Adjectival Extremeness:
Degree Modification and Contextually Restricted Scales

Marcin Morzycki
Michigan State University

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 semantics and ones that can acquire it on the basis of contextual factors. These facts suggest that a theory is required of what it means for an adjective to be 'extreme' in the relevant sense. 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.

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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(1)
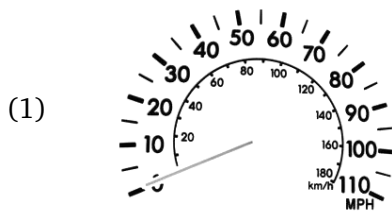
If your speed is in fact 61 mph, it falls in one kind of zone of indifference. The speedometer is simply not designed to distinguish speeds between 60 and 65 mph, and if asked, we would probably report such a speed as 'about 60'. Of course, we might want to make more fine-grained distinctions for various 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 $\begin{Bmatrix} \text{downright} \\ \text{flat-out} \\ \text{positively} \\ \text{full-on} \end{Bmatrix} \begin{Bmatrix} \text{gigantic} \\ \text{gorgeous} \\ \text{fantastic} \\ \text{??big} \\ \text{??pretty} \\ \text{??OK} \end{Bmatrix}$!!!

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, Paradis 1997, 2001, Rett 2008a,b), that extreme adjectives themselves do as well. It will, however, be necessary to distinguish two subclasses of extreme adjective. Section 3 considers some essential analytical intuitions in this domain, and considers the possibility of an account that relies primarily on familiar scale structure distinctions. Section 4 develops an analysis of extreme adjectives around the idea that degree quantifiers, like other natural language quantifiers, are contextually restricted, and provides a way of structuring the grammar to reflect the speedometer metaphor. Section 5 extends this analysis to extreme degree modifiers. Section 6 considers variation among these modifiers, how they contrast with *very*, and why many of them are cross-categorial. Section 7 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 $\left\{ \begin{array}{l} \text{gigantic} \\ \text{??big} \end{array} \right\}$

        b. just $\left\{ \begin{array}{l} \text{gorgeous} \\ \text{??pretty}^1 \end{array} \right\}$

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

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

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

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:

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

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

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 6.4. For the moment, the conclusion to draw from (5) is only that *very* does not behave like an EDM, and that therefore they 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:[2]

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

        b. This book of poetry is balls out fantastic.

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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.

[2] The source of (6a) is www.rollingstone.com/reviews/movie/5947267/review/5947268/the_usual_suspensioncts; (6b), www.goodreads.com/book/show/2811560.Scratching_at_the_Pavement; (6c), www.dailyhowler.com/dh080708.shtml; (6c), www.twittertastelive.com/group/theyoungwinos.

c. That's a good example of how balls-out stupid our number-one Antoinette columnist is.

d. After that, we'll have two weeks of championship tasting, in which we go balls-out crazy with the blind tasting . . . .

2.2 *How Can We Recognize Extreme Adjectives?*

In order to proceed further, it will help to characterize more explicitly 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 it seems to presuppose a deep grammatical connection for which the evidence is mixed. (*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*:

$$
(7) \qquad \text{absolutely} \left\{ \begin{array}{l} \text{huge} \\ \text{enormous} \\ \text{minute} \\ \text{*small} \\ \text{*large} \end{array} \right\} \qquad \text{(Cruse 1986)}
$$

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 $\left\{ \begin{array}{l} \textit{huuuuuuuuuuuuuuuuuuge} \\ \textit{??biiiiiiiiiiiiiiiiiig} \end{array} \right\}$!

b. Kevin Spacey is $\left\{ \begin{array}{l} \text{fan}\textit{taaaa}\text{stic} \\ \textit{??gooooooooooood} \end{array} \right\}$!

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.[3]

COMPARATIVES AND DEGREE CONSTRUCTIONS   The third Cruse property, also noted by Bolinger (1967) and Paradis (1997), is a resistance to comparatives and other degree constructions. This is the core intuition behind the Sapir-Cruse term 'implicit superlatives'. Cruse and Paradis state this in fairly general way, but I will qualify these observations in several respects. The essential observation, 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 notes, the strength of this resistance varies among speakers. In what follows I will narrow this to only certain adjectives as well. Even thus restricted, in some cases such comparatives are significantly more natural than in others:[4]

(11)   a. I believe Viking has been the best boost Greenwood has had in my lifetime. Knowing it was by a local boy makes it even more fantastic.
         b. Looking up, I saw a mountain steeper, taller, and more gigantic than the one whose summit we were standing on.

On the other hand, there is a class of EA comparatives whose ill-formedness is especially robust. These involve comparison between an EA and its non-extreme counterpart:

(12)   a. #Godzilla is more gigantic than Mothra is big.
         b. #Godzilla is bigger than Mothra is gigantic.

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[3]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.

[4]Thanks to an NLLT reviewer for the observation and for the naturally-occurring examples in (11a) and (11b).

I will address this 'conflicting-intensity' anomaly specifically in section 4.5.

Quite apart from all this, there is also variation among different degree constructions. EAs are generally better in equatives than in comparatives:[5]

(13)   a. Godzilla is as gigantic as Mothra.
       b. Monkeys are as marvelous as ferrets.
       c. Everything is as scrumptious as natto.

Under the same rubric as EA's resistance to comparatives, Cruse puts the observation that they often sound odd with *very* (as (5) reflects). In what follows in sections 4.3 and 6.4, I will treat these as independent facts with distinct explanations. For the moment, however, the important point to take away from all of this is that EAs interact in a particular—but hard to pin down—way with various degree morphemes, and that in the most clear-cut cases they resist them.

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 (14):

(14)   Clyde isn't particularly wealthy.

His interlocutor may wish to object to characterization because it is insufficiently strong. She may convey this by uttering (15a), but it would be odd to convey it by uttering (15b):

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

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

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

So even though (15) and (16) 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 (Rawlins & Kramer to appear). Still,

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[5]I owe this observation to another NLLT reviewer.

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 (17):

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

Here, B 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.

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

(18)   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:[6]

(19)   My helper monkey is $\left\{\begin{array}{l} \text{straight-up} \\ \text{downright} \end{array}\right\}$ gigantic.

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

The characteristics 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 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*.

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

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 (20) seem to be lexically extreme in my idiolect:

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

These seem to be only contextually extreme:

(21)   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 (22) attests:

(22)   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:

(23)   ??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:

(24)   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:

(25)   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 (or the standard of comparison) 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 often resist comparatives, as Cruse and Paradis observe. But contextual EAs do not:

(26)   Clyde is $\begin{Bmatrix} \text{richer} \\ \text{more offensive} \\ \text{more dangerous} \end{Bmatrix}$ than Floyd.

Nor do contextual EAs generally resist *very*:

(27)   Clyde is very $\begin{Bmatrix} \text{rich} \\ \text{offensive} \\ \text{dangerous} \end{Bmatrix}$.

The crucial fact about comparatives and *very*, then, seems to be that they disfavor cooccurrence not with EAs as a class, but rather only ones that lexicalize their extremeness.

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

(28)   a. *gigantic* ≻ *big*
        b. *excellent* ≻ *good*
        c. *gorgeous* ≻ *pretty*

This is not in general the case with contextual EAs:

(29)   a. *rich* ≻ ?
        b. *offensive* ≻ ?
        c. *dangerous* ≻ ?
        d. *obvious* ≻ ?

That said, it's 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, 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 very many adjectives at all—it may well be the case that virtually any relative adjective can in principle be construed as extreme.[7] 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

- usefulness for hyperbole, and sensitivity to the diminution of this property by EDMs

- for lexical EAs, a special interaction with comparatives and *very* that in many cases manifests itself as an incompatibility

3 Some Analytical Possibilities

Although EAs have not been extensively discussed in the literature, and EDMs (as such) not at all, there are a number of ideas to consider. That is the purpose of this section. The proposal I will ultimately advance does not resemble any of them directly, but it does build on some of the analytical intuitions they reflect.

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[7]Even the more neutral counterparts of lexical EAs in (28) 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*.
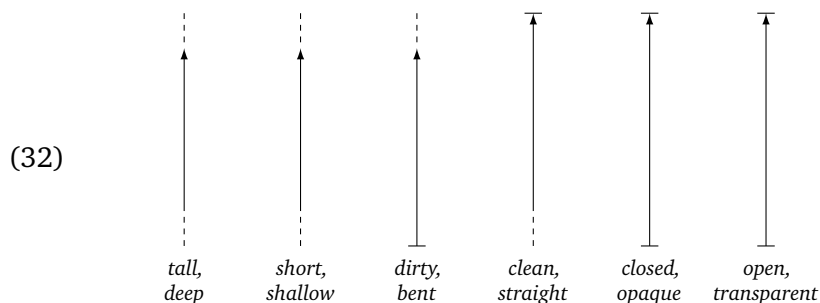
3.1 *The Scale Structure of EAs*

A very natural big-picture analytical intuition about EAs is that they involve, in one sense or another, a proper part of a scale. This intuition is reflected in Paradis (1997), Paradis (2001), and Rett (2008a,b). Intimations of it are also found in Bierwisch (1989), who proposes something along these lines for another class of adjectives with which EAs overlap.[8] What I will propose will reflect this intuition as well.

Entertaining this idea in general terms, a natural next question to ask is what *sort* of scales are involved. Whatever the answer is, it may help in understanding the distribution of EDMs as well—much recent work on scale structure has led to a better understanding of how degree modifiers in general work. To pursue this further, 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 scales that are closed on both ends—that include endpoints. Among these are *closed*, *open*, *opaque*, and *transparent*. The contrast between (30) and (31) reflects this distinction:

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

(31) 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 (31) make it possible to reach a maximum, bumping up against an endpoint. Open-scale adjectives such as those in (30) 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 (32) summarizes this conception visually:

(32)

tall,	short,	dirty,	clean,	closed,	open,
deep	shallow	bent	straight	opaque	transparent

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

One consequence of these distinctions is that certain adjectives have scale structures that render them compatible with certain degree modifiers and not others. This makes it possible to use them as diagnostics that identify the sort of scale a given adjective uses. This will become especially important in section 3.2.

