Adjectival Extremeness: Degree Modification and Contextually Restricted Scales

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Abstract This paper argues that degree modifiers such as *flat-out*, *downright*, *positively*, and *straight-up* constitute a distinct natural class specialized for modifying extreme adjectives (such as *gigantic*, *fantastic*, or *gorgeous*), and that extreme adjectives themselves come in two varieties: ones that encode extremeness as part of their lexical meaning and ones that can acquire it on the basis of contextual factors. These facts suggest that a theory is required of adjectival 'extremeness' itself. I propose one, based on the idea that in any given context, we restrict our attention to a particular salient portion of a scale. To reflect this, I suggest that quantification over degrees is—like quantification in other domains—contextually restricted. Extreme adjectives and corresponding degree modifiers can thus both be understood as a means of signaling that a degree lies outside a contextually-provided range.

Keywords degree modifiers, gradability, extreme adjectives, domain restrictions, context sensitivity, scale structure

1 Introduction

On any speedometer, there are two kinds of what might very loosely be called 'zones of indifference'. The first kind is found between any two marked speeds. If the speedometer is an ordinary American one, as in (1), it might be able to tell you when your speed is about 60 miles per hour and when it is about 65:

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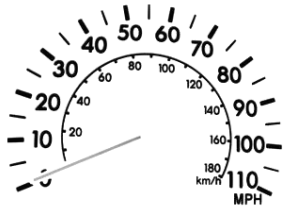
This paper is a longer, hopefully more developed and comprehensible version of a paper to appear in the proceedings of CLS 45 under the title 'Degree Modification of Extreme Adjectives'. Comments are, of course, welcome.

(1) 

If your speed is in fact 61 mph, it falls in one kind of zone of indifference. The speedometer is simply not designed to distinguish speeds between 60 and 65 mph, and if asked, we would probably report such a speed as 'about 60'. Of course, we might want to make more fine-grained distinctions for various reasons, but as far as the design of the speedometer is concerned, these further distinctions don't matter.

There is, however, another kind of zone of indifference. It is the one that extends beyond the highest marked speed, and includes all speeds that are too fast for the speedometer to register them—that is, all the speeds that are literally off the scale. The speedometer is not designed to distinguish among such speeds, and if asked, we would probably report such a speed as 'way too fast' or with other words to this effect. Again, we might want to make further distinctions for various reasons—say, legal ones—but as far as the design of the speedometer is concerned, these further distinctions don't matter.

The big-picture theoretical aim of this paper is to explore the possibility that natural languages work in more or less the same way, with both kinds of zones of indifference. The idea will be that just as speedometers are scales through which we view a scale in the world—the scale of speed—so too any discourse provides scales through which we view scales in the lexicon. In any discourse, I will suggest, there is a particular range of values on a scale that are the salient ones and constitute what might be called a contextually-provided 'perspective scale'.

The empirical puzzle that will lead to this outlook is the observation that certain degree modifiers occur only with adjectives that are, in some sense, 'extreme':

(2) Your shoes are $\left\{\begin{array}{l}\text{downright}\\ \text{flat-out}\\ \text{positively}\\ \text{full-on}\end{array}\right\}$ $\left\{\begin{array}{l}\text{gigantic}\\ \text{gorgeous}\\ \text{fantastic}\\ {}^{??}\text{big}\\ {}^{??}\text{pretty}\\ {}^{??}\text{OK}\end{array}\right\}$!!!

An adjective such as *gigantic* is lexically extreme, and it combines with *downright* and *flat-out* very naturally. An adjective such as *big*, which does not have this sort of extreme meaning, does not. If this is the right characterization of the facts, it leads to several questions. First, what is

the relevant notion of 'extremeness'? Second, what is special about degree modifiers such as *flat-out* that makes them sensitive to it? And third, how is extremeness encoded in the denotations of particular adjectives?

Section 2 articulates the empirical generalization a bit further, arguing that the degree modifiers that impose an extremeness requirement constitute an open natural class, and, following previous work (Cruse 1986, Rett 2008a, Paradis 1997, 2001, Rett 2008b), that extreme adjectives themselves do as well. It will, however, be necessary to distinguish two flavors of extreme adjective. Section 3 considers some analytical alternatives, including understanding adjectival extremeness principally in terms of relatively familiar scale structure distinctions. Section 4 develops an analysis of extreme adjectives which relies crucially on extending contextual domain restrictions to degree quantifiers and provides a way of structuring the grammar to reflect the speedometer metaphor. Section 5 extends this analysis to extreme degree modifiers. Section 6 concludes.

2 The Basic Facts

2.1 *Extreme Degree Modifiers*

The class of degree modifiers at issue here, henceforth 'extreme degree modifiers' or EDMs, includes at least those in (3):

(3) a. simply
b. just
c. positively
d. absolutely
e. flat-out
f. full-on
g. out-and-out
h. downright
i. outright
j. straight-up
k. balls-out

The crucial observation about these, already mentioned above, is that they are compatible only with extreme adjectives, henceforth EAs. Some further contrasts reflecting this are in (4):

(4) a. simply $\left\{\begin{array}{c}\text{gigantic}\\ \text{??big}\end{array}\right\}$

b. just $\left\{\begin{array}{c}\text{gorgeous}\\ \text{??pretty}\end{array}\right\}$[1]

c. full-on $\left\{\begin{array}{c}\text{crazy}\\ \text{??sane}\end{array}\right\}$

d. downright $\left\{\begin{array}{c}\text{destitute}\\ \text{??solvent}\end{array}\right\}$

e. flat-out $\left\{\begin{array}{c}\text{excellent}\\ \text{??adequate}\end{array}\right\}$

Importantly, this effect is not in any sense inevitable. Other degree words whose meaning involves having a property to a high degree, such as *very*, do not give rise to these effects. Indeed, they sometimes resist modifying extreme adjectives:[2]

(5) a. very $\left\{\begin{array}{c}\text{??excellent}\\ \text{??marvelous}\\ \text{??fantastic}\\ \text{good}\end{array}\right\}$

b. very $\left\{\begin{array}{c}\text{??gigantic}\\ \text{big}\end{array}\right\}$

The oddness of examples like (5) seems to vary among speakers. I suspect this may reflect some subtle variation in the lexical semantics of *very* itself. These issues are taken up in section 5.5. For the moment, the conclusion to draw from (5) is only that *very* does not behave like an EDM, and that therefore an adequate theory of these degree modifiers can't simply be assimilated to *very*.

EDMs are not only a natural class, but also an open one. One relatively recent addition to it is *balls-out*. These are some naturally occurring examples:

(6) a. Spacey's balls-out brilliant performance is Oscar bait all the way . . . .[3]

b. This book of poetry is balls out fantastic.[4]

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[1] There is another, irrelevant reading on which *just pretty* is good, namely the reading paraphrasable as 'merely pretty'. This reading seems to arise from the fact that there is an independent focus particle *just*, which is not a degree word and occurs in more or less the same syntactic environments as *only*.

[2] This is explored further in section 5.5.

[3] www.rollingstone.com/reviews/movie/5947267/review/5947268/the_usual_suspensioncts

[4] www.goodreads.com/book/show/2811560.Scratching_at_the_Pavement

c. That's a good example of how balls-out stupid our number-one Antoinette columnist is.[5]
d. After that, we'll have two weeks of championship tasting, in which we go balls-out crazy with the blind tasting ....[7]

2.2 *How Can We Recognize Extreme Adjectives?*

In order to proceed further, it will help to characterize a bit further what is meant by 'extreme adjective'.

Cruse (1986) provides a helpful characterization of this class of adjectives, terming them 'implicit superlatives' (following Sapir 1944). The idea behind the term is that such adjectives lexicalize a meaning similar to that of superlative morphology. I will avoid this term, however, since the connection does not seem to be very deep grammatically. (*Excellent* and *best* clearly don't mean the same thing, for example; nor do *gigantic* and *biggest*, or *gorgeous* and *prettiest*.) The terminology notwithstanding, Cruse discerns three properties that these adjectives typically have, which can, I think, be treated as rough diagnostics for membership in the class. I will add a few of my own as well.

DEGREE MODIFIERS The first of these properties is that these adjectives can occur with *absolutely*:

(7) absolutely { huge / enormous / minute / *small / *large } (Cruse 1986)

In fact, this observation is probably a special case of the larger generalization above—*absolutely* is simply an EDM—and one could make the stronger claim that EAs are characterized by an ability to co-occur with EDMs more generally.

PROSODIC INTENSIFICATION The second of Cruse's properties is an ability to be 'intensified' via prosodic prominence:

(8) a. That van is { *huuuuuuuuuuuuuuuuuge* / ??*biiiiiiiiiiiiiiiiig* }!

b. Kevin Spacey is { fan*taaaaa*stic / ??*goooooooooood* }!

[5] www.dailyhowler.com/dh080708.shtml

[7] www.twittertastelive.com/group/theyoungwinos

In (8a), it is possible to convey greater degrees of size by pronouncing the EA *huge* with an unnaturally long vowel, and likewise for *fantastic* in (8b). This is not possible with non-EAs.[8]

COMPARATIVES The third Cruse property, also explored in Paradis (1997), is a resistance to comparatives and other degree-comparison constructions. Cruse and Paradis state this in fairly general terms, but I will need to qualify it. The essential fact, though, is reflected in (9) and (10):

(9) ??A is more excellent than B. (Paradis 1997)

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

As Cruse himself notes, the strength of this resistance varies among speakers. The necessary further qualification, which I articulate further in the following section, is that it also varies from one adjective to another. Nonetheless, this behavior is clearly an important clue to their lexical semantics.

