Degree Modification of Extreme Adjectives

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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 your speed is in fact 61 mph, it probably falls in one kind of zone of indifference. A normal 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'. 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—all the speeds that are literally off the scale. 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 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':

(1) Your shoes are downright/flat-out/positively/full-on gigantic/gorgeous/fantastic/$^{??}$big/$^{??}$pretty/$^{??}$OK!!!

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. What, then, is the relevant notion of 'extremeness'? How is it encoded grammatically? And what is special about degree modifiers such as *flat-out* that makes them sensitive to it?

Section 2 argues that such degree modifiers constitute an open natural class, and, following previous work (Cruse 1986, Paradis 1997, Paradis 2001, Rett 2008a, Rett 2008b), that extreme adjectives themselves do as well, though they come in two flavors that should be distinguished. Section 3 considers some analytical alternatives. Section 4 develops an analysis of extreme adjectives which relies crucially on extending contextual domain restrictions to degree quantifiers. Section 5 extends this analysis to degree modifiers.

2 The Facts

The class of degree modifiers at issue here, henceforth 'extreme degree modifiers' or EDMs, includes at least *simply*, *just*, *positively*, *absolutely*, *flat-out*, *full-on*, *out-and-out*, *downright*, *outright*, *straight-up*, and *balls-out*. All of these manifest the same sensitivity to extremeness reflected in (1):

[0]Thanks to Anne-Michelle Tessier, Carlos Balhana, Chris Kennedy, Henry Davis, Hotze Rullmann, Jan Anderssen, Lisa Matthewson, Martina Wiltschko, Olga Eremina, Peter Klecha, Scott Mackie, and audiences at the University of British Columbia and at the 45th Chicago Linguistic Society meeting.

(2) a. simply gigantic/??big
b. just gorgeous/??pretty
c. full-on crazy/??sane
d. flat-out excellent/??adequate

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:

(3) a. very ??excellent/??marvelous/??fantastic/good
b. very ??gigantic/big
c. very ??gorgeous/pretty

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:

(4) a. Spacey's balls-out brilliant performance is Oscar bait all the way ....[1]
b. This book of poetry is balls out fantastic.[2]
c. That's a good example of how balls-out stupid our number-one Antoinette columnist is.[3]
d. After that, we'll have two weeks of championship tasting, in which we go balls-out crazy with the blind tasting ....[4]

In order to proceed further, it will help to characterize a bit further what is meant by 'extreme adjective'. Cruse 1986 identifies this class of adjectives, terming them 'implicit superlatives'. The idea behind the term is that such adjectives lexicalize a meaning similar to that of superlative morphology. I will avoid this term, however, since the connection does not seem to be very deep. (*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.

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

(5) absolutely huge/enormous/minute/*small/*large (Cruse 1986)

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

The second of Cruse's properties is 'intensification' via prosodic prominence:

(6) a. That van is *huuuuuuge*/??*biiiiiiiiiig*!
b. Kevin Spacey is fan*taaaaa*stic/??*goooooood*!

[1] www.rollingstone.com/reviews/movie/5947267/review/5947268/the_usual_suspensioncts
[2] www.goodreads.com/book/show/2811560.Scratching_at_the_Pavement
[3] www.dailyhowler.com/dh080708.shtml
[4] www.twittertastelive.com/group/theyoungwinos

In 6a, it is possible to convey greater degrees of size by pronouncing the EA *huge* with an unnaturally long vowel. This is not possible with non-EAs.

The third Cruse property, also explored in Paradis 1997, is a resistance to comparatives and other degree-comparison constructions. Cruse and Paradis state this in fairly general terms, but I will need to be qualify it a bit below. The essential fact, though, is reflected in 7:

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

As Cruse himself notes, the strength of this resistance varies among speakers. The necessary further qualification, which I articulate further below, is that it also varies from one adjective to another. Nonetheless, this behavior is clearly an important clue to their lexical semantics. Cruse puts under the same rubric the observation that extreme adjectives are generally odd with *very* (as (3) reflects). In what follows, I will treat these as independent facts.

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. If a speaker says *Clyde isn't particularly wealthy*, the addressee might respond as in 8a, but it would be odd to do so as in 8b; the non-extreme adjective *poor* in 9 precisely reverses the contrast:

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

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

So even though 8 and 9 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. If we take the use of *no* as a rough indication of raising an objection, these facts do suggest that EAs are especially natural for this purpose.

Another discourse property of EAs involves a sense of 'indifference' they convey.[5] This effect can be subtle, but it can be discerned in an exchange such as 10:

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

Gladys is behaving oddly by manifesting an interest in precisely the issue that her interlocutor had attempted to background.