Where do EAs fit into this picture? Although not working in the framework of assumptions sketched above, 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 often manifest to comparative morphology and modification by *very*.[9]

As appealing as this idea is, it 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 (33):

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

(34)   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 (33a) reflects that it would be odd to suggest that it could be fuller still. But there is no such effect for the EAs in (34).

Rett (2008a,b), on the other hand, suggests that EAs have scales closed on *bottom*.[10] She presents an especially compelling argument for this view from entailment patterns. Generally, adjectives with lower-closed scales support entailment patterns such as those in (35) and (36):

(35)   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.

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

[10]It bears pointing out here that 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.

(36)   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 reliably, though, the entailments do go through:

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

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

(38)   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 (39) and (40) attempt to do:

(39)   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.

(40)   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 (Rotstein & Winter 2001 and others). This, however, does not seem to be the case either:

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

This is only one modifier, of course, so there might be some independent confound here.

This all leaves us with a possible generalization about lexical EAs, but it does not on its own suffice to deliver a theory of adjectival extremeness in general. The larger conclusion that emerges from the whole discussion, then, is simply that something more will need to said about EAs. Scale structure may—indeed, probably does—interact with whatever this is, but it doesn't appear to be the case that a theory of adjectival extremeness will fall out in any straightforward fashion from facts about scale structure on their own.

3.2 *Are EDMs Simply Endpoint-Oriented Modifiers?*

There is, however, another way of approaching the scale structure facts. Whether an adjective will accept modification by a particular degree modifier is often a question of scale structure. That being the case, we should consider the possibility that EDMs are like many other degree modifiers in this respect. Perhaps they too are sensitive to scale structure?

This can best be determined by comparison to other degree modifiers. *Perfectly* and *fully*, for example, are compatible with adjectives with upper-closed scales:

(42) a. *closed scale:*

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

  b. *scale closed only on top:*

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

c. *scale closed only on bottom:*

$$\text{??}\begin{Bmatrix}\text{perfectly}\\\text{fully}\end{Bmatrix}\begin{Bmatrix}\text{bent}\\\text{dirty}\\\text{ugly}\end{Bmatrix}$$

d. *open scale:*

$$\text{??}\begin{Bmatrix}\text{perfectly}\\\text{fully}\end{Bmatrix}\begin{Bmatrix}\text{tall}\\\text{deep}\\\text{long}\end{Bmatrix}$$

Slightly requires adjectives whose scales are closed on bottom:

(43)   a. *closed scale:*

$$\text{slightly}\begin{Bmatrix}\text{full}\\\text{closed}\\\text{opaque}\end{Bmatrix}$$

b. *scale closed only on top:*

$$\text{??slightly}\begin{Bmatrix}\text{certain}\\\text{safe}\\\text{pure}\end{Bmatrix}$$

c. *scale closed only on bottom:*

$$\text{slightly}\begin{Bmatrix}\text{bent}\\\text{dirty}\\\text{ugly}\end{Bmatrix}$$

d. *open scale:*

$$\text{??slightly}\begin{Bmatrix}\text{tall}\\\text{deep}\\\text{long}\end{Bmatrix}$$

So how do EDMs fit into this picture? Not very well, it turns out:[11]

(44)   a. *closed scale:*

$$\begin{Bmatrix}\text{flat-out}\\\text{downright}\\\text{positively}\end{Bmatrix}\begin{Bmatrix}\text{??full}\\\text{??closed}\\\text{opaque}\end{Bmatrix}$$

b. *scale closed only on top:*

$$\begin{Bmatrix}\text{flat-out}\\\text{downright}\\\text{positively}\end{Bmatrix}\begin{Bmatrix}\text{certain}\\\text{\%safe}\\\text{\%pure}\end{Bmatrix}$$

---

[11]I use % here to reflect a highly context-dependent kind of deviance.

c. *scale closed only on bottom:*

$$\left.\begin{matrix}\text{flat-out}\\\text{downright}\\\text{positively}\end{matrix}\right\}\left\{\begin{matrix}^{??}\text{bent}\\^{\%}\text{dirty}\\\text{ugly}\end{matrix}\right\}$$

d. *open scale:*

$$\left.\begin{matrix}\text{flat-out}\\\text{downright}\\\text{positively}\end{matrix}\right\}\left\{\begin{matrix}^{\%?}\text{tall}\\^{??}\text{deep}\\^{??}\text{long}\end{matrix}\right\}$$

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 (45). 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.[12]

3.3 *EAs and the Degree Argument*

It seems that assumptions about scale structure won't suffice to provide an account of EAs and EDMs. But there is at least one more radical possibility 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',[13] a class that would include most lexical EAs.

For lexical EAs, this would seem a natural enough position, and it would immediately account for why they often resist comparatives, *very*, and related degree constructions. It would, however, imply that the resistance to these structures should 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, and in equatives they are often considerably improved. Nor do they resist degree modifiers in general:

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[12]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 (44) is surprising.

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

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

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.[14] Such a type shift would need to be able to distinguish these relatively good examples from the 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 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 depend on 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'.

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[14]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).

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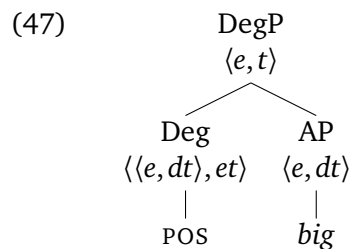
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[15]They do not advocate relating imprecision to domain restrictions, but in the relevant respect the idea is the same. They render interpretation sensitive to a contextually determined level of granularity.

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.[16]

4.2 *Lexical Extreme Adjectives*

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)

$$
\begin{array}{c}
\text{DegP} \\
\langle e,t \rangle
\end{array}
$$

$$
\begin{array}{cc}
\text{Deg} & \text{AP} \\
\langle \langle e,dt \rangle, et \rangle & \langle e,dt \rangle \\
| & | \\
\textsc{pos} & \textit{big}
\end{array}
$$

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

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[16]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 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 of individuals (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.

requires that it be at least as great as the contextually-provided standard for the scale associated with the adjective:

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

The *standard* predicate maps an AP denotation to a corresponding standard.[17]

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

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

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. 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 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 $[_{\text{DegP}}\ \text{POS}\ [_{\text{AP}}\ big_C\ ]]$.

        b. $[\![\,\text{POS}\,]\!]\,([\![\,big_C\,]\!])$

            $= \lambda x \,.\, \exists d[\,[\![\,big_C\,]\!]\,(x)(d) \wedge d \geq standard([\![\,big_C\,]\!])]$

            $= \lambda x \,.\, \exists d[d \in C \wedge x \text{ is } d\text{-big} \wedge d \geq standard([\![\,big_C\,]\!])]$

This requires that my monkey have a degree of bigness that is salient and that exceeds the standard. I will adopt the policy throughout the paper of leaving the argument of the *standard* predicate in the abbreviated form reflected in (50). This is a notational point, but there is a related point of substance: I will assume that the *standard* is not sensitive to the C of the AP it is associated with.

   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:[18]

(51) $[\![\,gigantic_C\,]\!] = \lambda x\lambda d \,.\, d > max(C) \wedge x \text{ is } d\text{-big}$

---

[17]Different contexts may impose different standards, of course, so the value of *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 Syrett et al. 2005, 2006, Kennedy 2007 and Potts 2008 for discussion).

[18]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 $max(C \cap scale(d))$. I will adopt the shortcut reflected in (51)

This is put to use in (52):

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

  b. $[\![$ POS $]\!]$ ($[\![$ gigantic$_C$ $]\!]$)

$$= \ \lambda x \, . \, \exists d [[\![gigantic_C]\!] (x)(d) \wedge d \geq standard([\![gigantic_C]\!])]$$

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

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

 There is a peculiarity about (52) that bears pointing out, however: the first and last conjuncts in (52) interact. Because the first conjunct requires that d be beyond the perspective scale (that is, the domain restriction C), the further requirement that d also be beyond the standard will only be felt if the standard is itself beyond the perspective scale. This has the effect that for lexical EAs, the standard must itself always be beyond the perspective scale. The only alternative is being completely irrelevant.

 This might lead one to worry about having a both contextual domain restrictions and distinct standards for *big* and *gigantic*. If both adjectives have distinct standards, isn't that difference enough? Why bother with contextual domain restrictions? Much of the rest of the paper can be read as an answer to that question, but a few points can be made even at this stage. Simply distinguishing two standards does not deliver a theory of what makes EAs special. If it were all a matter of standards, an explanation would have to be provided for why EDMs care about one standard but not the other. Such a theory would have to provide an independent explanation of why EAs behave the way they do in degree constructions, and in particular of why comparatives and equatives formed of an ordinary and an extreme adjective are systematically anomalous.[19] This is a significant obstacle to overcome, since comparatives and equatives are typically insensitive to standards. None of this is necessarily impossible, of course—but it would require a nontrivial amount of elaboration. Apart from this, all that can be said at this point is that we should actually *expect* degree quantification to be contextually restricted, because natural-language quantification is in general contextually restricted. If degree quantification were not contextually restricted, it would constitute a gap in need of explanation.

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for simplicity. The choice of $>$ over $\geq$ here is made on conceptual grounds, but an argument could be made for $\geq$ because it would deliver for all lexical EAs a lower-closed scale, which would accord with Rett's observations.

[19]Discussion of this effect follows in section 4.5.

With this much in place, a few theoretical desiderata have already been satisfied. First, the entailment from *gigantic* to its weaker counterpart, *big,* will go through because any individual big enough to be gigantic must have a size degree beyond *C*, and any individual big to such a degree must also be big to all the smaller degrees in *C* (by virtue of the monotonicity of scales). Second, the notion of extremeness itself is encoded lexically in the meaning of the adjective. Third, this 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 sub-scale. Fourth, it reflects the intuition that lexical EAs represent a kind of maximum, since they correspond to degrees outside of *C*, and any such degrees are, by hypothesis, so high that we are not interested in distinctions among them—or, to put it in slightly sloppier terms, if you are gigantic, you are so big that we wouldn't care if you were bigger. Both of these last two points accord directly with the intuitions others have previously expressed.

