

The Several Faces of Adnominal Degree Modification

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1. Introduction

One of the best tools we have for probing the lexical semantics of adjectives is degree modification. Different degree modifiers impose different requirements on the adjectives they combine with, and the patterns these restrictions reveal can be used to establish a typology of adjectives. This line of research—pursued by Kennedy & McNally (2005), Rotstein & Winter (2004), and many others since—has demonstrated that a major axis along which adjectives vary is the structure of the scales they are associated with. But adjectives are not alone in admitting degree modification. Other syntactic categories do, too. Some recent research (Morzycki 2005, 2009, Sassoon 2007, de Vries 2010, and Xie 2010) points to the conclusion that nouns are among them. My aim here is to use such adnominal degree modifiers to probe the lexical semantics of nouns. What this will suggest is that nouns differ from their adjectival cousins in that a major axis of variation among them is the means by which a gradable meaning is achieved.

For adjectives, the contrasts relevant to this kind of inquiry include those in (1):

- (1) a. rather $\left\{ \begin{array}{l} \text{transparent} \\ \text{straight} \\ \text{long} \end{array} \right\}$ b. perfectly $\left\{ \begin{array}{l} \text{transparent} \\ \text{straight} \\ \# \text{long} \end{array} \right\}$ c. partly $\left\{ \begin{array}{l} \text{transparent} \\ \# \text{straight} \\ \# \text{long} \end{array} \right\}$

For nouns, the relevant contrasts include those in (2):¹

- (2) a. real $\left\{ \begin{array}{l} \text{idiot} \\ \text{smoker} \\ \text{sportscar} \end{array} \right\}$ b. big $\left\{ \begin{array}{l} \text{idiot} \\ \text{smoker} \\ \# \text{sportscar} \end{array} \right\}$ c. utter $\left\{ \begin{array}{l} \text{idiot} \\ \# \text{smoker} \\ \# \text{sportscar} \end{array} \right\}$

Before taking up these contrasts directly, I will in section 2 review evidence that nouns support their own degree modifiers. In section 3, I will consider evidence that nouns are nevertheless inherently nongradable. In section 4, I argue that modifiers such as *real* manipulate derived scales of prototypicality. In sections 5 and 6, I suggest a mechanism by which the *real* and *utter* class retrieve a scalar meaning from the lexical semantics of the noun, with the difference between them arising from a difference in the force of a particular quantifier. Section 7 concludes.

2. Adnominal degree morphemes: they exist

To get off the ground, it will be necessary to establish that adnominal degree morphemes do in fact exist.² The first step is to observe that the modifiers in (3) cannot actually be adjectives:

- (3) $\left\{ \begin{array}{l} \text{true/real/} \\ \text{slight/total/} \\ \text{utter/absolute/} \\ \text{outright/straight-up} \end{array} \right\}$ $\left\{ \begin{array}{l} \text{disaster} \\ \text{idiot} \\ \text{magic} \\ \text{bullshit} \end{array} \right\}$

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¹Of course, *big sportscar* has a non-degree reading involving physical size that is irrelevant here.

²This section recapitulates Morzycki (2005, 2009).

Setting aside *outright* and expressions like it (*flat-out*, *out-and-out*, *straight-up*; Morzycki to appear), these modifiers have adjectival homophones. But the meaning on these uses is different. A *true disaster*, for example, is not a disaster that is not false. *True bullshit* would, on the adjectival meaning of *true*, border on being a contradiction. Similarly, as Daniel Dennett observed,³ *real magic* is the kind that isn't real, and *fake magic* is the kind that is. Along slightly different lines, a *total idiot* is not an idiot that is not partial; indeed, *#partial idiot* is ill-formed.

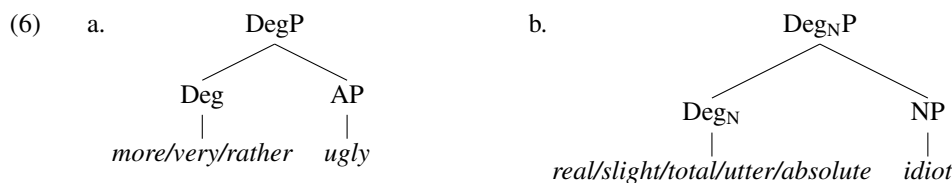
Unlike their adjective counterparts, these expressions are all impossible in predicative positions on the relevant reading:

$$(4) \quad \# \text{That} \left\{ \begin{array}{l} \text{disaster} \\ \text{idiot} \\ \text{magic} \\ \text{bullshit} \end{array} \right\} \text{ is } \left\{ \begin{array}{l} \text{true/real/} \\ \text{slight/total/} \\ \text{utter/absolute/} \\ \text{outright/straight-up} \end{array} \right\}.$$