VERY Cruse puts under the same rubric the observation that extreme adjectives are generally odd with *very* (as (5) reflects). In what follows in sections 4.3 and 5.5, I will treat these as independent facts, however.

RAISING OBJECTIONS In addition to these properties, one might add some observations about the discourse effects of using EAs. The first of these is that EAs are especially good for objecting to something about the discourse. Suppose a speaker has uttered (11):

(11) Clyde isn't particularly wealthy.

His interlocutor may wish to object to characterization because it is insufficiently strong. She may convey this by uttering (12a), but it would be odd to convey it by uttering (12b):

(12) a. No, he's (outright) destitute.
b. ??Yes, he's (outright) destitute.

[8]The observation that such prosodic intensification is possible, and that it is sensitive to some notion of extremeness, goes back at least to Bolinger (1972), who observed a similar contrast in nouns. I will not be able to shed much light on this here, apart from the suggestion that the prosody may be the phonetic realization of a particular EDM with no segmental content. Importantly, though, this phenomenon does not seem to be simply focus, at least not in a straightforward sense—both the meaning achieved and the prosodic contour are different.

This contrasts with how the ordinary, non-extreme adjective *poor* behaves:

(13) a. ??No, he's very poor.
b. Yes, he's very poor.

So even though (12) and (13) seem to be conveying the roughly same propositional information, the choice of whether *yes* or *no* can be used hinges on whether an EA is used. To be sure, there are many complications here, so one should be careful about drawing conclusions from these facts too readily. For one thing, the negation in these examples may be metalinguistic in the Horn (1985) sense. And the behavior of *yes* and *no* as responses to questions is not straightforward more generally. Still, if we take the use of *no* as a rough indication of raising an objection to the preceding discourse, these facts do suggest that EAs are more natural for this purpose and ordinary, non-extreme adjectives less so.

The same fact in a slightly different guise emerges from the exchange in (14):

(14) *Reginald:* Clyde ain't so easy on the eyes.
Gladys: What do you mean, 'not so easy on the eyes'? He's $\left\{\begin{array}{l}\text{downright}\\ \text{??very}\end{array}\right\}$ ugly!

Here, Gladys signals the objection by explicitly quoting the portion of the discourse she wishes to dispute. Having done this, failing to use an EA is odd—intuitively, an ordinary adjective, even accompanied by *very*, seems insufficient to justify the objection.

INDIFFERENCE Another discourse property of EAs involves a sense of 'indifference' they convey.[9] This effect can be subtle, but it can be discerned in an exchange such as (15):

(15) *Reginald:* I just bought a helper monkey. He is gigantic.
Gladys: ?How big exactly?

Intuitively, Reginald here has indicated that the monkey is (a) extremely large, and (b) so large that for the purposes of the conversation the precise size is not relevant. For this reason, Gladys is behaving oddly, or in any case conveying an interest in precisely the issue that her interlocutor had attempted to background. This is not to say, of course, that Reginald must be indifferent to the monkey's size in any absolute sense—it is indifference for the purposes of the current conversation.

[9] This was pointed out to me in especially clear terms by Anne-Michelle Tessier (p.c.).

The discourse in (16) gives rise to the same effect:

(16) *Reginald:* It would be nice to live in San Francisco. The cost of living there is absolutely astronomical, though.
Gladys: ?How {astronomical / expensive} is it, exactly?

Again, there is the sense that Gladys is manifesting an interest in something that her interlocutor had attempted to background.

HYPERBOLE The final additional observation about EAs is that one of their main uses is in hyperbole:

(17) My helper monkey is gigantic.

This may shed some light as well on what it is EDMs do as well. Among their functions is to signal *lack* of hyperbole:[10]

(18) My helper monkey is {straight-up / downright} gigantic.

2.3 *A Further Distinction: Two Flavors of Extreme Adjectives*

The diagnostics above help identify members of the class of extreme adjectives. Within this class, however, there is an additional distinction that needs to be made.

Some EAs seem to behave as described in the preceding section in all contexts. I will call these *lexical EAs*, since their extremeness seems to be part of their lexical semantics. They are extreme in a deep, invariant, grammaticized way. It is these kinds of adjectives that have been the focus of previous research.

But there is another class of adjectives that sometimes behave as though they are extreme, and sometimes do not. Whether they 'count' as extreme seems to depend on their context of use. I will call these *contextual EAs*.

There seems to be a great deal of variation among speakers with respect to exactly which adjectives are lexically extreme and which are merely contextually extreme. To provide some initial examples, though, the adjectives in (19) are lexically extreme in my idiolect:

(19) fantastic, wonderful, fabulous, gorgeous, resplendent, magnificent, glorious, sumptuous, spectacular, outstanding, tremendous, huge,

[10] Thanks to Jan Anderssen for discussion on this point.

gigantic, ginormous, mammoth, colossal, tremendous, enormous, monumental, minuscule, tiny, microscopic, minute, grotesque, delicious, scrumptious, idiotic, inane, destitute, penniless, terrified, horrified, obese, phenomenal, sensational, marvelous, superb, unflappable, amateurish, excellent, terrific, monstrous, extraordinary, hideous

Here are some contextual EAs:

(20) brilliant, certain, obvious, dangerous, reckless, infuriating, obscene, offensive, insulting, ridiculous, absurd, evil, contemptible, stupid, drunk, dead, ugly, dumb, rich, loaded, hopeless, calm, outrageous, incompetent

So how can one tell the difference?

The most important criterion is, unsurprisingly, context-sensitivity. *Calm*, for example, seems to be an EA, as its compatibility with the EDM *flat-out* in (21) attests:

(21) Clyde didn't panic during the earthquake—he was flat-out calm.

But it is only contextually extreme. In another context, this compatibility with EDMs is diminished:

(22) ??In his transcendental meditation class, Clyde was flat-out calm.

In a meditation class, calmness is to be expected, and *calm* therefore seems to behave as an ordinary adjective. Calmness during earthquakes is another matter entirely, and in such contexts *calm* is an EA. *Dangerous* is likewise only contextually extreme:

(23) a. When we finish buying groceries, try to avoid making eye contact with the security guard. They can be downright dangerous.

b. ??When we finish robbing the bank, try to avoid getting shot by the security guard. They can be downright dangerous.

One doesn't normally expect grocery-shopping to be dangerous, and in this context *dangerous* behaves like an EA and is compatible with the EDM *downright*. Robbing banks, on the other hand, is generally significantly more dangerous than grocery-shopping, and in such contexts *dangerous* does not count as an EA and therefore does not license *downright*.

Lexical EAs do not seem to manifest this sensitivity. Athletes participating in the Olympics are all outstanding at their sport. But even in this context, *outstanding* seems to be an EA:

(24) Clyde impressed everyone in the triathlon. He was downright outstanding.

The expectation that everyone is outstanding does nothing to diminish the acceptability of the EDM. Rather, what one seems to do in such examples is adjust the comparison class as needed. In this sense, of course, these adjectives are context-sensitive as well—but their extremeness seems to persist.

Making the distinction between lexical and contextual EAs helps to make sense of the behavior of EAs in comparatives. Lexical EAs resist comparatives, as noted in the previous section. But contextual EAs do not:

(25) Clyde is $\left\{\begin{array}{l}\text{richer}\\ \text{more offensive}\\ \text{more dangerous}\end{array}\right\}$ than Floyd.

Nor do contextual EAs generally resist *very*:

(26) Clyde is very $\left\{\begin{array}{l}\text{rich}\\ \text{offensive}\\ \text{dangerous}\end{array}\right\}$.

The crucial fact about comparatives and *very*, then, seems to be not that they are simply incompatible with EAs, but rather that they are incompatible with adjectives that lexicalize extremeness.

The distinction between contextual and lexical EAs seems to correlate with another difference: often, lexical EAs have (monomorphemic) weaker or 'neutral' counterparts to which they license entailments:

(27) a. *gigantic* $\succ$ *big*
b. *excellent* $\succ$ *good*
c. *gorgeous* $\succ$ *pretty*

This is not in general the case with contextual EAs:

(28) a. *rich* $\succ$?
b. *offensive* $\succ$?
c. *dangerous* $\succ$?
d. *obvious* $\succ$?

That said, it's probably not the case that the class of contextual EAs is fixed once and for all in the lexicon. Lexical EAs have their extremeness built-in lexically, but contextual ones seem to simply have meanings that can, in the right circumstances, be *construed* as extreme. It's far from obvious,

however, that this actually rules out any adjectives at all—that is, it may well be the case that any adjective can in principle be construed as extreme.[11] Whatever adjectival extremeness is, then, it seems to be something that can be lexicalized in some cases but can be provided contextually in others.