One consequence of this larger picture is that it would be odd for a lexical EA to lack a non-extreme counterpart, because this would entail there being a scale that can only be used for measuring degrees that, for the purposes of the discourse, aren't distinguished.[20] This seems intuitive, but it might also pose a problem. It's not altogether clear what the non-EA counterparts of *amateurish* and *extraordinary* are.

4.3 *Comparatives*

Out of the blue, lexical EAs are often odd in comparatives, as Cruse (1986) and Paradis (1997) observe. There are a number of additional subtleties in this area, however. A few of them came up in section 2. Another of them is that lexical EAs sometimes manifest much less resistance to equatives.[21] I address comparatives in this section, and equatives in the next.

One relatively standard idea about comparatives is that they involve determining the maximal degree described by the comparative clause, and asserting that an individual satisfies the adjective to a degree higher than this maximum (von Stechow 1984, Rullmann 1995, among others). A comparative clause, then, has a denotation such as (53):[22]

(53) $[\![$ *than Mothra is* ~~*is big*~~$_C$ $]\!] = max\{d : [\![$ *big*$_C$ $]\!](Mothra)(d)\}$

This denotes the maximal degree to which Mothra satisfies $[\![$ *big*$_C$ $]\!]$. The

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[20]This observation is due to an anonymous reviewer.

[21]I owe this observation to an anonymous NLLT reviewer.

[22]Elided text is struck out.

comparative morpheme itself has a denotation such as (54), which requires that there be a degree to which an individual satisfies the adjective greater than the one provided by the comparative clause:

(54) $[\![\, more \,]\!] = \lambda a_{\langle e, dt\rangle} \lambda d \lambda x \,.\, \exists d'[a(x)(d') \wedge d' > d]$

Given the current proposal, a simple comparative would proceed as in (55):[23]

(55)   a. [$_{DegP}$ more [$_{AP}$ big$_C$]] [than Mothra ~~is big$_C$~~]

b. $[\![\, more \,]\!]\, ([\![\, big_C \,]\!])([\![\, than\ Mothra\ \text{~~is big$_C$~~} \,]\!])$

$$= \lambda x \,.\, \exists d' \begin{bmatrix} [\![\, big_C \,]\!]\,(x)(d') \wedge \\ d' > max\{d : [\![\, big_C \,]\!]\,(Mothra)(d)\} \end{bmatrix}$$

$$= \lambda x \,.\, \exists d' \begin{bmatrix} d' \in C \wedge x \text{ is } d'\text{-big} \wedge \\ d' > max\{d : d \in C \wedge \text{Mothra is } d\text{-big}\} \end{bmatrix}$$

Everything here works in a standard fashion—all that is added is that the degrees involved must be in the contextually provided domain. The predicted truth conditions are that there must be a salient degree to which x is big greater than the maximal salient degree to which Mothra is big.

   With lexical EAs, however, the role of the perspective scale is different. Rather than adding the relatively trivial requirement that the compared degrees be salient, it adds the requirement that they both exceed all the salient ones:

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

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

$$= \lambda x \,.\, \exists d' \begin{bmatrix} [\![\, gigantic_C \,]\!]\,(x)(d') \wedge \\ d' > max\{d : [\![\, gigantic_C \,]\!]\,(Mothra)(d)\} \end{bmatrix}$$

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

This requires determining the maximal degree beyond the contextually-provided domain to which Mothra is big. It also requires that there be another degree, also beyond the contextually-provided domain, to which x is big, and that this degree be greater than the first. 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 salient degrees

_____

[23]I assume *bigger* is actually *more big* at LF (see Embick 2007 for particularly explicit discussion).

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

The oddness here is that the comparison is between two degrees that are not salient. Under normal circumstances, the very act of comparison renders degrees salient, so any such sentence will conflict with itself pragmatically.

There is another source of pragmatic difficulty here as well. The comparative clause is defined in terms of a maximality function, which imposes a presupposition. To be defined in the example at hand, it requires that there be a degree beyond the salient ones to which Mothra is big—that is, it requires that Mothra be gigantic. Such sentences do in fact seem to have such a presupposition, as expected. It is an entailment that survives negation, as a presupposition should:

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

   b. ?Godzilla is not more gigantic than Mothra.
        entails: Mothra is gigantic.

(58) a. ?San Francisco is more marvelous than New York.
        entails: New York is marvelous.

   b. ?San Francisco isn't more marvelous than New York.
        entails: New York is marvelous.

This, then, is a desirable result. It also provides one element of an explanation of what is odd about these sentences out of the blue, since this presupposition would then need to be accommodated.

This can't be the only difficulty, however. A similar problem arises as well for many non-lexically-extreme adjectives, such as *dry*:

(59) The floor is drier than the table.
     entails: The table is not dry.

(60) The floor isn't drier than the table.
     entails: The table is not dry.

Yet these do not seem as infelicitous as (57–58). So while this effect contributes to the infelicity of these sentences, it does not suffice to account for it. The oddness of comparing non-salient degrees may.

The crucial point in all this, however, is that this conflict is purely a pragmatic one. Because of this, there are various ways around the problem, and it is more keenly felt in some case than in others.

One simple way to improve such sentences is simply to add *even*:

(61) a. San Francisco is even more marvelous than New York.
      b. Godzilla is even more gigantic than Mothra.

Because *even* has a cross-categorial role in reflecting what is more or less expected in the discourse (Rooth 1985, Wilkinson 1996, Rullmann 1997, Giannakidou 2007), it provides a way for the speaker to acknowledge that the intended comparison is beyond the expected range, and to invite other discourse participants to play along.

Another way to avoid the problem is to structure the discourse differently. The awkward sentences in (62) contrast with the significantly more natural ones in (62):

(62) a. ?San Francisco is more marvelous than New York.
      b. ?Godzilla is more gigantic than Mothra.
      c. ??Your plan is more excellent than mine.

(63) a. New York is marvelous, but San Francisco is (even) more marvelous (than that).
      b. Mothra is gigantic, but Godzilla is (even) more gigantic (than that).
      c. My plan is excellent, but yours is (even) more excellent (than that).

There are at least two factors that conspire to improve (63). One is that these sentences eliminate the need for presupposition accommodation, since the content of the presupposition has already been asserted in the first clause.[24] The other is that the semantics of these comparatives will be different by virtue of either the absence of a comparative clause, or else the presence of *than that*. The semantics for the comparative I have adopted above introduces the maximality operator in the comparative clause itself. In (63), this clause is absent, replaced by an expression (either implicit or explicit) that refers anaphorically to degree already introduced in the discourse. The result is that the comparative as a whole doesn't inherently require comparing non-salient degrees. Rather, it requires comparing a non-salient degree with a degree already introduced in the discourse. The extreme degrees are introduced incrementally, and it is no longer the case that the comparative is structured in a way that conflicts with its own pragmatics.

---

[24]This is similar to how presuppositions project—or fail to—in, for example, conditionals such as *If there is a current king of France, the current king of France is bald* (Karttunen & Peters 1979, Heim 1983, a.o.)

Still another way to salvage such comparatives, more essentially pragmatic than these, is to simply accommodate the intended comparison without further contextual cues. This is not something one is inclined to do without good reason, but there are such reasons. In resorting to a comparative of this sort, the speaker normally intends to achieve a particular rhetorical effect. Typically, it is a way to strive toward the greatest conceivable reaches of a scale—to say, in effect, that a degree is so great as to be greater even than degrees that are already extreme. It is a way to double-down on the extremeness of the extreme adjective.

As I have already noted in section 2, however, there are certain comparatives with lexical EAs that are more profoundly ill-formed and leave little room for such pragmatic manipulation. They involve comparison of a lexical EA with an ordinary adjective, as in (64):

(64)   a. #Mothra is more gigantic than Godzilla is big.
        b. #Mothra is bigger than Godzilla is gigantic.

These are not readily accommodated. Indeed, their relative ill-formedness is so stark as to hint at a deeper issue. This 'conflicting intensities' anomaly is, in fact, predicted by the semantics already proposed. I discuss such examples in 4.5, but it will be helpful before doing so to add equatives to the picture.

4.4 *Equatives*

It is relatively clear that lexical EAs pragmatically resist comparatives, but the situation with equatives is different. In the right kind of context, many speakers find sentences such as (65) much improved:

(65)   a. Godzilla is as gigantic as Mothra.
        b. San Francisco is as marvelous as New York.

There is something slightly mysterious about this fact. If the core problem with lexical EAs in comparatives is that they require comparing irrelevant degrees, why should equatives be any different? Don't they require comparing irrelevant degrees as well?

The answer to this is not an unequivocal 'yes'. Certainly, it is natural to suppose that equatives are just like comparatives, except that they require not that one degree exceed another but rather than one degree be the same as another—that is, that they simply replace the '>' of the comparative denotation with '='. For a number of reasons, it is more common to assume that it is not '=' but '≥' that needs to replace '>' (see Horn 1972, Klein 1980, Rullmann 1995, Bhatt & Pancheva 2004, Rett 2008b and Schwarzschild 2008 for discussion), but the similarity to comparatives persists.