All these facts help identify members of the class of EAs. Within this class, however, there is an additional distinction that needs to be made. Some EAs seem to behave as described above 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

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

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

There seems to be a great deal of variation among speakers with respect to exactly which adjectives are lexically extreme and which are merely contextually extreme. To provide some initial examples, though, the adjectives in 11a are lexically extreme in my idiolect, and those in 12b are contextually extreme:

(11) a. fantastic, wonderful, fabulous, gorgeous, resplendent, magnificent, glorious, spectacular, outstanding, tremendous, huge, gigantic, ginormous, mammoth, colossal, tremendous, minuscule, tiny, microscopic, minute, grotesque, delicious, idiotic, inane, destitute, penniless, terrified, obese, phenomenal, marvelous, superb, unflappable, excellent, terrific, monstrous, extraordinary, hideous

b. 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 12a attests. But in the context in 12b, this compatibility is diminished. *Dangerous* is also a contextual EA, as 13 shows:

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

b. ??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.

Making the distinction between lexical and contextual EAs helps to make sense of the behavior of EAs in comparatives. Lexical EAs resist comparatives, but contextual EAs do not, as 13a shows. Nor do contextual EAs generally resist *very*:

(13) a. Clyde is richer/more offensive/more dangerous than Floyd.

b. Clyde is very rich/offensive/dangerous.

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

The distinction between contextual and lexical EAs seems to correlate with another difference: often, lexical EAs have (monomorphemic) weaker or 'neutral' counterparts to which they license entailments: *gigantic* $\succ$ *big*, *excellent* $\succ$ *good*, *gorgeous* $\succ$ *pretty*. This is not in general the case with contextual EAs: *rich* $\succ$?, *offensive* $\succ$?, *dangerous* $\succ$?, *obvious* $\succ$?. That said, it's not the case that the class of contextual EAs is fixed once and for all in the lexicon. Extremeness is lexicalized in some adjectives and provided contextually in others.

3 Potential Approaches

There is a number of analytical possibilities that one might consider. For reasons of space, I'll provide only a sketch of some. One very natural suggestion that is sometimes made about EAs—by which is normally meant what I call lexical EAs—is that they are distinguished by their scale structure. They may, for example, involve scales closed on top, as (Paradis 2001) argues. This seems intuitively satisfying, and might help explain resistance to comparatives. If this is so, perhaps EDMs are endpoint-oriented degree modifiers that target upper-closed scales (in the sense of Kennedy & McNally 2005 and Rotstein & Winter 2001), such as *perfectly* and *fully*? EDMs do not seem to behave quite this way, though:

(14) a. perfectly/fully closed/opaque/complete/safe/pure
b. downright/flat-out $^{??}$closed/opaque/$^{??}$complete/safe/pure

The picture is complicated somewhat by the fact that some of these are contextual EAs, but even so, there is no clean pattern here.

Another intuition that has been expressed is that EAs have scales that are closed on *bottom* (Rett 2008a, Rett 2008b). This too has a certain intuitive appeal, and there is evidence for it from entailment patterns. But taking EDMs to be simply endpoint-oriented modifiers that target scales closed on bottom, like *slightly*, doesn't seem to suffice, either:

(15) a. slightly opaque/bent/dirty/ugly/$^{??}$certain/$^{??}$pure/$^{??}$deep
b. downright/flat-out opaque/bent/dirty/ugly/certain/pure/deep

Again, a clean picture does not emerge straightforwardly.

Another possibility[6] is that EAs are related to what (Bierwisch 1989) called 'evaluative adjectives', a class that includes *lazy*, *pretty*, *jovial*, *cowardly*, and color adjectives, and is distinguished by a cluster of properties among which is the lack of a single clear-cut antonym, compatibility with derivational morphemes such as *un-* and *-less*, a tendency for standards to default to the bottom of a scale, and only a derived sort of gradability. Many EAs, and probably all lexical EAs, fall in this class. EDMs, then, might be degree modifiers specialized for evaluative adjectives. It is not possible in the space available to develop this idea sufficiently to be able to assess its predictions. Its main advantage may ultimately lie in establishing a connection between EDMs and certain homophonous adnominal degree modifiers whose semantics seems similar (e.g., *an out-and-out/downright/balls-out/flat-out idiot*). But there is certainly no off-the-shelf solution to be found here.

4 What do Extreme Adjectives Do?

The first step in building an account will be to return to the speedometer metaphor. The relevant fact about speedometers is that they have two kinds of 'zone of indifference'. The first of these has to do with precision—that is, what counts as a minimal unit on the scale. The other has to do with the top of the scale—that is the highest value on the scale. Both of these ultimately have to do with which speeds

[6] This was brought to my attention by Chris Kennedy (p.c.).

