for such an intersective reanalysis of non-intersective adjectives). The adjective accesses the trope that is part of the meaning of the noun via a mechanism that is independently needed to account for other cases of non-intersective modification. One possible way of implementing this idea is to adopt a Larsonian type of semantics.

Larson (1998) argues that *beautiful* in an example like *a beautiful dancer* (cf. (8) above) can modify either the referential argument of the noun (resulting in the ordinary, intersective reading) or the event argument of the noun (which results in the non-intersective reading). McNally & Boleda (2004) extend this to relational adjectives such as *tècnic* 'technical' in (11) above, which they assume modify a kind argument of the noun.

In this type of semantics, the adjective in *big idiot* would likewise be predicated of an argument of the noun. Type A nouns denote sets of individuals in which a property like idiocy is instantiated. This can be defined as an argument of the noun (just as nouns like *dancer* are defined as having an event argument). Thus, a noun like *idiot* applies to pairs of individuals <*x,p*> such that *p* is instantiated in *x*, where *p* is an instance of idiocy:

(22)   [[*idiot*]] = λ*x*λ*p* [**idiot**(*x,p*)]

The size adjective can apply to this argument, as shown in (23). This results in the same interpretation as in examples like *huge stupidity/ his stupidity was huge*. Thus, this analysis also immediately captures the similarity in interpretation between *a huge idiot* and *huge idiocy*, which Morzycki's account outlined in the previous subsection missed.

(23) [[*huge idiot*]] = λ*x*λ*p* [**idiot**(*x*,*p*) ∧ **huge**(*p*)]

With class A nouns, this use of the adjective will be restricted to the prenominal position: only in this configuration can the adjective target the property which is part of the internal semantic make-up of the noun. In the predicative position, the adjective can only target the 'whole', which gives an individual, and will, therefore, only allow for a concrete size interpretation, as in (24)b. This is completely parallel to other cases of non-intersective modification, as discussed in subsection 2.1, e.g. *beautiful* and *old* in (8).

(24) a. a big idiot
      b. This idiot is big.   [only physical size]

If the sentence contains a noun that denotes an object of the right sort, however, the adjective can also be used in the predicative position with the same interpretation. This is what happens when a type B noun (within a definite/ possessive DP) is the subject the adjective is predicated of, as in (25)b. This is also parallel to other cases of typically non-intersective adjectives that are licensed in the predicate position if provided with the right sort of argument, as discussed in subsection 2.1 in relation to adjectives like *alleged* or relational adjectives like *tècnic* in (9)-(12).

(25) a. enormous generosity
      b. His generosity was enormous.   [same interpretation as (a)]

2.4. Concluding remarks

In this section I have argued that size adjectives always indicate size; depending on the object they apply to it may be concrete or abstract; in the latter case the interpretation is very close to meanings obtained by degree modification in the adjectival domain. Size adjectives, therefore, do not provide evidence in favor of treating the noun *idiot* and the adjective *idiotic* as semantically similar, nor in favour of a nominal counterpart of the adjectival DegP. Consequently, there is so far no evidence in favour of the existence of a (grammatically accessible) gradable structure in the lexical semantics of nouns. 'Gradable nouns' could be (re)defined as those nouns that either denote sets of tropes, i.e. objects that have an abstract size (e.g. *idiocy*) or are defined in terms of such an object (e.g. *idiot*).

3. Epistemic adjectives

A second candidate for a degree expression in the nominal domain is the adjective *real* (e.g. *He is a real idiot*.). Morzycki (2009) proposes that *real* is an adnominal degree head. In this section I will show that *real* is not a degree operator, but rather an adjective with an epistemic interpretation (an analysis that can be extended to *true*).

3.1. Distribution

The distribution of *real* is much wider than the class of nouns one might want to consider gradable. In addition to type A and type B nouns, as in (26)-(27), which can also be modified by size adjectives on an apparent 'degree' reading, as discussed in the previous section, *real*

can also modify nouns used figuratively, as in (28), which cannot be modified by size adjectives (e.g. *a big palace* can only have a literal reading: something which is a palace and big in size), as well as other, arbitrary nouns, as in (29), which only allow the concrete size interpretation of size adjectives (e.g. *a big car* is a car which is big in size).