There is, however, another way to think about equatives, without diverging from the standard approaches. Equatives need not explicitly compare two distinct degrees. It suffices for them to make a claim about a single degree: that it is shared. To put this in slightly less metaphorical terms, one can assume that an equative clause (i.e., the embedded *as*-clause) has a denotation just like a comparative clause:

(66) $[\![\, as\ Mothra\ is\ \text{is-}big_C \,]\!] = max\{d : [\![\, big_C \,]\!]\,(Mothra)(d)\}$

As before, this picks out the greatest degree to which Mothra is big. This will be the sole degree of interest. What the equative morpheme does with this degree is assert that an individual satisfies the adjective to that degree:

(67) $[\![\, as \,]\!] = \lambda a_{\langle e, dt\rangle} \lambda d \lambda x \,.\, a(x)(d)$

An important and immediately apparent feature of this denotation is that it does not introduce any additional degrees, and therefore it does not involve comparing any. The denotation of an equative with an ordinary adjective would be as in (68):

$$
\begin{aligned}
(68)\quad & [\![\, as \,]\!]\,([\![\, big_C \,]\!])([\![\, as\ Mothra\ \text{is-}big_C \,]\!]) \\
&= \lambda x \,.\, [\![\, big_C \,]\!]\,(x)([\![\, as\ Mothra\ \text{is-}big_C \,]\!]) \\
&= \lambda x \,.\, [\![\, big_C \,]\!]\,(x)(max\{d : [\![\, big_C \,]\!]\,(Mothra)(d)\}) \\
&= \lambda x \,.\, [\![\, big_C \,]\!]\,(x)(max\{d : d \in C \wedge \text{Mothra is } d\text{-big}\}) \\
&= \lambda x \,.\, max\{d : d \in C \wedge \text{Mothra is } d\text{-big}\} \in C\ \wedge \\
&\qquad\qquad\qquad x \text{ is } max\{d : d \in C \wedge \text{Mothra is } d\text{-big}\}\text{-big}
\end{aligned}
$$

The first conjunct on the last line is a tautology, as it requires that the maximal degree in C to which Mothra is big be in C.[25] Eliminating it, the result is that (68a) will have the denotation in (69):

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

What this requires is that the x be big to the maximum salient degree to which Mothra is big. This does not require that they be precisely the same height. It requires only that the maximal bigness of Mothra be *among* the many degrees to which x is big—there may be other bigger ones. It's worth noting that, apart form the restriction to a perspective scale, this denotation is not at all unusual. One more typical way to express this (Rullmann 1995, Schwarzschild 2008) is to say that there is a degree to which x is big, and

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[25]It does contribute the presupposition that there is such a maximum, but this is independently contributed by the second conjunct as well.

that degree is identical to the maximal degree to which Mothra is big. But because this ends in an identity claim, the quantificational is dispensable.

Equatives built around lexical EAs would thus have denotations like (70b):

(70)   a. [$_{\text{DegP}}$ as [$_{\text{AP}}$ gigantic$_C$]] [as Mothra ~~is gigantic$_C$~~]

        b. $[\![\,as\,]\!]\,([\![\,gigantic_C\,]\!])([\![\,as\ Mothra\ \text{\sout{is gigantic}}_C\,]\!])$

            $= \lambda x\,.\,[\![\,gigantic_C\,]\!]\,(x)(max\{d : [\![\,gigantic_C\,]\!]\,(Mothra)(d)\})$

            $= \lambda x\,.\,[\![\,gigantic_C\,]\!]\,(x)\left(max\left\{ d : \begin{array}{l} d > max(C)\ \wedge \\ \text{Mothra is } d\text{-big} \end{array} \right\}\right)$

            $= \lambda x\,.\,max\left\{ d : \begin{array}{l} d > max(C)\ \wedge \\ \text{Mothra is } d\text{-big} \end{array} \right\} > max(C)\ \wedge$

            $\qquad\qquad x \text{ is } max\{d : d > max(C) \wedge \text{Mothra is } d\text{-big}\}\text{-big}$

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

The final step here is possible for essentially the same reason it was possible in (69)—the maximal degree beyond C to which Mothra is big is necessarily beyond C. So in the end, the whole denotation requires that x be big to the maximal degree beyond C to which Mothra is big. Put another way, this requires that Mothra be gigantic, and that x be bigger than Mothra (and consequently also gigantic).

As with comparatives, the semantics pursued here predicts that lexical EAs in equatives should give rise to a presupposition. The maximality operator in (70) would fail to be defined if there is no degree beyond C to which Mothra is big. This predicts that the sentence should presuppose that there is such a degree, and that Mothra is therefore gigantic. This is borne out:

(71)   a. Godzilla is as gigantic as Mothra.
           entails: Mothra is gigantic.

        b. Godzilla is not as gigantic as Mothra.
           entails: Mothra is gigantic.

As (71) reflects, this inference survives negation, so it is a presupposition.

The crucial point in all this, however, is that equatives and comparatives differ in whether two degrees are compared to each other, and because of this differ in their compatibility with lexical EAs. The denotation in (70) involves only one degree. Lexical EAs resist comparatives because the very act of comparing two degrees is pragmatically at odds with those degrees being too large to bother distinguishing. But no such difficulty arises for equatives, because equatives don't require comparing degrees in the first place.

4.5 Conflicting-Intensities Anomaly

Lexical EAs behave differently inside comparatives and equatives when both of the compared adjectives are the same. It is, however, also possible to construct comparatives and equatives using distinct adjectives:

(72) a. This box is longer than it is wide.
  b. B-movie monsters are as big as Lilliputians are small.

A priori, one might expect that this would be possible when one adjective is a lexical EA and the other its non-extreme counterpart. Yet such 'conflicting intensities' sentences are ill-formed. This has been noted above for comparatives, as in (73), but it is also the case for equatives, as in (74):

(73) a. #Godzilla is more gigantic than Mothra is big.
  b. #Godzilla is bigger than Mothra is gigantic.

(74) a. #Godzilla is as gigantic as Mothra is big.
  b. #Godzilla is as big as Mothra is gigantic.

This follows from what has already been proposed.

What goes wrong differs slightly between the comparative and the equative, so I will consider them in turn. The semantics for a comparative such as (73a) will proceed from the components in (75), as in (76):

(75) a. $[\![\,more\,]\!] = \lambda a_{\langle e, dt \rangle} \lambda d \lambda x \,.\, \exists d'\,[a(x)(d') \wedge d' > d]$
  b. $[\![\,than\ Mothra\ is\ \text{is-}big_C\,]\!] = max\{d : [\![\,big_C\,]\!]\,(Mothra)(d)\}$

(76) $[\![\,more\,]\!]\,([\![\,gigantic_C\,]\!])([\![\,than\ Mothra\ \text{is-}big_C\,]\!])$

$$= \lambda x \,.\, \exists d' \begin{bmatrix} [\![\,gigantic_C\,]\!]\,(x)(d') \wedge \\ d' > max\{d : [\![\,big_C\,]\!]\,(Mothra)(d)\} \end{bmatrix}$$

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

What this requires is that there be a degree beyond all the relevant ones to which x is big, and that this degree be greater than the maximum relevant degree to which Mothra is big. Given these truth conditions, however, the size of x and Mothra is irrelevant. The first conjunct requires that a degree be greater than all relevant ones, and the last requires that it be greater than a particular degree among the relevant ones. This will, of course, always be the case. Any sentence of this form will essentially express a tautology, and be unusably uninformative.[26]

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[26]The only respect in which this isn't quite a tautology is that it could be false if x has no size at all, which cannot be the case for any individual that is in the domain of *big* to

The situation changes when the adjectives are swapped, but it does not improve. The result would be as in (77):

(77) $[\![\,more\,]\!]\,([\![\,big_C\,]\!])([\![\,than\ Mothra\ \text{is gigantic}_C\,]\!])$

$$= \lambda x\,.\,\exists d' \left[\begin{array}{l} [\![\,big_C\,]\!]\,(x)(d') \wedge \\ d' > max\{d : [\![\,gigantic_C\,]\!]\,(Mothra)(d)\} \end{array}\right]$$

$$= \lambda x\,.\,\exists d' \left[\begin{array}{l} d' \in C \wedge x\ \text{is}\ d'\text{-big}\ \wedge \\ d' > max\{d : d > max(C) \wedge Mothra\ \text{is}\ d\text{-big}\} \end{array}\right]$$

This requires that there be a relevant degree to which x is big, and that this degree be greater than maximum degree beyond all the relevant ones to which Mothra is big. Again, the sizes of the individuals are irrelevant. The first conjunct requires that a degree be among the relevant ones, and the second requires that it be greater than a particular degree beyond all the relevant ones. This is a contradiction. Once again, any sentence of this form will be unusably uninformative.

Equatives fare no better with respect to this problem:

(78) a. $[\![\,as\,]\!] = \lambda a_{\langle e, dt\rangle}\lambda d\lambda x\,.\,a(x)(d)$
b. $[\![\,as\ Mothra\ is\ \text{is big}_C\,]\!] = max\{d : [\![\,big_C\,]\!]\,(Mothra)(d)\}$

(79) $[\![\,as\,]\!]\,([\![\,gigantic_C\,]\!])([\![\,as\ Mothra\ \text{is big}_C\,]\!])$

$$= \lambda x\,.\,[\![\,gigantic_C\,]\!]\,(x)(max\{d : [\![\,big_C\,]\!]\,(Mothra)(d)\})$$

$$= \lambda x\,.\,[\![\,gigantic_C\,]\!]\,(x)\left(max\left\{ d : \begin{array}{l} d \in C\ \wedge \\ Mothra\ \text{is}\ d\text{-big} \end{array} \right\}\right)$$

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

The result is again a contradiction. It suffices to consider the first conjunct alone—it requires that a particular maximum relevant degree be greater than any relevant degree. So no sentence of this form will be usable.

As before swapping the adjectives does nothing to improve things:

(80) $[\![\,as\,]\!]\,([\![\,big_C\,]\!])([\![\,as\ Mothra\ \text{is gigantic}_C\,]\!])$

$$= \lambda x\,.\,[\![\,big_C\,]\!]\,(x)(max\{d : [\![\,gigantic_C\,]\!]\,(Mothra)(d)\})$$

$$= \lambda x\,.\,[\![\,big_C\,]\!]\,(x)\left(max\left\{ d : \begin{array}{l} d > max(C)\ \wedge \\ Mothra\ \text{is}\ d\text{-big} \end{array} \right\}\right)$$

---

begin with. The ill-formedness of this sentence is, however, probably even more profound. For simplicity, I have not been representing the requirement that a degree be among or beyond the relevant ones as a presupposition. If I had, this sentence would be rendered essentially tautologous by its own presuppositions.

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

The result here is a contradiction too. As before, the problem is in the first conjunct—it requires that a particular maximum degree greater than all the relevant ones be among the relevant ones. Yet again, there is a structural contradiction here, and no such sentence will be usable.

5 EDMs and Contextual EAs

The previous section laid out a proposal for representing the semantics of adjectives that are lexically extreme. In this section, I will turn to contextual EAs and EDMs. The questions that need to be considered include these:

- What makes an adjective contextually extreme? How do contextual EAs differ from lexical ones?