Nor can these expressions support their own degree modifiers, as their adjectival counterparts can:

$$(5) \quad \# \text{some} \left\{ \begin{array}{l} \text{absolutely true/completely real/} \\ \text{rather slight/somewhat total/} \\ \text{very utter/pretty absolute/} \\ \text{fully outright} \end{array} \right\} \left\{ \begin{array}{l} \text{disaster} \\ \text{idiot} \\ \text{magic} \\ \text{bullshit} \end{array} \right\}$$

Forms like *absolutely true* and *quite absolute* are in fact possible, but only on the adjectival reading. What these facts collectively show is that these expressions are members of a distinct syntactic category—one that is directly analogous to the degree head Deg in AP. Assuming a syntax for the extended AP as in (6a) (in the style of Kennedy 1997, Abney 1987, Corver 1990, Grimshaw 1991 and others), the relevant portion of the extended NP would by analogy be as in (6b):⁴



This alone ensures that nominal degree words can't support their own degree modifiers, because they are themselves heads.

This has another desirable consequence—it helps make sense of the fact that these expressions often have cognates that are ordinary, ad-adjectival degree words. For example, alongside *true* there is *truly*; *real*, *really*; *utter*, *utterly*; and *slight*, *slightly*. And adnominal and ad-adjectival *outright*, *flat-out*, *straight-up* are actually homophonous. If both of these syntactic categories are flavors of degree word, the path of diachronic development that would lead to this pattern becomes clearer. It's natural given this structure that certain adjectives would occasionally be reanalyzed as adnominal degree modifiers. Once this has happened, it would only take one short additional step for them to become degree modifiers of the more familiar, ad-adjectival sort. Further evidence for recognizing a category of adnominal degree morphemes can be found in Dutch (de Vries 2010) and in Chinese (Xie 2010).

3. Nominal gradability and degree arguments

Nouns are not, of course, the category that most lends itself to degree constructions. Nevertheless, the existence of a distinct class of degree morphemes specialized for nouns would certainly seem to suggest that nouns are gradable. In some respects, this is unsurprising—it has been recognized at least since Sapir (1944) that gradability manifests itself across a number of syntactic categories. Indeed, it is even possible to construct adnominal comparatives:

³In a TED talk at http://www.ted.com/talks/dan_dennett_on_our_consciousness.html.

⁴Nothing crucial will hinge on building on the syntax in (6) rather than the older, alternative view of the extended AP of Bresnan (1973), Heim (2000), Bhatt & Pancheva (2004).

- (7) a. Clyde is more phonologist than phonetician.
 b. Clyde is more of an idiot than Floyd.
 c. Clyde is a bigger idiot than Floyd.

These all have equative counterparts as well. To be sure, on closer examination these may not be what they seem. The comparative in (7a), for example, is probably metalinguistic. But this kind of analysis is less plausible for (7b) and (7c). So, taken together, these facts would seem to require that nouns be gradable.

In light of such facts, one might be tempted to simply suppose that nouns, like adjectives, have degree arguments. Some have succumbed to this temptation (including Morzycki 2009). Perhaps this is ultimately warranted, but it has its risks. Foremost among them is that it leaves one with no satisfactory answer to what makes adjectives special semantically. Why is it that adjectives are the natural category for expressing scalar notions? Why is it that nouns are not? If, on the other hand, we resist the temptation, the answer is clear: adjectives have degree arguments and nouns simply do not.

There are more straightforwardly empirical reasons to resist this temptation as well. To perceive these, it will be helpful to adopt a distinction drawn by Bierwisch (1988, 1989) between *dimensional* and *non-dimensional* adjectives.⁵ Dimensional adjectives include *tall*, *heavy*, and *hot*. These, he says, have degree arguments. Non-dimensional adjectives include *stupid*, *ugly*, and *lazy*. These do not. The crucial intuition behind the distinction is that non-dimensional adjectives are ‘less clearly delimited and less systematically structured’ (Bierwisch 1988). This intuition alone doesn’t get us very far, but it correlates with a number of contrasts that are relatively clear.

