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Expressive Modification and the Licensing of Measure Phrases

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Abstract This squib points out that adjectives with measure phrases are incompatible with expressive modifiers such as *goddamn*. It shows that this otherwise mysterious fact can be explained relatively straightforwardly if, as Schwarzschild (2005) has argued, positive adjectives can support measure phrases only as the result of a type-shifting rule in the lexicon.

1 Introduction

It is typical to assume that an adjective with a measure phrase has the same denotation as an adjective without one. Schwarzschild (2005), however, challenges this assumption. He argues that most positive (i.e., morphologically unmarked) adjectives must actually undergo a kind of type shift in order to license a measure phrase. This opens up an interesting logical possibility: that certain modifiers might be sensitive to whether an adjective has undergone this shift, and therefore to whether a measure phrase is present. The purpose of this squib is to point out that this possibility is in fact realized—expressive modifiers such as *goddamn* display precisely this sensitivity. I present the data in section 2; adopt assumptions about expressive modification in section 3; implement a version of Schwarzschild's analysis in 4; and combine them in section 5.

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2 The Facts

There is a class of expressive modifiers that very naturally occurs pre-adjectivally in English, in roughly the role of a degree word:

(1) Rufus is {fucking / goddamn} tall.

The exact membership of this class varies widely, but it includes at least *fucking* and *goddamn*. In some dialects, *bloody*, simple *damn*, and *(gosh)darn* are also possible.

I characterize these as 'expressive modifiers' because they are all homophonous with what are sometimes called expressive adjectives (Huddleston & Pullum 2002, Potts 2003, among others). The defining property of the class is that they contribute expressive meaning, in the sense of Kratzer (1999), Potts (2003, 2007) and others—that is, meaning that is typically associated with the speaker or judge (in the sense of Lasersohn 2005), does not contribute at-issue truth-conditional content, is difficult to express descriptively, and resists semantic embedding.[1]

These modifiers occur very naturally with degree words:

(2) a. Rufus is {really / pretty / incredibly / too} {goddamn / fucking / bloody} tall.

b. BMWs are {really / more} {goddamn / fucking / bloody} expensive.

These examples also show that expressive modifiers are not themselves degree words—that is, that they don't saturate the degree argument, since this would preclude subsequent degree modification. Nor is there any conceptual incompatibility between these modifiers and expressions of precise measurement:[2]

(3) Rufus ate six pounds of {goddamn / fucking / bloody} horse meat.

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[1] All of these characteristics have been called into question, however. See among others Geurts (2007), Schlenker (2007), Amaral et al. (2007).

[2] I owe this observation to a reviewer.

The principal observation at issue here is that despite this, they are systematically incompatible with AP-modifying measure phrases, as in (4):

(4) *Rufus is seven feet {goddamn / fucking / bloody} tall.

On standard assumptions, this is surprising. Measure phrases are normally regarded as closely related to degree words, both syntactically and semantically. And there is nothing wrong with what (4) is trying to express: that Rufus is seven feet tall, and that this is goddamn tall.

Even in the absence of a measure phrase, expressive modifiers are odd when immediately preceding a degree word:

(5) a. ??Rufus is {goddamn / bloody} {really / pretty / incredibly / too} tall.

b. ??BMWs are {goddamn / fucking / bloody} {really / more} expensive.

This generalization is obscured somewhat by a particular cousin of *fucking*. There is a use on which it is normally pronounced *fuckin'* (that is, with a final alveolar nasal), and followed by an intonational break. This form is in fact possible preceding a degree word:[3]

(6) a. Rufus is fuckin', {REALLY / INCREDIBLY / TOO} tall.

b. BMWs are fuckin', {really / more} EXPENSIVE.

As (6) reflects, this form seems to require—or at least strongly favor—a focused constituent. Indeed, it seems to associate with focus, and may perhaps be regarded as simply a focus particle. Once this independent use is controlled for with the appropriate phonology, *fucking* too accords with the generalization that expressive modifiers are odd immediately before degree words:

[3]The comma indicates the distinct prosody of this form, and the small caps focus.

(7) a. ??Rufus is fucking $\left\{\begin{matrix}\text{really}\\ \text{pretty}\\ \text{incredibly}\\ \text{too}\end{matrix}\right\}$ tall.

b. ??BMWs are fucking $\left\{\begin{matrix}\text{really}\\ \text{more}\end{matrix}\right\}$ expensive.