2.4 *Summary*

To summarize the facts so far, EDMs are a natural class of degree modifiers compatible with EAs. EAs come in in two flavors: lexical and contextual. Characteristics of EAs include:

- compatibility with EDMs
- susceptibility to prosodic intensification
- naturalness as a means of objecting to preceding discourse
- conveying a sense of 'indifference' (in a particular restricted sense)
- usefulness for hyperbole, and sensitivity to the diminution of this property by EDMs
- for lexical EAs, resistance to comparatives and *very*

3 Some Analytical Possibilities

The proposal I will ultimately advance will have only an indirect relationship to facts about the scale structure of particular adjectives. But a class of plausible alternatives might be framed in these terms, so I will consider some of these possibilities in this section.

3.1 *Are EDMs Simply Endpoint-Oriented?*

A common and very natural analytical intuition about EAs is that they involve a proper part of a larger scale. Paradis (1997), Paradis (2001) and Rett (2008a,b) adopt this conception explicitly. It also emerges in Bierwisch (1989), though his proposal is intended not for EAs as such, but rather for a class of adjectives with which they largely overlap.[12] And in a rather different form, it is an intuition that will persist in the proposal I will

[11] Even the more neutral counterparts of lexical EAs in (27) can be contextual EAs in contexts where there is an expectation that their polar antonyms would be appropriate: e.g., *That paper wasn't as bad as you said it was—in fact, it was outright good*.

[12] This connection was pointed out to me by Chris Kennedy (p.c.).

advance. This intuition leads naturally to a conjecture about EDMs. Many degree words are sensitive to the scale structure of the adjective they modify. Perhaps EDMs can be assimilated to these?

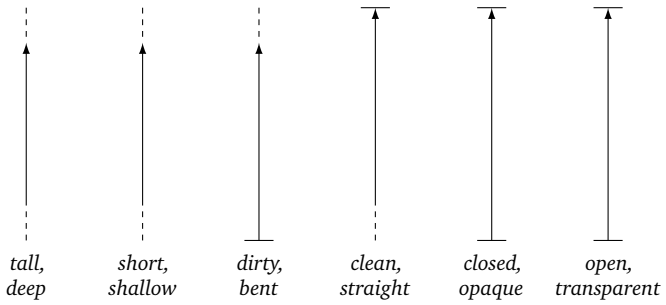
To assess this idea, it will be necessary to adopt some assumptions about scale structure, along the lines of Kennedy & McNally (2005) and, less directly, Rotstein & Winter (2001). Some adjectives have scales that are open on both ends—that is, that do not include any endpoints. Among these are adjectives such as *tall*, *short*, *deep*, and *shallow*. Other adjectives have scaled that are closed on both ends—that include endpoints. Among these are *closed*, *open*, *opaque*, and *transparent*. The contrast between (29) and (30) reflects this distinction:

(29) a. Clyde is tall, but he could be taller.
b. That hole is deep, but you could make it deeper.

(30) a. #This door is closed, but it could be more closed.
b. #This paper is opaque, but it could be more opaque.

In very loose intuitive terms, closed-scale adjectives such as those in (30) make it possible to bump up against an endpoint, to 'max out' on a property. Open-scale adjectives such as those in (29) don't. A further complication is that many adjectives have partly-closed scales—ones that are either closed only on bottom or on top. The diagram in (31) summarizes this conception visually:

(31)



The most important fact about these for current purposes is that many degree words are sensitive to these distinctions.

Perfectly and *fully*, for example, are compatible with adjectives with upper-closed scales:

(32) a. *closed scale:*

$$\left\{\begin{matrix}\text{perfectly}\\ \text{fully}\end{matrix}\right\}\left\{\begin{matrix}\text{full}\\ \text{closed}\\ \text{opaque}\end{matrix}\right\}$$

b. *scale closed only on top:*

$$\left\{\begin{matrix}\text{perfectly}\\ \text{fully}\end{matrix}\right\}\left\{\begin{matrix}\text{certain}\\ \text{safe}\\ \text{pure}\end{matrix}\right\}$$

c. *scale closed only on bottom:*

$$??\left\{\begin{matrix}\text{perfectly}\\ \text{fully}\end{matrix}\right\}\left\{\begin{matrix}\text{bent}\\ \text{dirty}\\ \text{ugly}\end{matrix}\right\}$$

d. *open scale:*

$$??\left\{\begin{matrix}\text{perfectly}\\ \text{fully}\end{matrix}\right\}\left\{\begin{matrix}\text{tall}\\ \text{deep}\\ \text{long}\end{matrix}\right\}$$

Slightly requires adjectives whose scales are closed on bottom:

(33) a. *closed scale:*

$$\text{slightly}\left\{\begin{matrix}\text{full}\\ \text{closed}\\ \text{opaque}\end{matrix}\right\}$$

b. *scale closed only on top:*

$$??\text{slightly}\left\{\begin{matrix}\text{certain}\\ \text{safe}\\ \text{pure}\end{matrix}\right\}$$

c. *scale closed only on bottom:*

$$\text{slightly}\left\{\begin{matrix}\text{bent}\\ \text{dirty}\\ \text{ugly}\end{matrix}\right\}$$

d. *open scale:*

$$??\text{slightly}\left\{\begin{matrix}\text{tall}\\ \text{deep}\\ \text{long}\end{matrix}\right\}$$

So are EDMs like this? How do they fit into this picture? Not very well, it turns out:

(34) a. *closed scale:*

$$\left\{\begin{array}{l}\text{flat-out}\\ \text{downright}\\ \text{positively}\end{array}\right\}\left\{\begin{array}{l}{}^{??}\text{full}\\ {}^{??}\text{closed}\\ \text{opaque}\end{array}\right\}$$

b. *scale closed only on top:*

$$\left\{\begin{array}{l}\text{flat-out}\\ \text{downright}\\ \text{positively}\end{array}\right\}\left\{\begin{array}{l}\text{certain}\\ {}^{??}\text{safe}\\ {}^{??}\text{pure}\end{array}\right\}$$

c. *scale closed only on bottom:*

$$\left\{\begin{array}{l}\text{flat-out}\\ \text{downright}\\ \text{positively}\end{array}\right\}\left\{\begin{array}{l}{}^{??}\text{bent}\\ {}^{??}\text{dirty}\\ \text{ugly}\end{array}\right\}$$

d. *open scale:*

$$\left\{\begin{array}{l}\text{flat-out}\\ \text{downright}\\ \text{positively}\end{array}\right\}\left\{\begin{array}{l}{}^{??}\text{tall}\\ {}^{??}\text{deep}\\ {}^{??}\text{long}\end{array}\right\}$$

The pattern here does not seem to correspond to the scale-structure distinctions at issue here. The picture is complicated a bit by the fact that, in the right circumstances, many of these adjectives can be contextual EAs, which would change the out-of-the-blue judgments reported in (35). It is not difficult to imagine, for example, situations in which *downright dirty* or *flat-out full* might be acceptable. This, however, actually constitutes further evidence that the open-vs-closed scale distinction is not the crucial ingredient here, because there is no reason to expect that the relevant contextual factors should bring about differences in whether an adjective's scale is open or closed.[13]

3.2 *The Scale Structure of EAs*

What the preceding section shows is that EDMs are not simply endpoint-oriented modifiers. It does not show that the distinction between open and closed scales is not relevant to the analysis of EAs. Perhaps, then, we should begin instead by asking where EAs would fit in this picture. This is, in fact, a question Paradis (1997, 2001) and Rett (2008a,b) address.

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[13] It is sometimes suggested that *absolutely*, which is an EDM, is like *fully* in being sensitive to upper-closed scales. In that respect, the result in (34) is surprising. But EDMs are not all semantically identical, and *absolutely* presents some complications other EDMs do not. It is discussed in section 5.

Paradis (2001) argues that EAs operate on scales that are closed on top, and that they 'represent the ultimate point of a scale'. This reflects the sense that EAs involve hitting some kind of maximum. And, as Paradis observes, it accords with the resistance EAs manifest to comparative morphology and modification by *very*.[14] But this conception does not translate straightforwardly into the present system of assumptions. EAs do not behave like adjectives with scales closed on top, such as those in (35):

(35) a. #My glass is full, but it could be fuller. (Kennedy 2007)
b. #This line is straight, but you can make it straighter.

(36) a. Godzilla is gigantic, but he could be bigger.
b. His fencing is excellent, but it could be better.

A full glass is normally taken to be maximally full, and (35a) reflects that it would be odd to suggest that it could be fuller still. But there is no such effect for the EAs in (36).

Rett (2008a,b), on the other hand, suggests that EAs have scales closed on *bottom*.[15] Rett presents an especially compelling argument for this view from entailment patterns. Generally, adjectives with lower-closed scales support entailment patterns such as those in (37) and (38):

(37) a. The floor is dirtier than the table.
entails: The floor is dirty.
b. The floor is as dirty as the table.
entails: The floor is dirty.

(38) a. Floyd is uglier than Clyde.
entails: Floyd is ugly.
b. Floyd is as ugly as Clyde.
entails: Floyd is ugly.

For lexical EAs, it is not straightforward to test how they behave in these contexts precisely because they resist these structures. To the extent one can form these judgments, though, the entailments do go through:

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[14]This resistance is limited to lexical EAs, as argued in section 2. The EAs Paradis considers are mostly lexical ones.

[15]Rett's discussion of EAs is not intended to constitute a worked-out account—it occurs in very brief passages in work devoted primarily to other topics. In a very complicated sense, Bierwisch (1989) might be said to have something along the same lines in mind—he analyzes a class of adjectives that would include most lexical EAs as using a zero standard, as lower-closed scale adjectives ordinarily do.