(26) a. He's a real idiot.
     b. "I'm not a salad girl," she said. "I'm a real eater."

(27) He showed real courage.

(28) a. Their new place is a real palace!
     b. This boy is a real clown.

(29) a. That's a real car.
     b. That's a real bird.

In addition, the interpretation in all of these cases is not in terms of an object being ranked high in an ordering with respect to the degree to which a property holds. In fact, the interpretation seems to be somewhat variable depending on the modifee. What all of the examples above seem to have in common, however, is that they emphasize that the individuals in question have the properties characteristically associated with idiots/ eaters/ cars/ birds in the speaker's view. This type of distribution and interpretation disinguishes *real* from a regular degree operator.

Before going on to propose an alternative account, however, it must be pointed out that there are in fact two *real* adjectives as witnessed by the existence of two different distributional patterns which correlate with two different interpretations. The first one can be used both in attributive and predicative positions with the same interpretation (as illustrated in (30) and (31)), namely as antonymous to *fake*, a privative adjective which, notoriously, entails that the objects are not Ns, as well as to other modifiers, such as *toy* and 'constitutive material' modifiers, which also entail that the objects are not Ns, but "representations/ models of N" (cf. Partee 2009, 2010).

(30) a. Is that a real car or a fake car?
     b. This is not a real penguin; it's made of wool.

(31) a. Is that gun real or fake?
     b. I don't care if that fur is fake or real.   (Partee 2009, 2010)

The second one, not antonymous to *fake*, is the one that is relevant here (see examples in (26)-(29) above) and will be henceforth called "epistemic *real*". Epistemic *real* can only be used in the attributive prenominal position, even with nouns that allow the predicative use of size adjectives. It is, therefore, exclusively non-intersective/ intensional. The relevant interpretation is not available in the predicative position, as shown in (33).

(32) a. He is a real idiot.
     b. He showed real courage.

(33) a. This idiot is real.   [only: not an imaginary person]
      b. His {courage/ sorrow} was real.   [only: not fake/ not pretended]

The same restriction is found in Romance: the epistemic interpretation is only available in the attributive prenominal position in (34)a, and absent in the postnominal position in (34)b, where only the "not fake" interpretation is available (Bouchard 2002).

(34) a. un réel   besoin
          a   real   need
          'a real   need'   [something which is truly a need]
      b. un besoin   réel
          a   need   real
          'a real need'   [only: not fake/ not imaginary]

That the two uses of *real* are indeed distinct is also indicated by the fact that they may be juxtaposed without this leading to a contradiction:[2]

(35)   Their place is not a real palace, but it's a real palace!

3.2.   Analysis

Partee (2009, 2010) proposes that the adjectives *real* and *fake* trigger the coerced expansion of the denotation of the noun to which they are applied. Thus, while in the absence of a modifier like *fake* or *real*, all guns are understood to be real guns, in interpreting a question like (31)a and similar examples (cf. (30)-(31) above), the denotation of *gun* is expanded so as to include both fake and real guns. This shift enables one to interpret the [A N] predicate in such a way that both its positive and negative extensions are non-empty (cf. Kamp and Partee's 1995 "Non-Vacuity Principle"). Without this coerced expansion, the use of *real* would always be redundant. This also allows reanalysing *real/fake* as subsective adjectives (similar to e.g. *skilful*). On such an analysis, it is also no longer unexpected that they can appear in predicate position (cf. also *{John/ This violinist} is skilful*.).

I propose that with epistemic *real* the domain is affected in quite the opposite sense. It is, in some sense, narrowed down: the speaker divides up the domain normally covered by N into those objects that, according to him/her, undoubtedly have the properties associated with N and, hence, fall into the positive extension (*real Ns*) and those that do not. This is confirmed by the role of contrast in making perfectly acceptable examples that would sound odd out of the blue:

(36) a. ?She's a real eater.
      b. "I'm not a salad girl," she said. "I'm a real eater."