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. Just as different cars have different speedometers, there must be a way to vary from one context to another what degrees are in the set of marks.

The idea that different contexts provide different subsets of some domain is of course quite familiar—this is precisely what contextual domain restrictions do. *Everyone*$_C$ *had a good time* is normally interpreted as a claim about only the relevant people, a set determined by context that can be represented by the resource domain variable C (Westerståhl 1985, von Fintel 1994). 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 actually presuppose something like this. 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. Such imprecision 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. Sauerland & Stateva 2007 provide a number of arguments for viewing imprecision in terms of scale granularity in this way.

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 on a 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 talk about. The greatest of these constitutes a boundary. For any degree beyond it, the important fact about it is precisely it having exceeded the boundary, having gone 'off the dial'. Extreme adjectives, then, can be thought of as involving degrees beyond this boundary.

Before articulating this idea more precisely, it will be necessary to make some assumptions about the structure of the extended AP. I will assume that an AP denotes a relation between individuals and degrees. Syntactically, AP is the complement to a degree head Deg, which projects a DegP (Abney 1987, Kennedy 1997, a.o.). The degree head hosts degree morphemes such as *very* and, for me, EDMs. In the positive form, it is occupied by a phonetically null POS morpheme (along the lines of von Stechow 1984, Kennedy 1997, a.o.) that encodes exceeding a contextually provided standard:[7]

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

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

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

[7] I assume here that $scale$ is a function from degrees to their scales, and $standard$ is a function from a scale to a standard on that scale.

The degrees of size *big* cares about, then, will be only those that are in C. In principle, it might be desirable to treat this requirement as a presupposition, but for current purposes 17 will suffice. This denotation is unusual in two respects: the first is that the presence of a contextual domain restriction itself; the second is the fact that it is expressed on a lexical head rather than on Deg, where the quantifier it restricts resides.

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

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

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

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

For lexical EAs, another innovation has to be introduced. The hypothesis is that they involve a requirement of having gone 'off the scale' of contextually-provided degrees, so the denotation of a lexical EA has to involve exceeding the greatest degree in C:[8]

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

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

b. $[\![\text{POS}]\!] ([\![\textit{gigantic}_C]\!]) = \lambda x.\exists d \left[\begin{array}{l} [\![\textit{gigantic}_C]\!](x)(d) \wedge \\ d \geq standard(scale(d)) \end{array} \right]$

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

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

With this assumption in place, a few theoretical desiderata have been satisfied. First, the entailment from *gigantic* to its weaker counterpart, *big*, will go through because they are both on the same scale and therefore require that the same standard be exceeded. Second, the notion of extremeness itself is encoded lexically in the meaning of the adjective. Third, the indifference flavor EAs may have follows from the requirement they impose that a degree be so great as to exceed any of the degrees that are at-issue in the discourse. Fourth, it reflects the intuition that EAs involve proper parts of a scale, because the degrees greater than all salient ones do in fact constitute a proper subscale. And fifth, it suggests a reason why EAs might be useful for objecting to preceding discourse—they provide a way of drawing attention to degrees that the discourse had failed to make salient.

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

[8] In fact, what is necessary here is not the maximal degree in C—it would probably not even be possible to determine one—but rather the maximum degree on the relevant scale in C. One could replace $max(C)$ with $max\{d' : d' \in scale(d) \wedge d' \in C\}$. I take shortcut reflected in 19.

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

An example will help clarify how this effect arises:

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

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

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

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

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

Putting this together with the denotation of *gigantic* provided in (19) results in 23:

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 any that might have been regarded as a reasonable size; the maximal size of Mothra is also so great that it exceeds any that might have been regarded as a reasonable size; the maximal size of x is greater than the maximal size of Mothra. As is required, this reflects that it is non-salient degrees that are being compared, and thereby predicts the comparatives built with lexical EAs should be pragmatically deviant because of how they relate to the content of C.

There are, however, comparatives with lexical EAs that are more profoundly ill-formed. These involve comparison of a lexical EA with an ordinary adjective, as in 23:

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

These do not seem to be as readily accommodated in a discourse. What has already been proposed reflects that fact by predicting that these should be odd irrespective of what is in C. The denotation of (23a) would be computed like this: C.

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

The problem here involves the requirements placed on the two maximal degrees. The first maximal degree, the one associated with Mothra, must be greater than any in C. The second maximal degree, the one associated with Godzilla, must be in C. This means that the first maximal degree will *always* be greater than the second, and the sentence is tautological. This will be the case no matter what the actual contents of C are. For a sentence such as (23b), the result will be a contradiction rather than a tautology, but the ultimate effect is the same.