(39) a. ??Godzilla is more gigantic than Mothra.
entails: Godzilla is gigantic.

b. ?Godzilla is as gigantic as Mothra.
entails: Godzilla is gigantic.

(40) a. ??My dog is more gorgeous than your ferret.
entails: My dog is gorgeous.

b. ?My dog is as gorgeous as your ferret.
entails: My dog is gorgeous.

For contextual EAs, the situation is more complicated because one has to identify contexts in which an adjective is absolutely clear-cut in being an EA. This is what (41) and (42) attempt to do:

(41) The dog was playing in the mud earlier, and now she's wandered around the house. Pretty much everything is dirty. Weirdly, though, . . .

a. The kitchen is cleaner than the bathroom.
does not entail: The kitchen is clean.

b. The kitchen as clean as the bathroom.
does not entail: The kitchen is clean.

(42) Most monkeys are ugly. Clearly, yours is. Weirdly, though, . . .

a. Clyde's monkey is prettier than this one here.
does not entail: Clyde's monkey is pretty.

b. Clyde's monkey as pretty as this one here.
does not entail: Clyde's monkey is pretty.

Clean and *pretty* are contextual EAs in these examples. These contexts would support saying *downright clean* or *downright pretty*, for example. But in both cases, the adjectives behave precisely as they would in contexts in which they are not EAs. The entailments, then, seem to be limited to lexical EAs.

Even this more tentative view may be too strong. If lexical EAs systematically use lower-closed scales, they should systematically be compatible with *slightly*, which is a modifier that requires such scales. This, however, does not seem to be the case either:

(43) a. ??Godzilla is slightly gigantic.
b. ??My dog is slightly gorgeous.
c. ??Clyde is slightly terrible.
d. ??San Francisco is slightly magnificent.

It does not seem to be the case, then, that EAs are unproblematically lower-closed scale adjectives.

The larger conclusion that emerges here, then, is simply that something more will need to said about adjectival extremeness. Scale structure may interact with whatever this is, but it doesn't appear to be the case that a theory of adjectival extremeness—or indeed of the degree modifiers sensitive to it—will fall out in any straightforward fashion from facts about scale structure of the sort considered here.

3.3 *EAs and the Degree Argument*

There is, however, another analytical option to consider, suggested by Chris Kennedy (p.c.): that EAs simply lack degree arguments entirely. This is in the spirit of Bierwisch (1989), who advances the view that this is the case for what he calls 'evaluative adjectives',[16] a class that includes most lexical EAs.

For lexical EAs, this would seem a natural enough position, and it would immediately account for their resistance to comparatives, *very*, and related degree constructions. It would, however, imply that the resistance to these structures would be very strong, because any such use would give rise to a type clash. Sentences of this sort should be at least as deviant as, say, **Clyde slept a monkey*. But the resistance of EAs to comparatives does not actually seem to be nearly so great. Indeed, in other degree constructions this resistance is even weaker:

(44) a. Godzilla is too gigantic for words.
b. Swine flu is far too terrible to discuss.

(45) a. Godzilla is really gigantic.
b. Swine flu is so fucking terrible.

There is some speaker variation here, and such examples may be in various ways unusual. Still, if EAs had no degree arguments at all, these would be dramatically ill-formed.

One could posit a type shifting coercion operation that would rescue these. This is in fact more or less what Bierwisch proposes for his evaluative adjectives—that they can become gradable through the use of a function that assigns gradable denotations to non-gradable predicates.[17] Such a type shift would need to be able to distinguish these relatively good examples from the

[16] The term 'evaluative' may be unfortunate here, in light of its other largely unrelated uses.

[17] This is done by taking advantage of orderings present in the domain itself, and thereby changing the type of a predicate (Bierwisch 1989, p. 201–202).

worse ones involving comparatives and *very*. Whatever the nature of this type shifting operation, it would have to be relatively complex, and consequently it is not obvious that it would come at a lower theoretical price than a theory that explains the resistance to comparatives in other terms.

For contextual EAs, however, eliminating the degree argument entirely would be more costly still. Whether an adjective has a degree argument in its lexical entry or not is a binary choice. There are no intermediate positions. Yet in the right context, virtually any adjective can be a contextual EA—even certain prototypical scalar adjectives like *tall* and *old*. Eliminating their degree arguments would almost amount to eliminating degree arguments from the lexicon entirely. The most reasonable position, then, would be to suppose that lexical EAs lack degree arguments, and contextual ones do not. But if it were only lexical EAs that lack a degree argument, the distribution of EDMs would fail to track this distinction. They could occur both with predicates that have a degree argument and with ones that do not. Thus this would not provide a means of representing adjectival extremeness in general.

4 What do Extreme Adjectives Do?

4.1 *Extremeness and Contextual Domain Restrictions*

The first step in building an account will be to return to the speedometer metaphor already introduced. The relevant fact about speedometers was that they have two kinds of 'zone of indifference'. The first of these has to do with precision, or what counts as a minimal unit on the scale. The other has to do with highest value on the scale. Both of these ultimately have to do with which speeds correspond to marks on the speedometer. If adjectival scales work similarly, there should be degrees on each scale that are the counterparts of marks on the speedometer. And just as different cars have different speedometers, so too must different contexts be able to vary in which degrees they treat as 'marks'.

The idea that different contexts provide different subsets of some domain is quite familiar—this is precisely what contextual domain restrictions do:

(46) a. Everyone$_C$ had a good time.
b. $\forall x[[x \in C \wedge x \text{ is a person}] \rightarrow x \text{ had a good time}]$

The restriction is represented in (46) with a resource domain variable, C, whose value is set by context (Westerståhl 1985, von Fintel 1994). In (46), this variable captures the fact that such a sentence normally quantifies over only the salient individuals, and we are truth-conditionally indifferent to others. Perhaps, then, there are also contextual domain restrictions that

provide sets of salient *degrees*? If natural language quantification is always restricted contextually and degree constructions contain quantifiers, this would actually be expected. Indeed, Zanuttini & Portner (2003) presuppose something like this, and Morzycki (2004/2008) makes use of it. The analogue of the speedometer, then, is a contextually provided set of salient degrees.

This can capture both flavors of indifference. One way in which we are indifferent to certain degrees has to do with imprecision (Pinkal 1995, Lasersohn 1999, Kennedy 2007). In most contexts, for example, we are happy to say of two people that one is as tall as the other. Strictly speaking, though, it is fantastically improbable that any two people would truly have *precisely* the same height down to, say, millionths of a millimeter, or some other arbitrarily small level of granularity. Such imprecision is exactly what one would expect, because it involves distinctions too fine to discriminate, ones to which we are truth-conditionally indifferent. They fall between the degrees in C, between the marks on the speedometer. The idea that scale granularity can be exploited to model imprecision is in fact advocated in Sauerland & Stateva (2007),[18] and in a less directly related form in Krifka (2002, 2007).

The other way in which we are indifferent to certain degrees is the one most at issue here—our indifference to distinctions among degrees too high to be on a relevant scale. The salient degrees in C are those that we regard, for the purposes of the discussion, as reasonable candidates for values we might want to consider. The greatest of these constitutes a boundary. For any degree beyond it, the important fact about it is precisely that it exceeds the boundary, having gone 'off the dial'. EAs, then, can be thought of as involving degrees beyond this boundary.

So the theory we have arrived at is one in which the role of the speedometer is played by a contextually-provided set of salient degrees. On any scale, there is a subset of degrees that are salient, and these *themselves* constitute a kind of scale. In this sense, there are actually two kinds of scale at issue here. There is the scale of speed itself, which comes from the lexicon. Then there is the contextually-provided scale through which we look at—and talk about—that lexically-provided scale. This is quite in accord with our metaphor. Speed is a scale that exists in the world. A speedometer is a scale we through which we look at and talk about this scale. Such a scale, one through which we view another scale, is what might be called a 'perspective scale'. In these terms, EAs signal having exceeded the perspective scale.[19]

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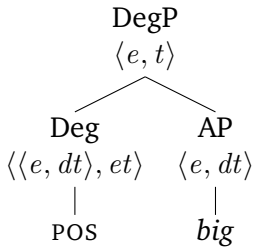
[18]They do not advocate relating imprecision to domain restrictions, but in the relevant respect the idea is the same. They render interpretation sensitive to a contextually determined level of granularity.