Epistemic *real* is relativized to the speaker's beliefs. That is, it is not the case that the object has in the actual world all the properties it can have in any accessible possible world. When

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[2] Intonation seems to play a role in disambiguating the meaning: the first occurrence of *real* in (35) carries heavy stress, while in the second part of the sentence it is *palace* which is stressed (*real* may be stressed too, but less than in the first case).

different speakers utter a sentence like *Now, that's (what I call) a real car!* it may correspond to different ways of "cutting up" the domain; that is, what makes a *real car* may differ among speakers. In other words, *x is a real N* says that in all of the worlds compatible with the speaker's doxastic alternatives *x* is [in the positive extension of] N. The general semantics of *real* is schematized in (37)a, and the satisfaction conditions for **real** are sketched in (37)b.[3]

(37) a. $[[real]] = \lambda P \lambda x \lambda w. (\mathbf{real}(P))(x)$
      b. $\forall w' \in \mathrm{Dox}_{w,Holder}[P(x)$ in $w']$

As noted above, epistemic *real* is an exclusively non-intersective, intensional adjective in the sense of Siegel (1976); it participates in construing the property that the NP will denote and, in doing so, it brings in an epistemic component, redefining, in a way, based on the speaker's view, what counts as an N.[4]

Let us now see how this can account for the distribution and interpretation of epistemic *real*. Consider, to start with, an example like (38). The speaker emphasizes that the car has all the properties that cars should have in his/her opinion (e.g. a car with a powerful engine or a big car, as opposed to a mini smart), i.e. that in all of his/her doxastic alternatives that object is in the positive extension of *car*. In an example like (39), which contains a figurative noun, by using *real*, the speaker conveys that s/he assumes that the house has all the properties believed to be associated with palaces, more precisely, in this case, properties stereotypically associated with palaces. This also shows that *real* is rather indifferent to the objective, definitional characteristics that confer actual category membership; the kind of properties that count are rather properties that merely normally hold of N in view of what people believe, or expect, an individual of a particular class, nationality, profession etc. to be like, in other words stereotypical properties. This correlates with the subjective character of *real*.

(38) a. That's (what I call) a real car.
      b. $[[real\ car]] = \lambda x \lambda w. \forall w' \in \mathrm{Dox}_{w,Holder} [\mathbf{car}(x)$ in $w']$

(39) a. Their house a real palace.
      b. $[[real\ palace]] = \lambda x \lambda w. \forall w' \in \mathrm{Dox}_{w,Holder} [\mathbf{palace}(x)$ in $w']$

Finally, consider (40), which contains the noun *idiot*, which had been argued to be gradable. We can now understand where the apparent degree interpretation comes from: it is simply a result of the interaction between the epistemic real and nouns like *idiot*. The set of individuals who are in the positive extension (i.e. 'are real idiots') in all of the worlds compatible with

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[3] I choose to refer to a "holder" here rather than the speaker, because *real* can be embedded and accepts shifts in perspective (i.e. it may be non-speaker-oriented).

[4] According to Paradis (2003) the use of the adverbial counterpart of *real*, *really*, is similarly conditioned by the speaker's wish to qualify an expression epistemically with a judgement of truth as perceived by the speaker. Analyses of *real(ly)* modifiers as epistemic/evidential have been recently proposed by Constantinescu (2011) for *real* and *true*, and Beltrama & Bochnak (2011) for *šemu* in Washo, though the latter do not remark on the 'subjective' aspect of the modifier (see also McNabb (2012) for a similar view of the Hebrew modifier *mamaš*, though cast as a modifier of properties involving the manipulation of contexts). Bouchard (2002) argues that the prenominal adjective *réel* in French (cf. (34)) modifies the characteristic function (i.e. the property defining the noun) and indicates that it applies exactly, that all the properties required by it are verifiable, and that the authentication is done by the speaker (unlike with an adjective like *authentique* 'authentic, genuine').

the speaker's doxastic alternatives are those individuals to which the defining property undoubtedly applies; this will end up containing the individuals that are intuitively 'very idiotic', as these constitute the clearest cases of idiots.