5 Extreme Degree Modifiers and Contextually Extreme Adjectives

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

A useful starting point in addressing both questions is the cross-categorial modifier *absolutely*. This modifier has use in the DP domain (Horn 1972) in e.g. *Absolutely everyone had a good time*. A natural way to think about the difference between this and *Everyone had a good time* time is that they they differ in how wide the domain of quantification is. What *absolutely* does is to expand the contextually provided domain to include new members. Perhaps, then, it has a similar domain-expanding role for degrees?[9]

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

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

One would normally take 25a, for example, to claim that Godzilla's size is not only sufficient to be gigantic, but actually greater than that.

With contextual EAs, it can signal that an adjective counts as extreme:

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

Here, the anti-hyperbolic flavor of this EDM shines through. In most circumstances, being dead is regarded as an extreme state of affairs. Accordingly, in most circumstances, 26a would be a natural way to express that Clyde is dead. But it might come across as odd if uttered at Clyde's funeral, where being dead is considerably more salient. In these examples, *absolutely* provides a way of acknowledging the extremeness of the adjective it modifies, and in doing so suggests that the speaker is aware that the claim might be construed as hyperbolic.

There is a third reading of *absolutely*, which is also possible in the preceding examples but may come across more directly in 27:

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

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

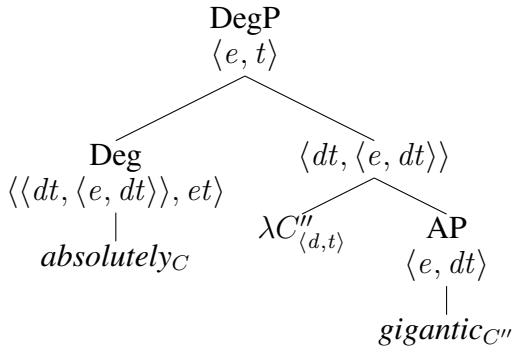
Usually, neither fullness nor closure is likely to be regarded as in any way extreme. Rather, the effect of *absolutely* in 27 seems to be to claim a higher degree of precision than might have otherwise been expected. It is this use that has drawn the most attention (Pinkal 1995, Lasersohn 1999, Kennedy 2007, Sauerland & Stateva 2007). One reason for this is that this reading seems arises with adjectives whose scales are closed on top.

All of these uses can actually be understood as involving a kind of degree domain-expansion, because the contextual degree domain can be expanded in different ways. To make this clear, it will be necessary to be a bit more explicit. In addition to the domain-expanding role, *absolutely* should also include the requirement that the standard for an adjective be exceeded, because being *absolutely A* entails being *A*. And *absolutely* will need to access the contextual domain restriction associated with the adjective it modifies. The denotation in 28 reflects this:

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

To follow the formal machinery here, it will help to see this denotation in action. The first argument here is of type $\langle dt, \langle e, dt\rangle\rangle$, or a function from sets of degrees to adjective meanings. This means *absolutely* will not be able to combine with an AP directly due to a type clash. To combine with the AP, it must first bind the contextual domain of the adjective—and thereby gain access to it—as in 29, yielding the denotation in 30:

(29)



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

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

In 30 *absolutely* combines with the lexical EA *gigantic*, and it causes this adjective to be interpreted with respect to the expanded domain C', as the first conjunct above reflects. The last conjunct reflects the requirement of exceeding the standard. The intermediate ones are provided by the adjective itself. Because the adjective here is *gigantic*, what will be required is that x be big to a degree greater than the maximal degree in the expanded domain C', and that it be a degree of x's bigness.

For a lexical EA, then, what this denotation predicts is that the lexical EA is interpreted as involving a degree greater than any even in the expanded domain. If

the domain is extended upwards, this will have the necessary intensifying effect, raising the degree even higher. Of course, that is not the only way to expand the domain. Another would be to include additional degrees that are between those already present in the original domain. Nothing in 30 prevents this. In such a case, though, the maximal degree in the extended domain would be precisely the same as in the original one, and the predicted reading would be identical to on in which the degree modifier was POS. This option is therefore pragmatically blocked.