[19]There is one way in which using C in this section and subsequently may be confusing—this is also the variable sometimes used in the literature for comparison classes. The use here is in fact related to the comparison class use, and it may well be possible to reconstruct some of

Before articulating this idea more precisely, it will be necessary to make some assumptions about the structure of the extended AP. Syntactically, these will be in the spirit of Kennedy (1997), Abney (1987), Corver (1990), Grimshaw (1991) and others (cf. Bresnan 1973, Heim 2000, Bhatt & Pancheva 2004):

(47)



The lexical AP is the complement to a degree head, a position occupied by degree morphemes such as *very* or *more*. The AP denotes a relation between individuals and degrees (Cresswell 1976, von Stechow 1984, Bierwisch 1989, Rullmann 1995, Heim 2000 among others). In positive structures—that is, ones lacking an overt degree morpheme—the Deg position is occupied by a phonetically null degree morpheme, POS (Cresswell 1976, von Stechow 1984, Kennedy 1997 among others). It existentially binds the degree argument and requires that it be at least as great as the contextually-provided standard for its scale:

(48) $[\![\text{POS}]\!] = \lambda a_{\langle e,\, dt\rangle} \lambda x \,.\, \exists d[a(x)(d) \wedge d \geq \mathit{standard}(\mathit{scale}(d))]$

I assume here that scale is a function from degrees to their scales, and $\mathit{standard}$ is a function from a scale to a standard on that scale.[20]

To begin reflecting the substance of the proposal here, the denotation of an ordinary adjective will reflect a domain restriction:

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what I will propose in such terms. But the connection, while interesting, is certainly not direct. Most obviously, comparison classes are sets of individuals rather than degrees. This alone isn't a terribly deep difference, though, because degrees can be construed as equivalence classes (Cresswell 1976). A deeper difference is that the membership of a comparison class need not include all or only salient individuals, or indeed any. One can assess the truth conditions of *tall for a basketball player*—which explicitly specifies a comparison class—even if there are no salient basketball players in the discourse. A contextually-provided domain restriction, on the other hand, is a deeply discourse-oriented notion.

[20]Different contexts may impose different standards, of course, so the value of $\mathit{standard}$ depends on context. This representation avoids a potential difficulty: for lower-closed-scale adjectives the standard must normally be exceeded and for upper-closed-scale adjectives it must be met (see Kennedy 2007, Syrett et al. 2005, 2006 and Potts 2008 for discussion).

(49) $[\![\textit{big}_C]\!] = \lambda x \lambda d \ . \ d \in C \wedge x$ is d-big

The degrees of size *big* cares about, then, will be only those that are on the perspective scale for size—that is, that are in C. In principle, it might be desirable to treat this requirement as a presupposition, but for current purposes (49) will suffice. This denotation is unusual in two respects: the first is that the presence of a contextual domain restriction itself; the second is the fact that it is expressed on a lexical head rather than on Deg, where the quantifier it restricts resides.

The denotation of an ordinary DegP, then, will look like this:

(50) a. My monkey is [$_{\text{DegP}}$ POS [$_{\text{AP}}$ big$_C$]].

b. $[\![\text{POS}]\!] ([\![\textit{big}_C]\!])$
$= \lambda x \ . \ \exists d [[\![\textit{big}_C]\!] (x)(d) \wedge d \geq standard(scale(d))]$
$= \lambda x \ . \ \exists d [d \in C \wedge x$ is d-big $\wedge \ d \geq standard(scale(d))]$

This requires that my monkey have a degree of bigness that is salient and that exceeds the standard.

For lexical EAs, another innovation has to be introduced. The hypothesis is that they involve a requirement of having gone 'off the scale' of contextually-provided degrees, so the denotation of a lexical EA has to involve exceeding the greatest degree in C:[21]

(51) $[\![\textit{gigantic}_C]\!] = \lambda x \lambda d \ . \ d > max(C) \wedge x$ is d-big

This is put to use in (52):

(52) a. My monkey is [$_{\text{DegP}}$ POS [$_{\text{AP}}$ gigantic$_C$]].

b. $[\![\text{POS}]\!] ([\![\textit{gigantic}_C]\!])$
$= \lambda x \ . \ \exists d [[\![\textit{gigantic}_C]\!] (x)(d) \wedge d \geq standard(scale(d))]$
$= \lambda x \ . \ \exists d [d > max(C) \wedge x$ is d-big $\wedge \ d \geq standard(scale(d))]$

The result here is that for my monkey to be gigantic, it has to have a degree of bigness that both exceeds the standard and is larger than any salient bigness degree.

With this assumption in place, a few theoretical desiderata have been satisfied. First, the entailment from *gigantic* to its weaker counterpart, *big*, will go through because they are both on the same scale and therefore require

[21] In fact, what is necessary here is not the maximal degree in C—it would probably not even be possible to determine one—but rather the maximum degree on the relevant scale in C. One could replace $max(C)$ with $max\{d' : d' \in scale(d) \wedge d' \in C\}$. I will adopt the shortcut reflected in (51) for simplicity.

that the same standard be exceeded. Second, the notion of extremeness itself is encoded lexically in the meaning of the adjective. Third, the indifference flavor EAs may have follows from the requirement they impose that a degree be so great as to exceed any of the degrees that are at-issue in the discourse. Fourth, it reflects the intuition that EAs involve proper parts of a scale, because the degrees greater than all salient ones do in fact constitute a proper subscale.

4.3 *Comparatives*

Among the most notable properties of lexical EAs is their resistance to comparatives. This too follows from this approach. However, this approach does not hard-wire this anomaly into the semantics in any deep way. Rather, it reflects it through conditions on the felicitous use of such comparatives.

The crux of the anomaly in such sentences is that they involve comparing two degrees, both of which must be too large to bother distinguishing. This, of course, is not a sensible thing to do. If these degrees are not worth distinguishing in a discourse, it is not reasonable to distinguish them by attempting to compare them. In other words, the two EAs in a comparative each require that a degree be off the contextually provided domain of relevant degrees, so the comparative would be attempting to compare degrees that it itself indicates are not conversationally relevant. In fact, the very fact of comparing them would normally *make* them relevant.

To see how this effect arises in this system, it will help to consider a particular example:

(53) ?Godzilla is more gigantic$_C$ than Mothra ~~is gigantic$_C$~~.

To interpret this, it will be necessary to adopt a denotation for the comparative clause and for the comparative morpheme *more* itself. The semantics in (54) treats the comparative clause as denoting a property of degrees to which the subject satisfies the adjective—in this case, a property of degrees to which Mothra is big:[22]

(54) $[\![\textit{than Mothra } \textit{~~is gigantic$_C$~~}]\!] = \lambda d \ . \ d > max(C) \wedge$ Mothra is d-big

The denotation of *more* will require that the maximal degree which to the matrix subject satisfies the adjective be greater than the maximal degree that satisfies the comparative clause:

(55) $[\![\textit{more}]\!] = \lambda a_{\langle e,\, dt\rangle} \lambda b_{\langle d,\, t\rangle} \lambda x \ . \ max\{d : a(x)(d)\} > max\{d' : b(d')\}$

[22] One could equally well assume these clauses are definite descriptions of degrees, or more generally substitute here one's favorite theory of comparative clauses.

Putting this together with the denotation of *gigantic* provided in (51) results in (56):

(56) a. [$_{\text{DegP}}$ more [$_{\text{AP}}$ gigantic$_C$]] [than Mothra ~~is gigantic$_C$~~]

b. $[\![\textit{more}]\!]([\![\textit{gigantic}_C]\!])([\![\textit{than Mothra ~~is gigantic$_C$~~}]\!])$

$= \lambda x \,.\, max\{d : [\![\textit{gigantic}_C]\!](x)(d)\} > max\{d' : [\![\textit{than Mothra}]\!](d')\}$

$= \lambda x \,.\, max\{d : d > max(C) \wedge x \text{ is } d\text{-big}\} > max\{d' : d' > max(C) \wedge \text{Mothra is } d'\text{-big}\}$

The result, then, is that *more gigantic than Mothra* will hold of an individual x iff . . .

- the maximal size x is so great that it exceeds all the relevant degrees
- the maximal size of Mothra is also so great that it exceeds all the relevant degrees
- the maximal size of x is greater than the maximal size of Mothra

As is required, this reflects that it is irrelevant degrees that are being compared, and thereby predicts the comparatives built with lexical EAs should be pragmatically deviant because of how they relate to the content of C, the perspective scale.[23]

There are, however, comparatives with lexical EAs that are more profoundly ill-formed. These involve comparison of a lexical EA with an ordinary adjective, as in (57):

(57) a. #Mothra is more gigantic than Godzilla is big.

b. #Mothra is bigger than Godzilla is gigantic.

These do not seem to be as readily accommodated in a discourse. What has already been proposed reflects that fact by predicting that these should be odd irrespective of what is in C. The denotation of (57a) would be computed like this:

(58) #Mothra is [[more gigantic$_C$] than Godzilla is big$_C$].

a. $[\![\textit{than Godzilla is big}_C]\!] = \lambda d \,.\, d \in C \wedge \text{Godzilla is } d\text{-big}$

b. $[\![\textit{more}]\!]([\![\textit{gigantic}_C]\!])([\![\textit{than Godzilla is big}_C]\!])([\![\textit{Mothra}]\!])$

$= 1 \text{ iff } max\{d : d > max(C) \wedge \text{Mothra } d\text{-big}\} > max\{d' : d' \in C \wedge \text{Godzilla is } d'\text{-big}\}$

[23] There is a natural way for a listener to accommodate such a sentence—one can take it to retroactively change the perspective scale, introducing new degrees to C. This is a metalinguistic use similar to the kind Barker (2002) describes for ordinary positive adjectives.

The problem here involves the requirements placed on the two maximal degrees. The first maximal degree, the one associated with Mothra, must be greater than any in C. The second maximal degree, the one associated with Godzilla, must be in C. This means that the first maximal degree will *always* be greater than the second, and the sentence is tautological. This will be the case no matter how big Mothra and Godzilla are, and no matter what the actual contents of C are.