- What is the nature of the extremeness requirement EDMs impose on adjectives they modify?

- What do EDMs actually mean? How do they interact with contextual EAs?

- What happens when EDMs modify lexical EAs?

I will take each of these up in turn.

5.1 *Contextual EAs*

I have proposed an account of what distinguishes lexical EAs from ordinary adjectives. This on its own does not constitute an account of how *contextual* EAs work, however. It will be necessary to remedy this, since EAs constitute a natural class, and it is this natural class that EDMs uniquely pick out.

To address more explicitly what it means to be contextually extreme, it will help to consider a new example. Suppose that we have just returned from a long car trip, and we find that despite the trip, the gas tank is full—or, in any case, that the needle on the meter has remained at 'full'. We might report this surprising discovery by saying (81):

(81)   When we got back, we discovered that the tank was downright full.

On the other hand, suppose instead that we have just returned from the gas station, and made the same (now unsurprising) discovery. In this context, it would be bizarre to report this by saying (81). In the absence of *downright*,

of course, the same utterance would be appropriate in both contexts. This contrast in the felicity of *downright* reflects that *full* counts as (contextually) extreme in the former context but not in the latter.

Because they are contextually-provided, the perspective scales introduced in the preceding section can represent this discourse sensitivity. What distinguishes contexts in which a given adjective is contextually extreme from ones in which it is not is the perspective scale used. After a long car trip, the perspective scale would normally not include gas-tank fullness. It would not be possible, though, to say that it excludes all degrees of fullness, since many such degrees in this context be entirely expected—indeed, the gas tank must always have some degree of fullness, even if the degree is, speaking numerically, 0. It is instead a *portion* of the fullness scale that must be excluded. If the context is one in which complete fullness is unexpected, what has to be excluded from the perspective scale is the minimal degree that counts as full—that is, the standard of fullness. In this example, then, *full* is contextually extreme because its standard is excluded from the perspective scale.

This can be generalized straightforwardly: an adjective is contextually extreme in a given context if(f) it is not lexically extreme, but its standard lies outside the context's perspective scale. This definition does not require that contextual EAs have denotations different from those of ordinary adjectives. There need not be anything special about them lexically. Any adjective can be contextually extreme if there is some context in which the perspective scale could exclude its standard.

But if contextual EAs are just ordinary adjectives used in a particular kind of context, would this rule out any adjectives at all? Well, perhaps not. But certain adjectives are extremely unlikely candidates for being contextually extreme. Among these are ones we have already considered, such as *big* and *OK*. For *big* to be contextually extreme, it would have to be the case that the standard for bigness is outside the perspective scale. A discourse in which the possibility of bigness is not entertained would be a very unusual one. Virtually any discourse entertains the possibility of bigness. Even so, it is possible to imagine circumstances in which this is not the case. In a discussion of subatomic particles, for example, one might utter (82):

(82)   A quark is ridiculously small, and an electron, though considerably larger, is still very small. A neutron is larger still—downright big, in fact.

This is still rather odd, but it is not entirely beyond the pale. Similarly far-fetched scenarios can be invented to render *cool/warm*, *pretty*, and *solvent* extreme. It is substantially more difficult to do for *OK* and *adequate*. Still, this can be viewed as variation with respect to whether an adjective's funda-

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mental lexical semantics is sufficiently flexible to accommodate an extreme interpretation rather than as a hard-and-fixed stipulation in the lexicon that these *can't* be extreme.

The larger picture of adjectival extremeness that emerges here is this. Lexical EAs have as part of their meaning that they relate individuals only to degrees beyond the perspective scale. Contextual EAs are ordinary adjectives whose standards lie beyond the perspective scale. In fact, however, lexically extreme adjectives also have standards that lie beyond the perspective scale, for reasons alluded to briefly in section 4.2. If one were to set the standard for hugeness, for example, low enough that it is included in the perspective scale, it would be indistinguishable from setting this standard at the top of the perspective scale. This is because any individual whose size exceeds such a standard would still fail to be huge unless the individual were huge to a degree beyond the perspective scale—that being what lexical EAs require. In light of this, what unifies both kinds of EAs is that their standards lie beyond the perspective scale. They differ only in how this result is achieved, and whether it is the inevitable consequence of their lexical semantics or merely an accident of how their meaning interacts with a particular discourse context.

5.2 *EDMs and the Extremeness Requirement*

Given this understanding of contextual EAs in hand, one can now begin to assemble a denotation for an EDM. As I have argued, it is a general property of EDMs that they are compatible only with EAs. *Downright* manifests this property in a relatively clear way—it is very natural with lexical EAs, and compatible with adjectives that are not lexical EAs only when they are contextually extreme. It is in the latter case that this restriction on its own makes an especially noticeable pragmatic contribution. The contrasts in (83) and (84), which we have already encountered in a slightly different form in section 2, help bring it out:

(83) a. Clyde didn't panic during the earthquake—he was downright calm.
      b. ??In his transcendental meditation class, Clyde was downright calm.

(84) 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.

The infelicitous cases here give rise to the sense that speaker is making an the unwarranted assumption that the modified adjective is extreme in the discourse. In (83a), for example, one gets the sense that the speaker regards calmness as unlikely in meditation classes. It must be *downright* that is responsible, since it does not arise in its absence. This reflects that *downright* serves as a means of *signaling* that the adjective it modifies is contextually extreme.

A natural way to view this requirement is as a presupposition. It is of course often the case that presuppositions can be detected out of the blue, and this one is no different in this regard. It arises quite clearly even without the benefit of preceding linguistic context, as the contrasts in (85) reflect:

(85) a. $\left\{ \begin{matrix} \text{Schoolchildren} \\ \text{??Murderers} \end{matrix} \right\}$ are downright dangerous.

b. Your $\left\{ \begin{matrix} \text{nose job} \\ \text{??nose} \end{matrix} \right\}$ is downright obvious.

c. Those $\left\{ \begin{matrix} \text{professors} \\ \text{??toddlers} \end{matrix} \right\}$ are downright illiterate.

The crucial point is whether the adjective is extreme given normal expectations. These examples differ from the previous ones only in that they play on pre-existing nonlinguistic assumptions about schoolchildren and murderers, nose jobs and noses, and professors and toddlers.

Unfortunately, it is not possible to demonstrate conclusively that this is in fact a presupposition using the most familiar diagnostics because they run into a confound. Presuppositions normally persist under negation, in polar questions, and in the antecedents of conditionals. EDMs are awkward to varying degrees in these contexts:[27]

(86) a. ??Murderers aren't downright dangerous.
      b. ?Are murders downright dangerous?
      c. ?If murders are downright dangerous, you might want to avoid Harold.

One test that may be applicable, though, is the von Fintel (2004) (and Shanon 1976) 'hey-wait-a-minute' test. Von Fintel illustrates the use of this test with a context in which one speaker has said *The mathematician who proved Goldbach's conjecture is a woman*. The interlocutor can use *Hey, wait a minute* to object to a presupposition of the original utterance, as in (87a), but not to the asserted content, as in (87b):

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[27]This awkwardness is itself an interesting phenomenon. Some discussion follows immediately below and in the next section.

(87)   a.   Hey, wait a minute. I had no idea that someone had proved
            Goldbach's Conjecture.
       b.   #Hey, wait a minute. I had no idea that that was a woman.

Analogously, if the speaker had said that Clyde was *downright calm* during
his transcendental meditation class (by uttering (83b)). This is of course
a strange utterance to begin with, but a natural way for an interlocutor to
object to this strangeness is using precisely this strategy:

(88)   Hey, wait a minute. Of *course* he was calm. He was in a
       transcendental meditation class!

So it seems reasonable to conclude that this is in fact a presupposition.

There is slightly different way to look at these facts, however—it seems
likely that EDMs contribute a kind of expressive meaning, in the sense of
Kratzer (1999), Potts (2003, 2007) and others. There is some controversy
about what exactly expressive meaning is (see Amaral et al. 2007 for a recent
discussion), but its distinguishing properties may include:

- a dependence on the perspective of a particular individual, typically a
  judge in the sense of Lasersohn (2005)

- a sense that their semantic contribution is difficult to articulate by
  paraphrase

- an especially direct connection to the discourse context

- a resistance to certain kinds of embedding

The variety of meaning involved here has all of these properties. In partic-
ular, the apparent PPI-like behavior may be particular form of embedding-
resistance—compare (86) to the behavior of the expressive modifier *fucking*
in *??He's isn't fucking calm* or *??If he's fucking calm, you could try poking him
with this stick*. I will, however, persist in characterizing this as a presuppo-
sition. In part, this is for convenience, but there is also a deeper reason: it
may be the case that expressive meaning in general is to be understood as an
indexical form of presupposition, as Schlenker (2003, 2007) has argued.

5.3   *What Do EDMs Do?: Extremeness and Domain-Widening*

There is another, perhaps more subtle component of the meaning of EDMs
that I will want to draw out before proposing a denotation. It will be easier
to identify by momentarily shifting the focus from *downright* to *absolutely*.
This modifier has use in the DP domain (Horn 1972), as (89a) shows:

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

A natural way to think about the difference between (89a) and (89b) is that they differ in how wide the domain of quantification is. What *absolutely* does in (89) is to expand the contextually provided domain to include new members. *Absolutely* is, of course, an EDM as well. Perhaps what this suggests is that in its EDM guise, it has a similar domain-expanding role, but for degrees—and, generalizing, perhaps this is something EDMs in general do?

If so, it wouldn't be altogether surprising, given the framework adopted here. Domain-widening is an operation that is widely attested, so if degree quantification is contextually restricted—as other forms of natural language quantification are—then it should come as no surprise that there are morphemes that signal widening of this domain. The effect of this widening might be slightly different in the degree domain than elsewhere, since the domain of degrees itself has a slightly different structure. But the operation itself is a quite natural one.

Intuitively, then, the connection between domain-widening and the extremeness requirement is that in widening a domain, one is explicitly 'making room' for an extreme adjective. It is a way for the speaker to acknowledge that, yes, the adjective to follow has its standard beyond the perspective scale, but that this scale should be extended—at least momentarily—to accommodate it. It is a means of inviting addressees to consider higher degrees than they otherwise would have.