One of them is that dimensional adjectives come in positive-negative antonym pairs:

- (8) a. tall \longleftrightarrow short
 b. heavy \longleftrightarrow light
 c. hot \longleftrightarrow cold

Non-dimensional adjectives, on the other hand, lack a single clear antonym. Rather, they involve groups of adjectives clustered at each pole of a scale:

- (9) a. brave, bold, courageous \longleftrightarrow cowardly, timid, fearful
 b. clever, bright, shrewd, intelligent, brilliant \longleftrightarrow stupid, idiotic, foolish, bone-headed
 c. pretty, beautiful, gorgeous, handsome \longleftrightarrow ugly, hideous, repellant, grotesque
 d. lazy, indolent, unproductive \longleftrightarrow hard-working, industrious, workaholic

One might reasonably doubt that these do in fact involve the same scale. *Shrewd* and *clever* seem to mean slightly different things, after all. But making such distinctions makes it no easier to identify a unique antonym for each of these.

Non-dimensional adjectives also have in common that they have minimal standards (in the Kennedy & McNally 2005 sense).⁶ This means that in the comparative, they license inferences to the unmarked form. If, for example, *Clyde is stupider than Floyd* is true, it is also necessarily the case that *Floyd is stupid*. So too with *lazy* or *ugly*. This is not how dimensional adjectives behave. We cannot conclude from *Clyde is taller than Floyd* that Floyd is tall. Having minimal standards also ensures that unlike dimensional adjectives (as in (10)), non-dimensional adjectives are systematically compatible with *slightly* (as in (11)):

- (10) a. #Clyde is slightly tall.
 b. #This board is slightly long.
- (11) a. Clyde is slightly stupid.
 b. Clyde is slightly lazy.

⁵He calls non-dimensional adjectives ‘evaluative’, but I will avoid the term because it has also been used in several other ways in this domain.

⁶This is a reformulation in more contemporary terms of Bierwisch’s original characterization. It may not be perfectly equivalent.

Bierwisch draws from all this an initially startling conclusion: that non-dimensional adjectives are essentially not gradable, and therefore have no degree argument. This is immediately worrying, since non-dimensional adjectives straightforwardly form comparatives and occur with degree modifiers. To bridge the gap, Bierwisch proposes a type shift that exploits orderings already present in the domain. I will not pursue this further here, but we will find ourselves in a similar analytical position in sections 5 and 6.

Returning to nouns, it seems to be the case that they are typically (perhaps systematically) non-dimensional. First, they tend to involve clusters at the poles of a scale rather than a single antonym:

- (12) a. idiot, moron, cretin, halfwit, imbecile \longleftrightarrow genius, prodigy, mastermind
 b. disaster, catastrophe, calamity \longleftrightarrow triumph, stroke of luck, godsend, boon
 c. sportscar, race car, roadster \longleftrightarrow jalopy, clunker, lemon

By and large, nouns also seem to have minimal standards, though the facts in this respect are murkier. In comparatives, the inference to the bare form is licensed:

- (13) a. Clyde is a bigger idiot than Floyd. \models Clyde is an idiot.
 b. This is a bigger disaster than that is. \models That is a disaster.

The picture is complicated somewhat by the fact that nouns in English don't have a single clear way of forming comparatives. Other kinds of adnominal comparatives yield different results. *Clyde is more (of) an idiot than Floyd*, for example, doesn't entail that Floyd is an idiot. This is probably because such comparatives are actually metalinguistic, and compare along a scale derived by an independent mechanism (Giannakidou & Yoon to appear, Morzycki 2011). Having a minimal standard would also lead us to expect compatibility with *slightly*. Again, nouns are a bit more complicated—*slightly*, of course, has no adnominal use. *Slight* does, however, and in many cases behaves as expected: *slight idiot*, *slight jerk*. In other cases, *slight* is not possible or degraded: *#slight sportscar*, *#?slight smoker*, *#?slight basketball fan*. Independent reasons for this will emerge in section 6.

If non-dimensional adjectives in fact do lack degree arguments as Bierwisch suggests, and if nouns are non-dimensional, we should conclude that nouns don't have degree arguments after all. This leaves the semantic distinction between nouns and (dimensional) adjectives satisfyingly crisp. But it also means that in order to arrive at a theory of nominal gradability, we will need to identify some mechanism by which nouns can 'acquire' gradability indirectly.