Similar sentences in which the lexical EA occurs in the comparative clause, such as (57b), will give rise to a parallel difficulty, though in these cases, the result is a contradiction rather than a tautology:[24]

(59) #Mothra is [more big_C] than Godzilla is gigantic_C].

a. $[\![\textit{than Godzilla is gigantic}_C]\!]$
$= \lambda d \,.\, d > max(C) \wedge$ Godzilla is d-big

b. $[\![\textit{more}]\!]([\![\textit{big}_C]\!])([\![\textit{than Godzilla is gigantic}_C]\!])([\![\textit{Mothra}]\!])$
$= 1$ iff $max\{d' : d' \in C \wedge$ Mothra is d'-big$\} >$
$max\{d : d > max(C) \wedge$ Godzilla is d-big$\}$

Here, the first maximal degree must be in C and the second greater than any in C, so the sentence will always be false.

5 EDMs and Contextual EAs

5.1 *Manipulating Domains*

The previous section laid out a proposal for representing the semantics of adjectives that are lexically extreme. Still unaddressed are contextual EAs and EDMs.

A useful starting point in addressing both questions is the cross-categorial modifier *absolutely*. This modifier has use in the DP domain (Horn 1972), as (60a) shows:

(60) a. Absolutely everyone had a good time.
b. Everyone had a good time.

A natural way to think about the difference between (60a) and (60b) is that they differ in how wide the domain of quantification is. What *absolutely* does in (60) is to expand the contextually provided domain to include

[24] This sentence should be read with *bigger* in it rather than *more big*—(59) reflects the LF form.

new members. Perhaps, then, it has a similar domain-expanding role for degrees?[25]

To take this idea for a test drive, it will help to first ask what the EDM *absolutely* actually does. With lexical EAs, it seems most naturally to have an intensifying effect:

(61) a. Godzilla is absolutely gigantic.
b. Your monkey is absolutely gorgeous.

One would normally take (61a), for example, to claim that Godzilla's size is not only sufficient to be gigantic, but actually greater than that.

With contextual EAs, it can signal that the adjective does in fact count as extreme in the current discourse:

(62) a. Clyde is absolutely dead.
b. Floyd is absolutely brilliant.

Here, the anti-hyperbolic flavor of this EDM shines through. In most circumstances, being dead is regarded as an extreme state of affairs. Accordingly, in most circumstances, (62a) would be a natural way to express that Clyde is dead. But it might come across as odd if uttered at Clyde's funeral, where being dead is considerably more salient. In these examples, *absolutely* provides a way of acknowledging the extremeness of the adjective it modifies, and in doing so suggests that the speaker is aware that the claim might be construed as hyperbolic.

There is a third reading of *absolutely*, which is also possible in the preceding examples but may come across more directly in (63):

(63) a. This stick is absolutely straight.
b. The bottle is absolutely full.

Usually, neither fullness nor closure is likely to be regarded as in any way extreme. Rather, the effect of *absolutely* in (63) seems to be to claim a higher degree of precision than might have otherwise been expected. It is this use that has drawn the most attention (Pinkal 1995, Lasersohn 1999, Kennedy 2007, Sauerland & Stateva 2007). One reason for this is that this reading seem to arise with adjectives whose scales are closed on top.

5.2 *Implementation*

All of these uses can actually be understood as involving a kind of degree domain-expansion, because the domain of salient degrees—the perspective

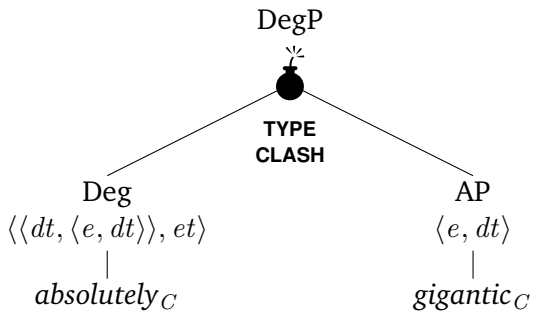
[25] I avoid using the Kadmon & Landman (1993) term 'domain-widening' here because it might be slightly misleading in this context, given how it will be implemented.

scale—can be expanded in different ways. To make this clear, it will be necessary to be a bit more explicit. In addition to the domain-expanding role, *absolutely* should also include the requirement that the standard for an adjective be exceeded, because being *absolutely A* entails being *A*. And *absolutely* will need to access the contextual domain restriction associated with the adjective it modifies. The denotation in (64) reflects this:[26]

(64) $[\![\textit{absolutely}_C]\!] = \lambda f_{\langle dt, \langle e, dt\rangle\rangle} \lambda x \, . \, \exists C' \exists d \left[\begin{array}{l} C' \supset C \wedge f(C')(x)(d) \wedge \\ d \geq standard(scale(d)) \end{array} \right]$

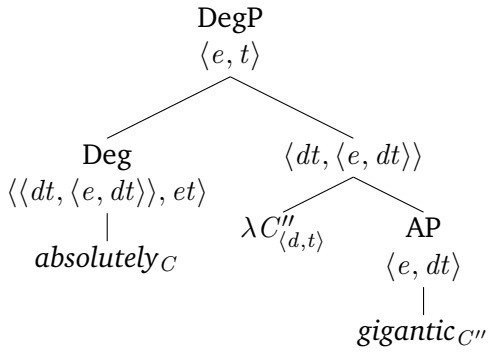
To follow the formal machinery here, it will help to see this denotation in action. The first argument is of type $\langle dt, \langle e, dt\rangle\rangle$, or a function from sets of degrees to AP meanings. This means *absolutely* will not be able to combine with an AP directly due to a type clash:

(65)



To combine with the AP, it must first bind the contextual domain of the adjective—and thereby gain access to it—as in (66):

(66)



The result is the denotation arrived at in (67):

(67) $[\![\textit{absolutely}_C]\!] ([\![\lambda C'' \textit{ gigantic}_{C''}]\!])$

[26] This will be modified slightly below.

$$= \lambda x \ . \ \exists C' \exists d \left[\begin{array}{l} C' \supset C \wedge \\ [\lambda C'' \ . \ [\![\textit{gigantic}_{C''}]\!]](C')(x)(d) \wedge \\ d \geq standard(scale(d)) \end{array} \right]$$

$$= \lambda x \ . \ \exists C' \exists d \left[\begin{array}{l} C' \supset C \wedge \\ [\![\textit{gigantic}_{C'}]\!](x)(d) \wedge \\ d \geq standard(scale(d)) \end{array} \right]$$

$$= \lambda x \ . \ \exists C' \exists d \left[\begin{array}{l} C' \supset C \wedge \\ d > max(C') \wedge x \text{ is } d\text{-big} \wedge \\ d \geq standard(scale(d)) \end{array} \right]$$

In (67) *absolutely* combines with the lexical EA *gigantic*, and it causes this adjective to be interpreted with respect to the expanded domain C', as the first conjunct above reflects. The last conjunct reflects the requirement of exceeding the standard. The intermediate ones are provided by the adjective itself. Because the adjective here is *gigantic*, what will be required is that x be big to a degree greater than the maximal degree in the expanded domain C', and that it be a degree of x's bigness.

For a lexical EA, then, what this denotation predicts is that the lexical EA is interpreted as involving a degree greater than any even in the expanded domain. If the domain is extended *upwards*, this will have the necessary intensifying effect, raising the degree even higher. Of course, that is not the only way to expand the domain. Another would be to include additional degrees that are between those already present in the original domain. Nothing in (67) prevents this. In such a case, though, the maximal degree in the extended domain would be precisely the same as in the original one, and the predicted reading would be identical to one in which the degree modifier was POS. This option is therefore pragmatically blocked.

The situation is different, however, for adjectives that are not lexical EAs:

(68) $[\![\textit{absolutely}_C]\!]([\![\lambda C'' \ \textit{dead}_{C''}]\!])$

$$= \lambda x \ . \ \exists C' \exists d \left[\begin{array}{l} C' \supset C \wedge d \in C' \wedge \\ x \text{ is } d\text{-dead} \wedge \\ d \geq standard(scale(d)) \end{array} \right]$$

There is a point of implementation here worth addressing before we move on. There is nothing in (68) that ensures that d be outside the initial domain C—that is, that it be in $C' - C$. If it weren't, though, the result would be a reading indistinguishable from on expressed with the degree modifier POS, again blocking this possibility pragmatically. That said, if one were inclined to express this in the semantics itself after all, the change would be trivial—substituting $C' - C$ for $C \supset C$.

This issue aside, the important difference between (68) and (67) is that in (68), both ways of expanding the domain—making it wider or making it more fine-grained—are available. If it is extended upward, to include higher degrees, the result will be that x can be dead to degrees greater than those that were previously salient. This is essentially the intensifying use. Because the scale of *dead* is closed on top, however, the situation is somewhat different. The only way the domain could have been extended upward is if the top of the scale were not already in the contextual domain—that is, if being fully dead were not already a salient possibility. In this way, *absolutely* signals that *dead* is, in this discourse, extreme. Alternatively, the domain could have been extended by adding degrees between the existing ones. This finer-grained domain would allow thus greater degrees of precision. For adjectives that are very unlikely to be contextually extreme, such as *full* and *straight*, extending the domain upward will normally be impossible, since the maximal degree of fullness will in most contexts already be salient.