The puzzle about polarity sensitivity encountered in the previous section further supports this conclusion in one respect—although in another respect, it undermines it. In their influential account of NPI licensing, Kadmon & Landman (1993) proposed that the crucial property of NPIs is that they involve widening of contextually-provided domains of quantification. Widening the domain of a quantifier can yield a more informative claim, or a less informative one, depending on whether the quantifier occurs in a downward-entailing environment. To adapt one of their examples, it is less informative to deny that you have cooking potatoes than it is to deny that you have any potatoes of any kind, because the latter denial entails the former. The situation is reversed, however, when the claim involved is not denied: to say that you have cooking potatoes is *more* informative than to merely say you have potatoes. If NPIs involve domain-widening, they will give rise to more informative claims only in downward-entailing environments. If NPIs are further subject to a requirement that they must make sentences more informative, it follows that NPIs could only occur in downward-entailing contexts. Blindly adapting this reasoning to the issue at hand actually yields a result that is precisely the opposite of what is in fact the case: if EDMs involve domain-widening, perhaps we should expect them to be NPIs? In fact, they seem to be *positive* polarity items. Even so, this result represents a kind of progress, in that it might lead us to expect, correctly, that EDMs

should be polarity-sensitive.[28]

We are now in a position to assemble a denotation for *downright*. First, to reflect the widening effect, I will assume that *downright* shifts the adjective it modifies so that it is interpreted with respect to an expanded domain, which I will indicate with C^+. The exact value of C^+ is itself contextually supplied, with the proviso that the expansion must be upward. Given the assumptions I have adopted here, *downright* will need to bind the C variable of its adjective in order to have access to it. Syntactically, then, the configuration will be as in (90):

(90)
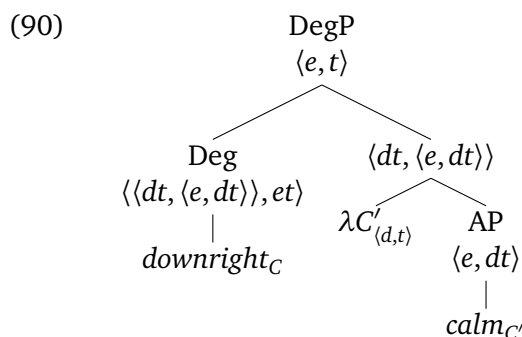
I have indicated the type of C' here as $\langle d, t \rangle$, a set of degrees. As (90) reflects, *downright* also needs access to the existing perspective scale, C.

At a minimum, *downright* will need to re-assemble its arguments in a way that will require that the standard associated with its adjective is exceeded, because e.g. *downright calm* entails *calm*. This is reflected in (91) (I have indicated the contextual-domain argument of a as a subscript):[29]

(91) $[\![\, downright_C \,]\!]$ **(tentative)**

$$= \lambda a_{\langle dt, \langle e, dt \rangle \rangle} \lambda x \, . \, \exists d [\, a_{C^+}(x)(d) \wedge d \geq standard(a_{C^+}) \,]$$

This interprets the adjective with respect to a widened domain, and requires that the adjective hold to a degree greater than the appropriate standard. As it stands, this leaves *downright* meaning something rather close to the positive morpheme POS, different only in its domain-expanding effect. remains now to introduce the extremeness presupposition.

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[28]That they are not NPIs might simply be an indication that they are not subject to the requirement that they increase informativeness. That they seem to actually be PPIs may be a consequence of the indexical presupposition they introduce. If both of these are the case, polarity-sensitivity may actually be a red herring, though one that is nonetheless suggestive.

[29]It may help at this point to repeat an assumption first made in section 4.2: the *standard* predicate is (by stipulation) not sensitive to the contextual domain restriction associated with its argument.

As I have argued in section 5.1, extremeness is ultimately a matter of a standard lying beyond the perspective scale—that is, outside of the contextually provided domain restriction—and EDMs explicitly widen the degree domain to accommodate it. This amounts to presupposing that the original domain C does not include the standard, but that the widened domain C^+ does. In other words, the standard is to be found in the portion of C^+ that extends C. This presupposition is added (in Heim & Kratzer 1998-style notation) in (92):

(92) $[\![\,downright_C\,]\!] = \lambda a_{\langle dt,\,\langle e,\,dt\rangle\rangle}\,\lambda x : standard(a_{C^+}) \in C^+ - C$.
$$\exists d [\, a_{C^+}(x)(d) \wedge d \geq standard(a_{C^+})\,]$$

The meaning of *downright calm*, then, would be computed as in (93):[30]

(93) $[\![\,calm_{C'}\,]\!] = \lambda x \lambda d\,.\,d \in C' \wedge x$ is d-calm

(94) $[\![\,downright_C\ \lambda C'\ calm_{C'}\,]\!]$

$= \lambda x : standard([\![\,\lambda C'\ calm_{C'}\,]\!]\,(C^+)) \in C^+ - C$.
$$\exists d \left[\begin{array}{l} [\![\,\lambda C'\ calm_{C'}\,]\!]\,(C^+)(x)(d) \wedge \\ d \geq standard([\![\,\lambda C'\ calm_{C'}\,]\!]\,(C^+)) \end{array} \right]$$

$= \lambda x : standard([\![\,calm_{C^+}\,]\!]) \in C^+ - C$.
$$\exists d \left[\begin{array}{l} [\![\,calm_{C^+}\,]\!]\,(x)(d) \wedge \\ d \geq standard([\![\,calm_{C^+}\,]\!]) \end{array} \right]$$

$= \lambda x : standard([\![\,calm_{C^+}\,]\!]) \in C^+ - C$.
$$\exists d \left[\begin{array}{l} d \in C^+ \wedge x \text{ is } d\text{-calm} \wedge \\ d \geq standard([\![\,calm_{C^+}\,]\!]) \end{array} \right]$$

What we are left with is that for one to be *downright calm*, the presupposition must be satisfied that the standard of calmness is in the contextually-provided expanded degree domain but not in the original one. If so, one must be calm to a degree that's beyond the standard and in a contextually-provided expanded domain. If this is to be used felicitously, *calm* must be a contextual EA.

One of the issues the paper began with is the incompatibility of EDMs with certain non-extreme adjectives, such as *big*. *Big* and *calm* have similar denotations:

(95)   a. $[\![\,big_{C'}\,]\!] = \lambda x \lambda d\,.\,d \in C' \wedge x$ is d-big
         b. $[\![\,calm_{C'}\,]\!] = \lambda x \lambda d\,.\,d \in C' \wedge x$ is d-calm

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[30] In (93), C^+ appears to lambda-convert from from the metalanguage into the object language, but the result is equivalent to what would have been achieved if it hadn't.

The difference, already articulated informally in section 5.1, can now be understood a bit more precisely. For $^{??}$*downright big* to be felicitous, it would have to be the case that the presupposition in (96) is satisfied:

(96) $\quad standard(\llbracket big_{C^+} \rrbracket) \in C^+ - C$

That is, the standard of bigness would have to be included in the extended degree domain C^+, which is perfectly reasonable. But it would also have to have been excluded from the original domain C, which is considerably less so. This will ensure that $^{??}$*downright big* is felicitous only in exceedingly strange discourses in which the possibility of bigness was not previously entertained.

5.4 EDMs and Lexical EAs

The discussion of EDMs in the preceding pages has focused on contextual EAs. EDMs are extremely natural with lexical EAs as well, of course. At this point, this is just an issue of checking the predictions of the proposal.

Downright gigantic will be interpreted as in (97):[31]

(97) $\quad \llbracket gigantic_{C'} \rrbracket = \lambda x \lambda d . d > max(C') \wedge x \text{ is } d\text{-big}$

(98) $\quad \llbracket downright_C \ \lambda C' \ gigantic_{C'} \rrbracket$

$\quad = \lambda x : standard(\llbracket gigantic_{C^+} \rrbracket) \in C^+ - C .$
$$\exists d \left[\begin{array}{l} \llbracket gigantic_{C^+} \rrbracket (x)(d) \wedge \\ d \geq standard(\llbracket gigantic_{C^+} \rrbracket) \end{array} \right]$$

$\quad = \lambda x : standard(\llbracket gigantic_{C^+} \rrbracket) \in C^+ - C .$
$$\exists d \left[\begin{array}{l} d > max(C^+) \wedge x \text{ is } d\text{-big} \wedge \\ d \geq standard(\llbracket gigantic_{C^+} \rrbracket) \end{array} \right]$$

Part of what this requires is that for something to be *downright gigantic*, the presupposition must be met that the standard for giganticness must not have already been in contextually-provided degree domain C. In this case, though, this is a requirement without any teeth—it is one that is satisfied by any lexical EA, because the standards associated with lexical EAs are only detectable if they are beyond C (see sections 4.2 and 5.1 for discussion).

The presupposition is not entirely without force, however. It does require that the extended domain include the standard of giganticness. Because

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[31]The denotation in (97) is identical to (51), except that I have renamed C to C' to make the computation more transparent.

of this, *downright* can serve here, as in other instances, as a signal that domain-widening is required, and in that respect that an EA awaits.

This also means that the last conjunct in (98) is entailed by the first, because any degree beyond C^+ is necessarily greater than the standard contained in C^+. So what remains is the claim that the size of the individual is not only greater than any in the original domain, but also greater than any in the extended domain. In one sense, it is difficult to test this prediction, since it is impossible to know with absolute precision what $C+$ is in any given context. Intuitively, though, the expectation is that *downright gigantic* will not only serve to signal that the domain should be extended to accommodate the possibility of giganticness—that is, to include the standard for giganticness—but also that the particular individual of which *downright gigantic* is predicated is so large as to remain *gigantic* after this adjustment. This accords with intuition that *downright gigantic*, like POS *gigantic*, attributes to an individual a size so large that we are not interested in further size distinctions beyond it. While flagging *gigantic* with an EDM signals that some contextual adjustments need to be made, it does not diminish the sense of extremeness involved.