4. Prototypicality modifiers

One indirect means of achieving gradability is exploited by *real* and *true*. These occur relatively freely, more freely than other adnominal degree modifiers:

- (14) $\left\{ \begin{array}{l} \text{real} \\ \text{true} \end{array} \right\} \left\{ \begin{array}{l} \text{disaster/idiot/} \\ \text{\#smoker/\#basketball fan/} \\ \text{\#American/\#sportscar} \end{array} \right\}.$

These expressions can be understood as manipulating scales of prototypicality. A *real idiot* is one that is closer to the idiot prototype than a regular idiot, and likewise for sportscars and smokers. The idea that such scales of prototypicality are important in the lexical semantics of nouns is an old one. Kamp & Partee (1995) show that it can play a role in compositional semantics as well, and Sassoon (2007) and de Vries (2010) provide further evidence that it is important specifically to associating nouns with scales.

To express this in a slightly more explicit way, it will help to make use of three building blocks. First, we will need a function **prototype** that maps a noun denotation to its most prototypical exemplar, so that **prototype(sportscar)** picks out the most prototypical sportscar. A great deal of complexity lurks just beneath the surface here. One might ask, for example, whether this picks out the most prototypical exemplar in a particular context, in a particular possible world, or in the model. One might also ask whether it is really safe to conflate the notions 'prototype' and 'most prototypical exemplar'. I will set these concerns aside here for the sake of simplicity. The second building block will be a context-sensitive

⁶Importantly, deadjectival nouns such as (*im*)*possibility* or *transparency/opacity* systematic exceptions to this.

measure function **similar**_c, which maps a pair of individuals (one of them a prototype) and yields the measure of their similarity. The context-sensitivity is necessary because different contexts provide different ways of evaluating similarity. In one context, a car might count as closer to the prototype in view of its speed. In another context, it might be in view of its appearance. The final ingredient will be a vague degree predicate, **large**_c, which holds of a degree if it's sufficiently large given the standard imposed by the context *c*.

Assembling these, one arrives at the denotation in (15), which leads to (16):

$$(15) \quad \llbracket \text{real} \rrbracket^c = \lambda f_{\langle e, t \rangle} \lambda x . f(x) \wedge \text{large}_c(\text{similar}_c(x, \text{prototype}(f)))$$

$$(16) \quad \text{a. } \llbracket \text{sportscar} \rrbracket^c = \lambda x . \text{sportscar}(x)$$

$$\text{b. } \llbracket \text{real sportscar} \rrbracket^c = \lambda x . \text{sportscar}(x) \wedge \text{large}_c(\text{similar}_c(x, \text{prototype}(\text{sportscar})))$$

An individual is a *real sportscar*, then, iff it is a sportscar and the measure of its similarity to the sportscar prototype is sufficiently large. The noun denotation in (16) is extensional, which is convenient for current purposes. Ultimately, though, intensions will be required, because prototypes are associated with properties rather than simply sets of individuals—in a given world, all and only the sportscars might be gifts, but the prototypes for *sportscar* and *gift* would nonetheless have to differ.

The most important fact about the noun denotation assumed in (16), however, is that it involves no degree argument. *Real* does manipulate degrees in the sense that **similar**_c yields a degree and **large**_c applies to one. But the degree comes not from the noun but from the similarity relation. This accounts for the relatively free distribution of *real* and *true*. These modifiers don't impose particularly stringent requirements on the nouns they combine with, so they are relatively promiscuous. A noun need not be in any sense scalar or inherently gradable to support these modifiers.

The promiscuity of these modifiers goes only so far, though. Although talk of prototypes can be a bit slippery, the proposed denotation does make one clear-cut prediction that seems to be borne out. Because it involves a function that maps noun denotations to prototypes, *real* will only be able to combine with nouns which have prototypes to begin with. Not all nouns do. Kamp & Partee (1995) provide *male nurse* as an example of such noun. Other possibilities include *non-Methodist* and nouns with indexicals such as *resident*. In fact, because *real* combines with NPs and not just bare nouns, full NPs such as *person here now* are relevant here too. None of these combine with *real*:

$$(17) \quad \text{Floyd is a } \left\{ \begin{array}{l} \text{real} \\ \text{true} \end{array} \right\} \left\{ \begin{array}{l} ??\text{male nurse} \\ \#\text{non-Methodist} \\ \#\text{resident} \\ \#\text{person here now} \end{array} \right\}.$$

Because *non-Methodist* lacks a prototype, **prototype(non-Methodist)** is not defined and the ill-formedness of (17) is expected. This, then, is strong evidence for a prototype approach to *real* and *true*.