Some adjectives are not easily taken to be either extreme or imprecise. These would be expected to resist modification by *absolutely*. This seems to be the case:

(69) a. ??absolutely big
b. ??absolutely pretty

This is a different explanation of the oddness of (69) than has previously been proposed. The other explanation is that *absolutely* requires upper-closed scales, and the scales associated with *big* and *pretty* are open (Kennedy & McNally 2005, Kennedy 2007, Sauerland & Stateva 2007). The approach proposed here does retain an element of this other explanation as well, in that scale structure is relevant to how a degree domain can be expanded. The predictions diverge with respect to adjectives that have upper closed scales but are not easily taken to be either extreme or particularly imprecise. Those in (70) might fit the bill:

(70) $\left\{\begin{array}{l} \text{fully} \\ \text{completely} \\ \text{??absolutely} \end{array}\right\} \left\{\begin{array}{l} \text{informed} \\ \text{present} \end{array}\right\}$

These adjectives are compatible with other closed-scale degree modifiers, but resist *absolutely*.

In light of the larger discussion in this section, an answer has emerged to the question of what contextual EAs are. On this view, a contextual EA is simply an ordinary adjective that is not expected to hold in a particular discourse. More precisely, a contextual EA is an adjective whose standard exceeds the contextually-provided perspective scale.

Before leaving *absolutely*, one emendation needs to be made to the denotation in (64). As it stands, the expanded contextual domain C' is introduced by existential quantification. This is a convenient simplifying assumption, but this cannot ultimately be right in this form. The most important difficulty with it is that existentially quantifying over potential expansions of the domain does not in fact express what is intended. The expanded domain is a contextually determined one, supplied by context. In any given instance of using *absolutely*, the value of C' is fixed. This is not to say that the exact membership of C' has to be known exhaustively by all interlocutors—it need not be, just as the value of an ordinary contextual domain need not be, or for that matter a particular standard for the interpretation of a relative adjective. But it is certainly too weak to say there there simply is one. This existential quantifier would also misbehave in various ways scopally. There are various ways one might remedy this. The most straightforward, given representational assumptions I've adopted here, would be to treat C' as a variable in the object language, like C:

(71) $[\![\textit{absolutely}_{C,C'}]\!] = \lambda f_{\langle dt, \langle e, dt\rangle\rangle} \lambda x \,.\, \exists d \left[\begin{array}{l} C' \supset C \wedge f(C')(x)(d) \wedge \\ d \geq standard(scale(d)) \end{array} \right]$

A more sophisticated way of doing this might be to introduce a domain-expanding function, whose value is itself determined by context. This is the approach Kadmon & Landman (1993) adopt in their domain-widening account of NPIs. Yet another approach would be to evict these variables from the object language entirely and treat them instead as parameters of the interpretation function. This would resemble the way Sauerland & Stateva (2007) express different values of granularity. Deciding among all the various possibilities would take us too far afield, however. For my purposes here, (71) would be sufficient. But because (71) is aesthetically offensive in a way that may be misleading—it suggest two independent forms of contextual sensitivity—I will continue to use the notational convenience of closing C' existentially as in (64).

5.3 *Other EDMs*

There are, of course, many EDMs other than *absolutely*. Many may actually have a simpler semantics. Among these are ones that are specialized for extending the perspective scale upward. *Downright*, *positively*, and *full-on* may be of this class.

The denotation of *downright*, for example, would be as in (72):

(72) $[\![\, \textit{downright}_C \,]\!]$

$$= \lambda f_{\langle dt, \langle e, dt\rangle\rangle} \lambda x \,.\, \exists C' \exists d \begin{bmatrix} max(C') > max(C) \wedge \\ f(C')(x)(d) \wedge \\ d \geq standard(scale(d)) \end{bmatrix}$$

This requires that the extended domain C' differ from C in including higher degrees. In other respects, this is similar to the denotation for *absolutely* above.

For lexical EAs, this brings about the intensifying effect already encountered:

(73) $[\![\, \textit{downright}_C \; \lambda C'' \; \textit{gigantic}_{C''} \,]\!]$

$$= \lambda x \,.\, \exists C' \exists d \begin{bmatrix} max(C') > max(C) \wedge \\ [\![\lambda C'' \; \textit{gigantic}_{C''}]\!](C')(x)(d) \wedge \\ d \geq standard(scale(d)) \end{bmatrix}$$

$$= \lambda x \,.\, \exists C' \exists d \begin{bmatrix} max(C') > max(C) \wedge \\ d > max(C') \wedge x \text{ is } d\text{-big} \wedge \\ d \geq standard(scale(d)) \end{bmatrix}$$

The result, as before, is that a degree must be even higher than before to satisfy *gigantic*. And, as before, the effect with contextual EAs will be to mark them as extreme:

(74) $[\![\, \textit{downright}_C \; \lambda C'' \; \textit{dangerous}_{C''} \,]\!]$

$$= \lambda x \,.\, \exists C' \exists d \begin{bmatrix} max(C') > max(C) \wedge \\ d \in C' \wedge x \text{ is } d\text{-dangerous} \wedge \\ d \geq standard(scale(d)) \end{bmatrix}$$

As before, nothing in (74) requires that the degree of dangerousness be in the expanded portion of the domain, but this requirement emerges from morphological blocking by POS.

Naturally, this does not begin to exhaust the variation among various EDMs. There are other subtleties that merit attention. Among these are the *outright* and *out-and-out*, which seem to emphasize overtness or obviousness; *straight-up*, which seems to emphasize forthrightness or sincerity; and *balls-out*, which seems to suggest recklessness or brazenness. None of these are reflected in denotations like this one. The hope, however, is that that some of these additional subtleties could be captured by elaborating on them. What has been proposed here is a means of representing the sensitivity to adjectival extremeness these degree modifiers reflect. For some EDMs, there may not be much else to their denotations. For others, additional ingredients may enter into the mix. This is in a way unsurprising, inasmuch as even the

best-studied degree words often manifest peculiar lexical idiosyncrasies that are not well understood.

There is one additional EDM that merits mention at this point: *literally*.[27] For many speakers, *literally* has a use that seems paradoxical, on which it means something very close to 'not at all literally'. A particularly striking example of this use emerged recently in remarks made by Meghan Stapleton, a spokeswoman for Sarah Palin:

(75) The world is literally her oyster.[28]

There is no confusion, presumably, on the question of whether the world is a mollusk. Rather, what Stapleton apparently intends is something to the effect that the world is 'very much' her oyster—that is, not that it is not metaphorical or idiomatic to say that the world is her oyster, but rather that it is not an exaggeration. The particular *literally* in (75) may not itself be an EDM, since this is not a position in which they canonically occur and many would be ungrammatical there (**The world is downright/flat-out her oyster.*). But it does demonstrate that there should be a path of diachronic development from the *literally* that means 'not metaphorically' to the one in (75). Recognizing that for many speakers *literally* is an EDM makes such a path available. Even some speakers that reject (75) might be relatively content with uses such as those in (76):

(76) The world is literally $\left\{\begin{array}{l}\text{gigantic}\\ \text{enormous}\\ \text{gorgeous}\\ \text{fantastic}\end{array}\right\}$.

This seems a natural development from the 'not metaphorically' meaning. A claim that sufficiently exceeds contextual expectations might be taken to be metaphorical. In denying that a use is metaphorical, one in effect denies that a statement should be constrained by the existing expectations in the discourse. It is a small step from this to the EDM use, if EDMs are to be understood, as suggested here, as overt acknowledgments of that contextual expectations have been exceeded.

5.4 *Raising Objections*

As noted in section 2, one of the most natural uses for EAs involves raising objections to something about the preceding discourse. We are now in a

[27] I owe the observations that *literally* is an EDM and that recognizing this might shed light on its historical development to Scott Mackie and Hotze Rullmann (p.c.).

[28] Interview with Anderson Cooper on CNN, July 2, 2009.

position to be more explicit about what this is. Both kinds of EAs ultimately concern the contents of the perspective scale, which represents a fact about discourse. In the case of lexical EAs, the semantics of the adjective itself ensures the perspective scale is exceeded. In the case of contextual EAs modified by EDMs, there is a similar effect of exceeding the existing perspective scale.

This can be useful for signaling disagreement in two related ways. An example of the first has already been mentioned:

(77) *Reginald:* Clyde isn't particularly wealthy.
Gladys: No, he's (outright) destitute.

Gladys seems to be disagreeing with something, as the *no* might suggest, but she is not objecting to the proposition itself—she does not convey that in fact Clyde *is* wealthy. Instead, she is indicating that Clyde's poverty is so extreme that it exceeds the range of degrees of poverty that were already considered reasonable options. This is a disagreement not with the proposition itself, but rather with whether Clyde's poverty falls within the range of poverty values the interlocutors already had in mind. It is a disagreement not about the truth of the sentence, but about the structure of the discourse.

5.5 *A Few Observations About* Very

Having now made some assumptions about how EDMs work, it may be useful to contrast them with another kind of degree word, namely *very*.

For most speakers, the expressions in (78) are distinctly odd:

(78) a. ??very gigantic
b. ??very excellent
c. ??very phenomenal

Some further data about *very* and EAs will clarify the picture. The contrast in (79) seems to show that it is more natural to use *very* in an elaboration of a previous remark with an EDM than vice versa:

(79) a. Floyd got downright drunk—very drunk.
b. #Floyd got very drunk—downright drunk.