6   Extensions and Elaborations

This section explores what EDMs apart from *downright* might reveal, how EDMs differ from *very*, and why EDMs so often seem to adnominal and adverbial counterparts.

6.1   *EDMs and Maximizing Degree Modifiers*

While it is not the case that EDMs are simply endpoint-oriented modifiers, there does seem to be a real grammatical connection between them. The place where this is most clear may be *completely* and *totally*. These are among the standard examples of maximizing degree modifiers—that is, of ones compatible with upper-closed scales:[32]

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[32]*Absolutely* is sometimes said to belong to this class as well.

(99) a. $\begin{Bmatrix} \text{completely} \\ \text{totally} \end{Bmatrix}$ $\begin{Bmatrix} \text{open} \\ \text{empty} \\ \text{opaque} \\ \text{pure} \\ \text{straight} \end{Bmatrix}$

b. * $\begin{Bmatrix} \text{completely} \\ \text{totally} \end{Bmatrix}$ $\begin{Bmatrix} \text{impure} \\ \text{bent} \\ \text{tall} \\ \text{heavy} \\ \text{deep} \end{Bmatrix}$

The ill-formedness of (99b) arises from the fact that *impure* and *bent* have scales that are not closed on top, and *tall*, *heavy*, and *deep* have scales that are not closed at all. The difficulty arises in cases such as (100):

(100) $\begin{Bmatrix} \text{completely} \\ \text{totally} \end{Bmatrix}$ $\begin{Bmatrix} \text{gigantic} \\ \text{fantastic} \\ \text{gorgeous} \\ \text{outstanding} \\ \text{sensational} \end{Bmatrix}$

The adjectives here are, of course, all EAs, and none of them have scales that are closed on top. There is no limit to how gigantic something can be, for example. A natural conclusion to draw from this would be that the closed-scale modifiers *completely* and *totally* just happen to have EDM homonyms.[33] Indeed, this stipulation may be unavoidable, since the closely related modifier *fully* does not have an EDM use.

It may now be possible to explain *why* there should be such homophony—why upper-closed scale modifiers should be such good candidates for being EDMs, even though EAs are not in general closed-scale adjectives. This has to do with the natural intuition that EAs represent, in some slightly mysterious sense, maximums or endpoints. The current proposal does not provide EAs with closed scales, of course. But it does capture the idea that they represent a kind of maximum. The classical way to think about degrees is in terms of equivalence classes of individuals (Cresswell 1976): everyone who is 6 feet tall constitutes one class, and everyone who is 6′1″ constitutes another.

Given the way EAs are defined here, it is actually the case that there is a single equivalence class that consists of all the individuals that satisfy an EA.

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[33]The behavior of *completely*, *totally*, and *absolutely* does seem to vary from that of *downright* or *out-and-out*. A reviewer points out that it's very natural to report being *absolutely terrified* during a bank robbery, despite terror being precisely what is to be expected in that context. *Completely* and *totally* would work here too, while *downright* and *out-and-out* are odd.

This is because all degrees beyond the perspective scale are, for the purposes of a discourse, undifferentiated. Because we don't care about further distinctions among, say, the people that are huge, there can only be one equivalence class established among them without introducing distinctions that we have been explicitly asked to disregard. It follows from how *huge* is defined here that, thinking in terms of equivalence classes, there *is* a kind of upper bound to the scale of size.[34] In this way, by distinguishing perspective scales from the scales provided lexically by adjectives, it is possible to reconcile the ample evidence that EAs often have open scales with the idea, articulated most clearly in Paradis (1997, 2001), that EAs correspond to the tops of scales. It is therefore no surprise that degree modifiers that require closed scales may so easily morph into EDMs.

6.2 *EDMs and Imprecision*

What is now in place is a general theory of EDMs, but so far it has been expressed as largely a theory of *downright*. This EDM seems a good exemplar of the class, and much of what has been said about it can presumably be generalized. But of course, there is quite a number of different EDMs, and it would be very surprising indeed if they all had identical denotations. The difference between *downright* and *absolutely* may be instructive in this regard.

Returning to the denotation proposed for *downright*, repeated in (101), there is a subtlety yet to be explored:

(101) $[\![downright_C]\!] = \lambda a_{\langle dt, \langle e, dt \rangle \rangle} \lambda x : standard(a_{C^+}) \in C^+ - C$.
$$\exists d[\, a_{C^+}(x)(d) \land d \geq standard(a_{C^+}) \,]$$

I have previously assumed that the widened domain C^+ must be widened upward. Certainly, things would go terribly awry if it were widened downward. But there is a third alternative. It may be the cases that one can expand the domain by adding additional degrees not above C, but rather between the degrees already in C. That is, the domain could in principle be widened in a way that increases the granularity of the perspective scale. In terms of the speedometer metaphor, this would amount to adding new lines between the existing ones.

For *downright*, there doesn't seem to be any need for this. The situation is different, however, for *absolutely*:

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[34]An alternative way of conceptualizing this is that there is an interval consisting of all heights beyond the perspective scale, and this interval constitutes a single degree.

(102) a. That rod is $\begin{Bmatrix} \text{absolutely} \\ \text{downright} \end{Bmatrix}$ straight.

   b. Clyde is $\begin{Bmatrix} \text{absolutely} \\ \text{downright} \end{Bmatrix}$ dead.

Both of these sentences are relatively natural in a context in which *dead* and *straight* are EAs (which is easier for the former than the latter). With *absolutely*, however, the most natural reading is not one that signals that the adjective is extreme, but rather that it is to be interpreted more precisely. This can be understood in terms of increased scale granularity.

In virtually any context, one entertains the possibility that something is perfectly straight, so the standard of straightness will be in C. In the case of *straight*, that standard is set on top—something is straight only if it is maximally straight. But this is the case only in principle. In real life, no one is so demanding. As Lasersohn (1999) demonstrates in especially clear terms, we normally allow each other some 'pragmatic slack', a certain level of imprecision we tolerate as a matter of course. So in a particular context, we might be perfectly happy to regard a rod as straight if its straightness is somewhere in the interval between 98% and 100%. In this context, this interval is the standard of straightness, and it is in C. But now someone utters (102b), and we as addressees are confronted with a problem: the speaker has just conveyed to us that the standard of straightness was not, in fact, in C after all. What to do? We can't extend C beyond 100% straightness. The only option left available is to extend C by differentiating degrees more finely, and setting the standard at to, say, the interval from 99% to 100%. In this way, the speaker has introduced a more exacting standard than we previously adopted. Evidently, this is something *absolutely* permits and *downright* does not.

Whether this granularity view of imprecision can ultimately be sustained is an issue far beyond the scope of this paper (but see Sauerland & Stateva 2007). The important point is just that this view accords naturally with the notion of a perspective scale—and that it might be possible to conceptualize the difference between *downright* and *absolutely* in exactly these terms.

6.3 *Other EDMs*

There are no doubt many other distinctions among particular EDMs. One especially likely area of variation is in the kind of expressive meaning associated with an EDM. A reviewer suggests that EDMs may convey an increased level of speaker commitment to the proposition expressed. This seems especially natural for *absolutely*, but less so for *downright*:

(103) a. These $\begin{Bmatrix} \text{curtains} \\ \text{windows} \end{Bmatrix}$ are absolutely transparent.

b. These $\begin{Bmatrix} \text{curtains} \\ \text{??windows} \end{Bmatrix}$ are downright transparent.

In (103a), it is natural to take *absolutely* to indicate that the speaker is especially committed to the truth of the proposition that the curtains or windows are transparent. In (103b), however, the speaker would presumably be far more committed to the transparency of the windows than of the curtains, yet it is with *curtains* that *downright* is more felicitous.

This is a relatively subtle point, but for *balls-out*, the expressive content is quite clear. *Outright* and *out-and-out* seem to emphasize obviousness; *straight-up*, forthrightness or sincerity; *balls-out*, recklessness or brazenness. The hope is that such additional lexical variation can be expressed by further articulating the basic EDM denotation proposed here.

There is one additional EDM that bears mentioning: *literally*.[35] 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:[36]

(104)   The world is literally her oyster.

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 (104) 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 (104). Recognizing that for many speakers *literally* is an EDM makes such a path available. Even some speakers that reject (104) are relatively content with uses such as those in (105):

(105)   The world is literally $\begin{Bmatrix} \text{gigantic} \\ \text{enormous} \\ \text{gorgeous} \\ \text{fantastic} \end{Bmatrix}$.

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[35] 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.).

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

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.

6.4 *Contrasts with* Very

At first glance, one might expect *very* and EDMs to be quite similar. There is a striking difference, however (which has already been noted). In many dialects, *very* sounds quite odd with EDMs:[37]

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

Some further data about *very* and EAs may clarify the picture. The contrast in (107) seems to show that it is more natural to use *very* in an elaboration of a previous remark with an EDM than vice versa:

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

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

Perhaps, then, (107) 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 a bit more complicated. When the EDM is absent and the adjective is a lexical EA, the situation is reversed:[38]

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

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[37]There are some people who seem to lack this restriction. For them, *very* seems to have roughly the same distribution as *really* and not interact with EAs in any particular way. I will set this dialect aside, since for these speakers any standard semantics for *very* would suffice.

[38]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.

(110) 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 at first rather strange—why should *very* be perched in some intermediate position between contextual and lexical EAs? But there is another way of looking at it. The crucial difference is instead than an EDM triggers expansion of 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. The denotation in (111) simply adds this requirement to the basic degree-modifier denotation of POS:[39]

$$(111) \quad [\![\, very_C \,]\!] = \lambda a_{\langle e, dt \rangle} \lambda x \,.\, \exists d \begin{bmatrix} small(max(C) - d) \,\wedge \\ a(x)(d) \wedge d \geq standard(a) \end{bmatrix}$$

This requires that x satisfy the adjective to a degree that both meets the standard and is a small distance from the top of the contextual degree domain C. The *small* predicate is of course vague, as is *very* itself. Combining this with an adjective, the result will be (112):

$$(112) \quad [\![\, very_C \; drunk_C \,]\!] = \lambda x \,.\, \exists d \begin{bmatrix} small(max(C) - d) \,\wedge \\ d \in C \wedge x \text{ is } d\text{-drunk} \,\wedge \\ d \geq standard([\![\, drunk_C \,]\!]) \end{bmatrix}$$

The result is that an individual x is *very drunk* iff x is drunk to a degree near the top of the perspective scale and that meets the standard. In light of (112), the reason *very drunk* makes a weaker claim than the corresponding lexical EA is that lexical EAs require exceeding the perspective scale, whereas *very drunk* requires being near the top of it.