(40) a. He's a real idiot.
      b. [[*real idiot*]] = $\lambda x \lambda w. \forall w' \in \text{Dox}_{w,Holder}$ [**idiot**(x) in w']

3.3. Additional advantages and support

There are several additional facts that argue in favour of the analysis of size adjectives and epistemic adjectives proposed here. Firstly, *real* is non-gradable, and does not accept degree modification on the relevant reading (cf. Morzycki 2009):

(41) a. #a {very/ quite/ fairly} real {idiot/ palace/ car}
      b. a {very/ quite} real problem   [only: not fake/ imaginary]

While Morzycki (2009) takes this resistance to degree modification as an indication that *real* is a degree head, I take it as a direct reflection of its semantics, namely of the fact that the adjective imposes a non-graded division of the domain; the only relevant distinction is a two-way distinction between those objects that in the speaker's opinion qualify as N and those that do not.

Secondly, the analysis of *real* and *true* as epistemic adjectives is in accordance with the type of distinction we find between them: they differ in terms of the type of criteria that play a role in deciding whether x falls in the extension of [A N], not in terms of scalar information. For example, while *real* can modify nouns used in a figurative sense, *true* cannot, as illustrated in (42), which may be taken to indicate the fact that while x is in the extension of *real N* if, based on subjective criteria/ the speaker's opinion, it is a clear-cut case of an N, with *true N*, x falls in the positive extension if, based on objective criteria, it is a clear-cut case of an N (for more data see Bolinger 1972, and for more discussion see Constantinescu 2011).[5]
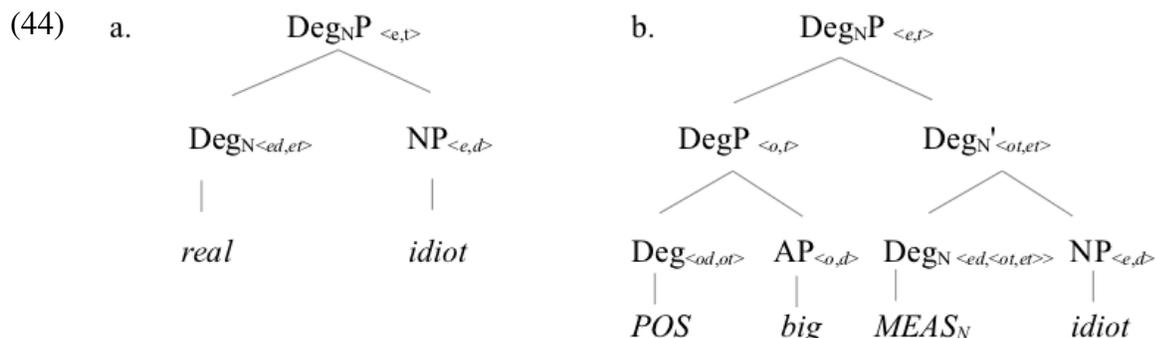
(42) #Their new house is a true palace.

The third argument concerns adjective stacking: *real*-type adjectives and size adjectives may co-occur in this order:

(43) a. un [vrai [gros con/ fumeur]]
          a   real   fat   idiot/ smoker
          'a [real [big idiot/ smoker]]'
      b. *un [gros [vrai con/ fumeur]]
           a   fat   real idiot/ smoker

This is predicted to be impossible on a degree analysis, as there is no room for two degree adjectives to co-occur, syntactically or semantically, in a [A [A N]] structure, as illustrated

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[5] Constantinescu (2011) and Constantinescu, Doetjes & Součková (2011) analyse *real* and *true* as evidential adjectives, treating the difference between them as a difference in the type of evidence on which the speaker bases his/her judgment.

below with the structures proposed by Morzycki (2009):

(44)   a.

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

$\text{Deg}_{\text{N}<ed,et>}$ $\text{NP}_{<e,d>}$

real   *idiot*

b.

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

$\text{DegP}_{<o,t>}$ $\text{Deg}_\text{N}{'}_{<ot,et>}$

$\text{Deg}_{<od,ot>}$ $\text{AP}_{<o,d>}$ $\text{Deg}_{\text{N}<ed,<ot,et>>}$ $\text{NP}_{<e,d>}$

POS   *big* $MEAS_N$ *idiot*

However, once *real* is analysed as an epistemic adjective, the co-occurrence and ordering possibilities follow: epistemic and evidential modifiers generally occur high in the structure, to the left of other modifiers (cf. Cinque 1994, 2010, Scott 1998, 2002, Laenzlinger 2005 etc.).