This result presents an interesting additional puzzle. It seems likely that modifiers such as (*proto*-)typical (and conceivably even *normal*, *canonical*, and the like) involve prototypicality as well. If *real* and *true* are also ultimately about prototypicality, we might expect them to mean roughly the same thing as *typical*. In fact, though, there does seem to be a difference. Given the assumptions above, there is a natural explanation. The **similar** function that measures the distance between an individual and a prototype is sensitive to context (the *c* subscript), reflecting that different contexts provide different ways of evaluating similarity. It need not be the case, however, that every conceivable way of measuring similarity to a prototype is in principle available for each of these words. At least some of them may impose restrictions lexically, permitting certain ways of measuring similarity and excluding others. The difference between *real* and *typical* may be of exactly this sort. Both ultimately make reference to prototypes, but they license different similarity measure functions. This state of affairs, in which context and lexical restrictions conspire to license particular ways of measuring similarity, is familiar—it is precisely how modals behave on the standard Kratzerian understanding (Kratzer 1977, 1981, and elsewhere). From this perspective, it would perhaps be more surprising if it turned out that modifiers are actually wholly indiscriminate about what similarity measures they accept.

One might take the connection between *real* modifiers and modals more seriously still: it may reveal that *real* and *true* should be assigned an intensional semantics. On such a view, it would be necessary (or in any event, natural) to break apart the basic notion of prototypicality and to reconstruct it in terms of possible worlds. A *real sportscar*, for example, might be (approximately) something that is a sportscar in all the closest worlds with more stringent eligibility requirements for sportscar-hood. This would of course be a radical approach, and it would take us too far afield to pursue it further here.

5. Size modifiers and their kin

Degree readings of size modifiers and of *major* are more restricted:⁷

$$(18) \quad \left\{ \begin{array}{l} \text{big} \\ \text{huge} \\ \text{major} \end{array} \right\} \left\{ \begin{array}{l} \text{disaster/idiot/} \\ \text{smoker/basketball fan/} \\ \text{\#American/\#sportscar} \end{array} \right\}.$$

Slight may also be in this class for many speakers (for others it is either in the *utter* class or more natural in contexts in which *utter* would be felicitous). Because their distribution is more restricted, it seems unlikely that these involve prototypicality. So where does the degree argument these degree modifiers manipulate come from? The idea I will advance is that the lexical semantics of certain nouns is in a certain sense scalar after all, but that this does not require having a degree argument inherently. Certain nouns seem to be lexically associated with a dimension of measurement by other means.

This is best understood by analogy to adjectives. Many adjectives, such as *big*, give rise to a particular kind of indeterminacy or polysemy. For example, both of the sentences in (19) are true, in slightly different sense of *big*:

- (19) a. The US is bigger than Canada. (population)
 b. Canada is bigger than the US. (area)

It's not clear that there is a fully satisfactory account of how this should be understood in a degree semantics, but part of what is required is that *big* be associated with more than one dimension of measurement. Much hinges on what 'dimension' means here, and, as Moltmann (2009) and Sassoon (2007) point out, it's not always clear what the answer to this is either. Sassoon (2007) actually develops a general theory of this notion, though it is not one I could adopt here in a straightforward way. What seems inescapable, though, is that the lexical entry of *big* must somehow encode that these dimensions are both available. One might represent this with a predicate **dimensions** that supplies the set of dimensions associated with an expression:⁸

$$(20) \quad \mathbf{dimensions}(\mathbf{big}) = \{\mathbf{size-by-population}, \mathbf{size-by-area}, \dots\}$$

To be *big*, it is sufficient to exceed the standard on just one dimension in (20), as (19) reflects. This can be encoded in the denotation of the null degree morpheme POS (which occurs in the degree-head position of morphologically unmarked adjectives; von Stechow 1984, Kennedy 1997 and many others). I will write the measure function associated with a dimension D as $\mu(D)$:

$$(21) \quad \text{a. } \llbracket \text{POS} \rrbracket^c = \lambda g_{(d, et)} \lambda x . \exists D \left[\begin{array}{l} D \in \mathbf{dimensions}(g) \wedge \\ \mu(D)(x) \geq \mathbf{standard}_c(D) \end{array} \right]$$

$$\text{b. } \llbracket \text{Canada is POS big} \rrbracket^c = \exists D \left[\begin{array}{l} D \in \mathbf{dimensions}(\mathbf{big}) \wedge \\ \mu(D)(x) \geq \mathbf{standard}_c(D) \end{array} \right]$$

The result is that *Canada is POS big* will be true iff there is a dimension of bigness along which the measure of x exceeds the standard.