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

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

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

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

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

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

This is a different explanation of the oddness of 32 than has previously been proposed. The other explanation is that *absolutely* requires upper-closed scales, and the scales associated with *big* and *pretty* are open (Kennedy & McNally 2005, Kennedy 2007, Sauerland & Stateva 2007). The approach proposed here does retain an element of this other explanation as well, in that scale structure is relevant to how a degree domain can be expanded. The predictions diverge with respect to adjectives that have upper closed scales but are not easily taken to be either extreme or particularly imprecise. Those in 33 might fit the bill:

(33) fully/wholly/??absolutely informed/present

These adjectives are compatible with other closed-scale degree modifiers, but resist *absolutely*. An answer has emerged to the question of contextual EAs are. On this view, a contextual EA is simply an ordinary adjective that is not expected to hold in a particular discourse. More precisely, it is an adjective whose standard is higher than any degrees in the contextual degree domain.

There are, however, many EDMs other than *absolutely*. I will only touch on them here, but many may actually have a simpler semantics. Among these are ones that are specialized for extending the contextual degree domain upward. *Downright*, *positively*, and *full-on* may be of this class. The denotation of *downright*, for example, may introduce an expanded degree domain along with a requirement that this domain contain a higher maximal degree than the original one:

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

In other respects, this is similar to *absolutely* above.

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

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

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

(36) $[\![\textit{downright}_C\ \lambda C''\ \textit{dangerous}_{C''}]\!]$
$= \lambda x. \exists C' \exists d \left[\begin{array}{l} max(C') > max(C) \wedge \\ d \in C' \wedge x \text{ is } d\text{-dangerous} \wedge \\ d \geq standard(scale(d)) \end{array} \right]$

Nothing in 36 requires that the degree of dangerousness be in the expanded portion of the degree domain (i.e., in $C' - C$). Again, though, the alternative would bring about a meaning equivalent to what would have been achieved without saying *downright* at all, so this possibility is pragmatically blocked.

This does not exhaust the effects of various EDMs, of course. There are other subtleties that merit attention. Among these are the *outright* and *out-and-out*, which seem to suggest something like overtness or obviousness; *straight-out* especially seems to suggest something like honesty; and *balls-out* seems to suggest something like recklessness or brazenness. The hope is that that some of these additional subtleties could be captured by elaborating on the approach to their extremeness-sensitivity reflected here.

Having now made some assumptions about how EDMs work, it may be useful to contrast them with another kind of degree word, namely *very*. As already noted, for most speakers lexical EAs are incompatible with *very*. Some further facts will clarify the picture. The contrast in 37 seems to show that it is more natural to use *very* in an elaboration of a previous remark with an EDM than vice versa:

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

Perhaps, then, 36 indicates that *very drunk* is stronger than *downright drunk*? An elaboration, after all, might serve the role of strengthening a previous remark.

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

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

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

Very, then, is not stronger than EDMs or lexical EAs. Rather, it seems to place an individual in the upper portion of the contextual degree domain C. This is reflected in 39:[10]

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

Combining this with an adjective, the result will be 40:

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

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

If, however, the contextual degree domain did not previously include any degrees above the standard, the situation for contextual EAs is different. In such a context, using *very drunk* out of the blue would be unusual. One wouldn't normally report the discovery in the course of an operation that one's surgeon is drunk by uttering 41:

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

[10] I continue here the notational convenience of not indicating explicitly that C in fact represents the portion of C on the relevant scale.

This is expected, since in such a case *very* would have no degrees to quantify over.[11] But it would be more natural to report this as in 42:

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

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

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

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

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

6 Final Remarks

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

Empirically, the argument was that extreme degree words are a distinct natural class, and indeed an open one. It is distinguished by its sensitivity to extreme adjectives. Extreme adjectives themselves constitute a natural class worth recognizing as such, but a fundamental distinction must be made between two varieties, which differ in whether their extremeness is lexically fixed. These facts were captured by extending the well-established notion that quantification is contextually restricted to degree quantifiers. In any context, there are certain degrees on a scale which constitute the salient or 'live options'. This set of degrees determines the granularity with which we view a lexical scale, and it determines where we take the reasonable or likely limits on potential values to be. Extreme adjectives are those that relate an individual to a point on a scale on beyond these contextual limits. For lexical EAs, this is encoded in their lexical entries directly; for contextual ones, it may come about from how their meaning interacts with circumstances. By and large, what extreme degree modifiers do is tap into these contextual dynamics. Depending on how they do so, they can bring about different effects. Perhaps the most common

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

of these is to simply establish that an adjective is, for the purposes of the discourse, extreme, by explicitly extending the contextually provided degree domain upward.

One advantage of this perspective is that it might shed light on more familiar degree modifiers, such as *very*. But there are, of course, many open questions. These include questions of cross-linguistic variation, and with degree modification outside the extended AP—as well as broader questions about what dimensions of variation there are among individual degree morphemes more generally.

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