3.4.   Concluding remarks

In this section, I have shown that the relevant reading of *real* is not limited to gradable nouns or to nouns that can be modified by other degree expressions; in addition, the interpretation is not in terms of degree. Consequently, *real* is not a degree operator, but an epistemic adjective. This means that its distribution and interpretation provide no evidence in favour of the existence of adnominal degree operators.

4.   Implications and conclusions

In this paper I have investigated two case studies that had been argued to constitute evidence in favour of the existence of gradable nouns and adnominal degree modification, similar to what is known from the adjectival domain. These case studies have shown instead that gradability does not seem to play a role in the nominal domain. The distribution of the modifiers under consideration is much wider than that of regular degree modifiers. The interpretations obtained, although often very similar to those obtained in the adjectival domain by means of degree modification, are, however, not arrived at via the type of semantic operations that degree modification makes use of with gradable adjectives but via different mechanisms: abstract size modification, epistemic modification. The conclusion that can be drawn is that nouns, unlike adjectives, do not have a grammatically accessible gradable structure represented in their lexical semantics (contra Matushansky 2002, Sassoon 2007a,b, Morzycki 2009 etc.).

This conclusion is confirmed by additional facts, such as the distribution of cross-categorial modifiers like *more*, *less* etc. These expressions may combine not only with adjectives, but also with nouns and verbs, and may be used with degree and quantity meanings:

(45)   a. more intelligent
       b. to sleep more (than Peter)
       c. more wine (than water)/ more books (than pens)

In the nominal domain, these modifiers cannot be used within the noun phrase to directly modify the noun and get a degree reading, similar to *more idiotic*, as illustrated in (46)a; they only select mass and plural nouns and give rise to quantity interpretations, as in (46)b.

(46)   a. *{a/ the} more idiot (than I thought)   [intended: degree]
       b. more idiots (than I thought)   [only quantity/ number]

This type of distribution would be puzzling if nouns (like *idiot*) had a similarly accessible gradable structure to gradable adjectives (like *idiotic*); it is no longer so, however, if we assume that adjectives, but not nouns, introduce the gradable structure on which degree expressions like *more* can operate. This distribution also shows where the parallel with respect to gradability is to be found between the adjectival and the nominal domain, namely between degree (with adjectives) and quantity (with noun phrases). Assuming a vague predicate approach (cf. Kamp 1975, Klein 1980, 1982, Larson 1988, Van Rooij 2008, to appear, Doetjes, Constantinescu and Součková 2011) which defines gradability in terms of orderings, we can express the grammatical similarity between degree and quantity as follows: adjectives, but not nouns, introduce orderings at the lexical level; the only ordering that is grammatically accessible with nouns is that introduced by the *part-of* relation (with plural and mass nominal expressions – cf. Link 1983) at a higher level in the DP structure, above the NP-level (cf. Zamparelli 1998, Heycock and Zamparelli 2005, Schwarzschild 2006).

To conclude, modification by *big* and *real* does not rely on the mechanisms involved in degree modification of adjectives, and provides no evidence in favour of an explicit gradable structure in the semantics or syntax of nouns that would be parallel to that of gradable adjectives. More generally, considering the additional facts concerning the distribution and interpretation of cross-categorial modifiers as well, it can be concluded that nouns do not introduce orderings lexically. Within a noun phrase, a grammatically accessible ordering may be introduced by the *part-of* relation higher in the DP structure, or by explicit modifiers (e.g. size adjectives). It is their addition that makes comparison, for instance, also possible (e.g. *more idiots*, *a bigger idiot/ greater courage*). Evidence has been provided, instead, in favour of the existence of instances of properties (tropes) and their relevance for the lexical semantics of particular classes of nouns and for their composition with particular types of modifiers (e.g. size adjectives). Thus, while adjectives like *idiotic* denote sets of individuals *ordered* on the basis of their idiocy, nouns like *idiocy* denote sets (or kinds) of tropes, and nouns like *idiot* denote sets of individuals characterized by their idiocy.

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