(80) a. His driving is flat-out careless—very careless.
b. #His driving is very careless—flat-out careless.

Perhaps, then, (79) indicates that *very drunk* is stronger than *downright drunk*? An elaboration, after all, might serve the role of strengthening a previous remark.

The picture, however, is not as simple as this. *Downright drunk* should work like the lexical EA *wasted*—but, by the same reasoning, this would, unexpectedly, suggest that it *wasted* is actually weaker than *very drunk*:[29]

(81) a. #Floyd got wasted—very drunk, in fact.
b. Floyd got very drunk—wasted, in fact.

(82) a. #His driving is reckless—very careless, in fact.
b. His driving is very careless—reckless, in fact.

Taking these facts together, it seems to be the case that a contextual EA with an EDM can support an elaboration with *very*, but a lexical EA cannot.

This seems to be a paradoxical state of affairs. The first set of contrasts seems to show that *very drunk* is stronger than an extreme adjective, and the second set that it is weaker. There is, however, another way of looking at it. The crucial difference is instead than an EDM triggers extending the contextual domain to include higher degrees, and *very* does not. In structuring a discourse, it makes more sense to indicate early on that the contextual degree domain should be extended upward than to do it in an elaboration. *Very*, on the other hand, seems to work with the contextual domain already established.

Very, then, is not stronger than EDMs or lexical EAs. Rather, it seems to place an individual in the upper portion of the contextual degree domain C. This is reflected in (83):[30]

(83) $$[\![\textit{very}_C]\!] = \lambda a_{\langle e,\, dt\rangle} \lambda x \ . \ most\Big(\lambda d \Big[\begin{array}{l} d \in C \wedge \\ d \geq standard(scale(d)) \end{array} \Big] \Big) \Big(\lambda d' \Big[\ a(x)(d') \Big] \Big)$$

Combining this with an adjective, the result will be (84):

(84) $$[\![\textit{very}_C \ \textit{drunk}_C]\!] = \lambda x \ . \ most\Big(\lambda d' \Big[\begin{array}{l} d' \in C \wedge \\ d' \geq standard(scale(d)) \end{array} \Big] \Big) \Big(\lambda d' \Big[\begin{array}{l} d' \in C \wedge \\ x \text{ is } d'\text{-drunk} \end{array} \Big] \Big)$$

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[29] For these examples to work, it is necessary to find a pair of adjectives in which one is lexically extreme, and another weaker form is relatively neutral but can nonetheless be contextually extreme in the right circumstances. This requires some care.

[30] I continue here the notational convenience of not indicating explicitly that C in fact represents to portion of C on the relevant scale, so the first argument of $most$ should be construed to include on degrees on the scale of a. I could have written instead, using the current notation, $standard(scale(max\{d' : a(x)(d')\}))$ or just added the conjunct 'd is on the scale of a'.

This requires that to be *very drunk*, one must be drunk to most of the salient (drunkenness) degrees above the standard. *Very drunk* is thus actually weaker than a lexical EA, since lexical EAs on their own require exceeding all salient degrees. If the standard is among the salient degrees, this will also be the case for contextual EAs modified by EDMs.

If, however, the contextual degree domain did not previously include any degrees above the standard, the situation for contextual EAs is different. In such a context, using *very drunk* out of the blue would be unusual. One wouldn't normally report the discovery in the course of an operation that one's surgeon is drunk with (85):

(85) ??I think my surgeon is very drunk.

This is expected, since in such a case *very* would have no degrees to quantify over.[31] It would be more natural to report this as in (86):

(86) I think my surgeon is (downright) drunk.

If the EDM is included, it has the effect of signaling the extremeness of *drunk* in this context—of establishing that a previously unconsidered level of drunkenness, on that exceeds the standard, must now be entertained. Having done this, it now makes sense to elaborate with *very drunk*, because by this point the contextual domain would likely have been expanded to include the standard of drunkenness.

With this semantics, it is now possible to return to the anomaly of *??very gigantic*. It turns out that this, and more generally any combination of *very* with a lexical EA, would systematically give rise to a contradiction:

(87) $[\![\textit{very}_C \textit{ gigantic}_C]\!] = \lambda x .$
$$most\Big(\lambda d'\Big[\begin{array}{l} d' \in C \wedge \\ d' \geq standard(scale(d)) \end{array}\Big]\Big)\Big(\lambda d'\Big[\begin{array}{l} d' > max(C) \wedge \\ x \text{ is } d'\text{-big} \end{array}\Big]\Big)$$

This requires that most salient degrees that meet the standard be greater than the maximal salient degree. In fact, of course, no salient degree can be greater than the maximum salient one.

6 Final Remarks

6.1 *Some Open Questions*

One the questions I have left unaddressed here concerns polarity. In light of the Kadmon & Landman (1993) analysis of negative polarity items in terms of

[31] The precise nature of the ill-formedness here depends on one's assumptions about the semantics of $most$.

domain-widening, one might have expected that EDMs should be NPIs. There are two reasons why this in fact need not be the case. The first is that Kadmon and Landman do not in fact argue that all domain-widening expressions must be NPIs. Rather, it is the combination of domain-widening with an additional requirement, strengthening—roughly, maximizing entailments—that brings about NPI behavior. There is no such requirement at issue here. Second, the particular flavor of domain-widening involved is not directly analogous to theirs, because the one-dimensional (linearly-ordered) nature of scales makes available only two directions of widening, and further requirements often reduce this to one. So it is not to be expected that EDMs be NPIs. But neither is it to be expected that they be *positive* polarity items—and yet, some are:

(88) That Buick isn't { flat-out / outright / ??simply / ??positively / ??just / ??downright } gigantic.

There are various analytical directions that might be available here. One is to attempt to establish a connection to Kadmon and Landman's view of polarity sensitivity. Alternatively, one might take these positive polarity facts as reflections of some independent property. It is not clear to me how to proceed on either view.

There is another fact about EDMs generally that is not explained here: that they are often cross-categorial:

(89) Clyde { flat-out / downright / full-on / straight-up / absolutely / positively } { loves / loathes } babaghanoush.

(90) Clyde is a { flat-out / downright / full-on / straight-up } idiot.

In particular, it seems to be the case that EDMs built around prepositions are systematically cross-categorial. It is not on its own surprising that a degree word might occur outside the adjectival domain, but the observed level of regularity is. Certainly, nothing proposed here seems to explain it. Perhaps what this reflects is that there are degree arguments available in all of these

constructions for degree words to target, as Morzycki (2005, 2009) has proposed explicitly for cases such as (90). But such proliferation of degree arguments should give us pause, and would in any case fail to explain a particular connection between EDMs and cross-categoriality. Another possibility is that these facts suggest precisely the opposite: that these constructions all *lack* a degree argument, and that a semantics needs to be provided for this class of degree modifiers that is entirely independent of one.

Finally, nothing said here has touched on the question of expressive meaning and conventional implicature, in the sense of Potts (2003, 2007). Yet many EDMs seem to have some expressive force. On the view proposed here, this would be an epiphenomenon of the fact that contextual domain restrictions are grounded to the speaker in the same way that conventional implicatures may be. But there does seem to be a characteristically hard-to-express difference between, say, *downright* and *balls-out* that concerns the 'heightened emotion' that is the hallmark of such meanings. So there may be in this approach a way to distinguish among particular EDMs.

All of these concern the particular analysis provided here for EDMs. The bigger picture, though—the speedometer metaphor and the use of contextual domain restrictions to reflect it—is in principle independent of it, and leads to questions of its own. If this is the right way to think about things, the apparently consistently dense nature of linguistic scales (Fox & Hackl 2006) would be cast in a different light. Could it be that underlying scales are always dense, but the mediating perspective scales may not be? Indeed, if our attention is typically restricted to portions of larger scales, we might expect to find reflexes of this fact in a variety of domains.

6.2 *Summing Up*

The core aim here was to explore the idea that natural language looks at the lexical scales associated with adjectives in the way that a driver looks at speed—that is, using a gauge that mediates between the two. This might provide a way of thinking about imprecision in terms of the granularity of scales, but the focus here was rather on the possibility this makes available of going 'off the scale'. It is this, I have suggested, that lies at the heart of the phenomenon of adjectival extremeness.

Empirically, the argument was that extreme degree words are a distinct natural class, and indeed an open one. It is distinguished by its sensitivity to extreme adjectives. Extreme adjectives themselves constitute a natural class worth recognizing as such, but a fundamental distinction must be made between two varieties, which differ in whether their extremeness is lexically fixed. These facts were captured by extending the well-established notion that quantification is contextually restricted to degree quantifiers. In any

context, there are certain degrees on a scale which constitute the salient or 'live options'. This set of degrees determines the granularity with which we view a lexical scale, and it determines where we take the reasonable or likely limits on potential values to be. Extreme adjectives are those that relate an individual to a point on a scale on beyond these contextual limits. For lexical EAs, this is encoded in their lexical entries directly; for contextual ones, it may come about from how their meaning interacts with circumstances. By and large, what extreme degree modifiers do is tap into these contextual dynamics. Depending on how they do so, they can bring about different effects. Perhaps the most common of these is to simply establish that an adjective is, for the purposes of the discourse, extreme, by explicitly extending the contextually provided degree domain upward.

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