One consequence of (112) is that the standard must itself be in the perspective scale, because it has to be no larger than the degree quantified over, and that degree in turn must be on the scale. This seems appropriate. In the context of a surgical procedure, for example, the standard of drunkenness will normally be beyond the perspective scale. If one were to suddenly discover that the surgeon is drunk, it would be odd to report this with (113):

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[39]In (111) I use $-$ to indicate the interval on a scale from d to $max(C)$ rather than (ordinary) set difference as before.

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

This is expected, since in such a case *very* would have no degrees to quantify over. It would be more natural to report this as in (114):

(114)   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.

 The oddness of e.g. ??*very gigantic* emerges in a slightly different way. The expected denotation is in (115):

(115) $[\![\, very_C \; gigantic_C \,]\!] = \lambda x \,.\, \exists d \begin{bmatrix} small(max(C) - d) \,\wedge \\ d > max(C) \wedge x \text{ is } d\text{-big} \,\wedge \\ d \geq standard([\![\, gigantic_C \,]\!]) \end{bmatrix}$

This gives rise to a contradiction. For the first conjunct to be defined, d must not exceed the top perspective scale $max(C)$. Yet this is precisely what the second conjunct requires. As a consequence, *very* will be systematically incompatible with lexical EAs.

6.5 *Cross-Categorial Considerations*

The understanding of EDMs proposed here has been built around their behavior as degree modifiers of adjectives. But EDMs have cognates in other categories as well:

(116)   Clyde $\left\{\begin{array}{l} \text{flat-out} \\ \text{downright} \\ \text{full-on} \\ \text{straight-up} \\ \text{absolutely} \end{array}\right\}$ $\left\{\begin{array}{l} \text{loves} \\ \text{adores} \end{array}\right\}$ armadillos.

(117)   Clyde is a $\left\{\begin{array}{l} \text{flat-out} \\ \text{downright} \\ \text{full-on} \\ \text{straight-up} \\ \text{absolute} \end{array}\right\}$ $\left\{\begin{array}{l} \text{fool} \\ \text{idiot} \end{array}\right\}$.

The correlation isn't perfect, in that the adnominal counterpart of *absolutely* loses the *-ly*, and there are a handful of EDMs that lack adnominal counterparts: *simply*, *just*, and in some dialects *positively*. These just accentuate the generalization, however—it is surprising how many EDMs do work this way, and equally surprising that those that do generally don't require additional morphology.

Striking though it is, this sort of cross-categoriality is not altogether unexpected if EDMs are a means of manipulating contextual domain restrictions, because the operation of extending a domain is not wedded to any particular syntactic category. Beyond that, things get a bit thornier.

To really tackle this problem head-on, it would be necessary to adopt a theory of nominal and verbal degree semantics. Unfortunately, there is no complete theory of this sort one can pull off the shelf. In the kind of framework I have been assuming—one in which adjectives have degree arguments—the most natural move is to simply introduce degree arguments to nouns and verbs.[40] This might lead to denotations such as (118):

(118)　　a.　$[\![\,like_C\,]\!] = \lambda x \lambda d \lambda y \,.\, d \in C \wedge y$ likes xd-much

　　　　　b.　$[\![\,fool_C\,]\!] = \lambda x \lambda d \,.\, d \in C \wedge x$ is d-foolish

Next, a mechanism is necessary for saturating the degree argument, at least in the absence of an overt degree-denoting expression. If the syntax of the extended AP is any guide, we should expect to find adnominal and adverbial degree heads (see Neeleman et al. 2004, Kennedy & Levin 2008, Morzycki 2005 for discussion). A candidate for such a head for verbs is *really*, and for nouns, *real*:

(119)　　a.　Clyde really likes armadillos.

　　　　　b.　Clyde is real fool.

The denotation in (120) requires that in order to satisfy a gradable predicate, an individual must exceed the standard by a great deal (a relation represented with $\gg$ below):

(120)　　$[\![\,real(ly)\,]\!] = \lambda a_{\langle e,dt\rangle} \lambda x \,.\, \exists d[a(x)(d) \wedge d \gg standard(a)]$

Compositionally, things would work out as in (121) and (122):

(121)　　$[\![\,really\,]\!]\,([\![\,likes_C\ armadillos\,]\!])$

　　　　　$= \lambda x \,.\, \exists d \left[\begin{array}{l} d \in C \wedge x \text{ likes armadillos } d\text{-much} \wedge \\ d \gg standard(a) \end{array} \right]$

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[40]Aspects of this move can be found in Larson (1998), Matushansky (2002), Matushansky & Spector (2005), Morzycki (2005), Kennedy & Levin (2008), and Morzycki (2009).

(122) $[\![\,real\,]\!]\,([\![\,fool_C\,]\!]) = \lambda x\,.\,\exists d \begin{bmatrix} d \in C \wedge x \text{ is } d\text{-foolish } \wedge \\ d \gg standard(a) \end{bmatrix}$

With this sketch in place, the denotations for EDMs proposed above carry over without modification:

(123) $[\![\,downright_C\,]\!] = C^+ \lambda a_{\langle dt,\langle e, dt\rangle\rangle} \lambda x : standard(a_{C^+}) \in C^+ - C\,.$
$$\exists d[\, a_{C^+}(x)(d) \wedge d \geq standard(a_{C^+})\,]$$

(124) $[\![\,downright_C\,]\!]\,([\![\,\lambda C'\ likes_{C'}\ armadillos\,]\!])$

$= \lambda x : standard([\![\,likes_{C^+}\ armadillos\,]\!]) \in C^+ - C\,.$
$$\exists d \begin{bmatrix} [\![\,likes_{C^+}\ armadillos\,]\!]\,(x)(d) \wedge \\ d \gg standard([\![\,likes_{C^+}\ armadillos\,]\!]) \end{bmatrix}$$

$= \lambda x : standard([\![\,likes_{C^+}\ armadillos\,]\!]) \in C^+ - C\,.$
$$\exists d \begin{bmatrix} d \in C^+ \wedge x \text{ likes armadillos } d\text{-much } \wedge \\ d \gg standard([\![\,likes_{C^+}\ armadillos\,]\!]) \end{bmatrix}$$

(125) $[\![\,downright_C\,]\!]\,([\![\,\lambda C'\ fool_{C'}\,]\!])$

$= \lambda x : standard([\![\,fool_{C^+}\,]\!]) \in C^+ - C\,.$
$$\exists d \begin{bmatrix} d \in C^+ \wedge x \text{ is } d\text{-foolish } \wedge \\ d \gg standard([\![\,fool_{C^+}\,]\!]) \end{bmatrix}$$

The effect is as expected: in (125), for example, *downright* extends the domain to include the standard of foolishness.

At this point, there is a slight wrinkle. The denotations proposed above assume *love* and *fool* are only contextually extreme. Certainly, they both have stronger variants: *adore* and *idiot*. But for reasons I don't understand, there doesn't seem to be such a clear bright line separating the contextual extreme words from the lexical ones. That said, things would work out compositionally without complication:

(126) $[\![\,downright_C\,]\!]\,([\![\,\lambda C'\ adores_{C'}\ armadillos\,]\!])$
$= \lambda x : standard([\![\,adores_{C^+}\ armadillos\,]\!]) \in C^+ - C\,.$
$$\exists d \begin{bmatrix} d > max(C^+) \wedge x \text{ adores armadillos } d\text{-much } \wedge \\ d \gg standard([\![\,adores_{C^+}\ armadillos\,]\!]) \end{bmatrix}$$

All this demonstrates that it's possible to extend the analysis proposed above to other categories. The theoretical assumptions necessary to achieve this, though, are of a sort that would in fact allow most adjective-modifying degree words to be interpreted, more or less correctly, in the relevant position. In

light of this, the explanation for why EDMs are especially likely to be cross-categorial involves two largely unrelated elements. The first is that degree modifiers are possible in VP and NP, and for this reason there are other cross-categorial degree modifiers (such as *real(ly)* or *true/truly*). The second is that EDMs are especially likely to take this route because what they do—manipulate domains—is an operation that is widely available in the grammar rather than connected specifically to the adjectival system.

One syntactic property of EDMs across categories remains utterly mysterious. A large proportion of them seem to be constructed out of prepositions: *outright*, *downright*, *out-and-out*, *flat-out*, etc. It is precisely these that maintain their form adnominally, unlike *absolutely*. The latter fact may suggest that the prepositional nature of EDMs somehow persists in the syntax. If so, there is an apparently important *synchronic* connection to be explored.

7 Final Remarks

The core aim of this paper 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, the perspective scale, determines the granularity with which we view a lexical scale, and—more importantly, for current purposes—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. The most straightforward discourse effect they achieve is simply to establish that an adjective is, for the purposes of the discourse, extreme, by explicitly extending the contextually provided degree domain upward.

If perspective scales do in fact mediate how we negotiate gradability linguistically, it would make available *two* (overlapping) scales in any area of degree semantics in which we previously had one. This means it would be possible to ask, for example, whether a given morpheme manipulates one scale or another. Or, one could ask whether the apparently consistently dense nature of linguistic scales (Fox & Hackl 2006) is a fact about one kind of scale or the other. Of course, it is ultimately an empirical question whether such a distinction has any analytical utility. But if this all turns out to be on the wrong track, and speakers don't in fact restrict their attention to portions of larger scales in the way they restrict their attention to portions of larger quantificational domains, this would in itself present a puzzle: why should degree quantification be an exception to the otherwise robust generalization that natural language quantification is contextually restricted?

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morzycki@msu.edu
http://www.msu.edu/~morzycki

Dept. of Linguistics and Languages
Michigan State University
East Lansing, MI 48824
USA