⁷I treat *big* and other size adjectives as adnominal degree head for simplicity. They are in fact phrasal, as *very big smoker* reflects. The proposal here could be coupled with the one in Morzycki (2009) to resolve this.

⁸There might be advantages to treating this predicate instead as a kind of cousin to the interpretation function, and to have it apply directly to a linguistic expression itself rather than its meaning. I won't pursue this here.

If something like the **dimension** function needs to be present for adjectives in any case, it is natural that it should be at play with nouns as well. Indeed, it provides what we need to understand how a noun might specify dimensions without having a degree argument. Perhaps lexical entries of *smoker* and *basketball fan* include elements like those in (22):

- (22) a. **dimensions**(**smoker**) = { **frequency-of-smoking, enthusiasm-for-smoking** }
 b. **dimensions**(**basketball-fan**) = $\left\{ \begin{array}{l} \mathbf{attention-devoted-to-basketball}, \\ \mathbf{enthusiasm-for-basketball}, \\ \mathbf{knowledge-about-basketball} \end{array} \right\}$

Each of these dimensions constitute criteria by which we might judge a person a smoker or basketball fan. Exceeding the standard on any of these is potentially sufficient. But not every noun works this way. As Hamann (1991) among others observes, there is no single ‘quality’ one must have in order to be a chair, for example—in my terms, there is no scale lexically associated with the word that corresponds to a sufficient condition. Consequently, **dimensions**(**chair**) is simply undefined. To be sure, it is possible to rank chairs according to similarity to a chair prototype, and it is possible to pick an aspect of chairhood—comfortableness, say—along which to rank chairs (de Vries 2010 illustrates such reasoning especially clearly). But these are both facts about the concept of chairhood rather than about the lexical entry of *chair*. A related distinction is present in nongradable adjectives such as *wooden* (*#a very wooden chair*): one can certainly rank things according to how prototypically wooden they are, or according to an aspect of woodenness such as wood content. Doing this is possible because of the nature of the concept of woodenness, but it remains the case that the word *wooden* does not make these dimensions available lexically. So far as it is concerned, there simply are no such built-in dimensions. We as speakers can easily imagine what they might have been, but only because with sufficient effort we can think our way out of virtually any hole. Language does not do this for us.

With this in hand, a denotation for degree modifiers of the *big* class is now possible. On its degree reading, *big* requires that the measure of an individual along a lexically-provided dimension be large:

- (23) a. $\llbracket [\text{Deg}_N \text{ big}] \rrbracket^c = \lambda f_{\langle e, t \rangle} \lambda x . \exists D \left[\begin{array}{l} D \in \mathbf{dimensions}(f) \wedge \\ \mathbf{large}_c(\mu(D)(x)) \end{array} \right]$
 b. $\llbracket [\text{Clyde is a big smoker}] \rrbracket^c = \exists D \left[\begin{array}{l} D \in \mathbf{dimensions}(\mathbf{smoker}) \wedge \\ \mathbf{large}_c(\mu(D)(\mathbf{Clyde})) \end{array} \right]$

As with *chair*, **dimensions**(**sportscar**) is not defined. This rules out *#big sportscar* on degree reading:

- (24) $\llbracket [\# \text{This is a big sportscar}] \rrbracket^c = \exists D \left[\begin{array}{l} D \in \mathbf{dimensions}(\mathbf{sportscar}) \wedge \\ \mathbf{large}_c(\mu(D)(\mathbf{this})) \end{array} \right]$

The important property of degree modifiers of this class, then, is that they retrieve a degree argument from within the lexical entry of a noun. They do not require that the noun provide a degree argument directly. Rather, they require that the noun specify a dimension of measurement that can be used to access degrees indirectly.

6. The *utter* class

There is a third class of adnominal degree words whose distribution is more restricted still:

- (25) $\left\{ \begin{array}{l} \text{utter} \\ \text{complete} \\ \text{absolute} \\ \text{outright} \end{array} \right\} \left\{ \begin{array}{l} \text{disaster/idiot/} \\ \# \text{smoker}/\# \text{basketball fan/} \\ \# \text{American}/\# \text{sportscar} \end{array} \right\}.$

The nouns that license these modifiers seem to be a proper subset of those that license the *big* class. The challenge, then, is to identify what all of these nouns have in common, and what distinguishes ones like *idiot* and *disaster*, which license *utter*, from ones like *smoker* and *basketball fan*, which don't.

The analytical intuition I will pursue is that there is a sense in which being an idiot is simpler than being a smoker. As observed in section 5, *smoker* is indeterminate. There are different properties one might have that make one a smoker. *Idiot* is not like that. It is not indeterminate in this way. There is really only one property that makes one an idiot: idiocy. This is not to say that idiocy is perfectly indivisible. One can be an idiot about different things, or in view of different things, or to different degrees. But the crucial ingredient, idiocy, remains the same. *Disaster* is similar. There are different reasons why something might be a disaster, but the sole criterion for determining whether something is a disaster is unambiguously disastrousness.

The notion of lexically-specified dimensions provides a way to cash this out. Nouns that involve some indeterminacy provide more than one dimension. If nouns can in principle provide arbitrarily many dimensions, we should expect that some of them would provide precisely one. *Idiot* and *disaster* are good candidates for such nouns. Thus for them, the **dimension** predicate yields a singleton set:

- (26) a. **dimensions(idiot)** = {**idiocy**}
 b. **dimensions(disaster)** = {**disastrousness**}

What the *utter* class of degree modifiers is sensitive to, then, is the number of dimensions a noun specifies—they require that there be precisely one. The denotation needed to reflect this is a version of the denotation proposed above for the *big*-class, but with different quantificational force:

- (27) a. $\llbracket \textit{utter} \rrbracket^c = \lambda f_{\langle e, t \rangle} \lambda x . \mathbf{large}_c(\mu(\iota D[D \in \mathbf{dimensions}(f)])(x))$
 b. $\llbracket \textit{Clyde is an utter idiot} \rrbracket^c = \mathbf{large}_c(\mu(\iota D[D \in \mathbf{dimensions}(\mathbf{idiot})])(\mathbf{Clyde}))$
 $= \mathbf{large}_c(\mu(\mathbf{idiocy})(\mathbf{Clyde}))$

Thus *Clyde is an utter idiot* is true iff his measure along the unique dimension associated with *idiot* is large. That dimension is of course idiocy, so this amounts to the requirement that the measure of Clyde's idiocy be large.

This accounts for the ill-formedness of the relevant examples in (25). What rules out *#utter sportscar* is the same as before: **dimensions(sportscar)** is not defined. What rules out *#utter smoker* is different: it is a failed uniqueness presupposition. Although **dimensions(smoker)** is defined, $\iota D[D \in \mathbf{dimensions}(\mathbf{smoker})]$ is not, because the dimensions set has more than one member. On this view, then, the difference between the *utter* class and the *big* class is ultimately analogous to the difference between definites and indefinites.

7. Final remark

Degree modifiers have been used with great success to probe the lexical semantics of adjectives. This paper has used degree modifiers in the same spirit to probe the lexical semantics of nouns. What emerged is a typology of adnominal degree modifiers and of nouns themselves that hinges not on scale structure, as in the adjectival domain, but rather on how a gradable predicate is derived from a non-gradable noun meaning. Some degree modifiers bring about gradability via conceptual prototypicality. Others achieve it lexically. Among the latter class, some require that a noun's lexical semantics unambiguously provide a single dimension of measurement.

Whatever the merits of this approach, the very fact that this kind of inquiry is possible constitutes further evidence that adnominal degree morphemes do, in fact, exist. This in turn brings into sharper focus their relationship to their adjectival cousins. Although scale structure wasn't the crucial ingredient in the model I advanced here, there is also nothing here to suggest that scale structure considerations are not important in the semantics of nouns in some way. By the same token, though, the crucial consideration here—how a gradable predicate is delivered to a degree modifier—may be more important in the adjectival domain than one might have thought. This would constitute a new strand of evidence for Bierwisch's distinction between dimensional and non-dimensional adjectives. If the proposal here is on

the right track, it may also constitute further evidence that we need a more fully-developed theory of adjectival indeterminacy.

Setting these larger theoretical concerns aside, some explanation of fine-grained distinctions among adnominal degree modifiers will ultimately be necessary. It doesn't seem unreasonable to hope that pursuing such an explanation will bring us a few steps closer to a general theory of gradability across categories.

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