The main relevance of this here is that expressive modifiers are also somewhat odd immediately preceding measure phrases:

(8) ??Rufus is $\left\{\begin{matrix}\text{goddamn}\\ \text{fucking}\\ \text{bloody}\end{matrix}\right\}$ seven feet tall.

In view of the larger paradigm, this is not especially surprising—though it is interesting in that there is to my knowledge no explanation of these facts. What *is* surprising, however, is that expressive modification should be incompatible with measure phrases in *either* position.

3 Expressive Modifiers

To get off the ground, it will be necessary to make some assumptions about the semantics of expressive modifiers. The best known and most influential approach is that of Potts (2003, 2007), in which expressive meaning is represented on its own semantic dimension, distinct from ordinary descriptive meaning. This is implemented with a type system in which descriptive and expressive types are distinguished. These complications go beyond what is necessary for current purposes, so I will adopt a radically simplified one-dimensional representation. I will treat the expressive modifier *goddamn* as denoting the property of standing in the **goddamn** relation to a contextually-provided Lasersohn (2005)-style judge:

(9) $[\![\, goddamn \,]\!]^j = \lambda x \,.\, \mathbf{goddamn}(j, x)$

This is of course not remotely adequate as an analysis of expressive modification, but it will serve as a placeholder for one.[4] Given this, *goddamn* is simply

[4]One aspect of this inadequacy warrants particular attention: this denotation requires that the judge's attitude be toward an individual rather than, say, a proposition. In the AP-modifying use, it would be an attitude toward a degree, a notion that is especially problematic (Katz 2005, Morzycki 2004/2008, and Nouwen 2009 discuss ways to cope with this). Nothing crucial here would change, however, if *goddamn* expressed a propositional attitude. The principal difference would be that it could not be interpreted intersectively, and would instead have to denote a predicate modifier (such as $\lambda f_{\langle e,st\rangle} \lambda x \,.\, \mathbf{goddamn}(j, f(x))$).

of type $\langle e,t\rangle$, and can combine intersectively with an NP. Thus *goddamn Republican* will hold of an individual that is a Republican and stands in the **goddamn** relation to the judge.

The type of *goddamn* will be crucial here, because it will rule out various uses that are not possible. It will be especially important that *goddamn* is of a type that prevents it from combining with generalized quantifiers:

(10) $*\left\{\begin{matrix}\text{Goddamn}\\ \text{Fucking}\\ \text{Bloody}\end{matrix}\right\}\left\{\begin{matrix}\text{the}\\ \text{three}\\ \text{most}\\ \text{every}\\ \text{some}\end{matrix}\right\}$ chiropractor(s) are scam artists.

So it can't denote a generalized quantifier itself (because this would allow it to be interpreted intersectively in (10)) or a predicate modifier of generalized quantifiers—it is neither of type $\langle et,t\rangle$ nor type $\langle\langle et,t\rangle,\langle et,t\rangle\rangle$.[5]

But it errs too much in the other direction to restrict *goddamn* only to individuals, as (9) does. In addition to the degree uses that are the focus here, it also has adverbial uses:

(11) Rufus might $\left\{\begin{matrix}\text{goddamn}\\ \text{fucking}\\ \text{bloody}\end{matrix}\right\}$ murder everyone in the room.

What we need, then, is a property that can hold of individuals, degrees, or events. One might reflect this cross-categoriality by supposing that $[\![\,goddamn\,]\!]$ has all of these types in its domain:

(12) $[\![\,goddamn\,]\!]^j = \lambda\alpha : \alpha \in D_e \cup D_d \cup D_s\ .\ \textbf{goddamn}(j,\alpha)$

For the sake of using conventional type labels, however, I will simply treat it as multiply ambiguous.

4 Measure Phrases as Predicates of Gaps

The other—and more important—ingredient in the story will be the Schwarzschild (2005) approach to measure-phrase modification. In a degree semantics, the standard assumption is that adjectives denote relations

[5] It is of course possible to provide a purely syntactic account of this fact instead. Because expressive modifiers are robustly cross-categorial, though, it makes sense to assume a fairly free syntax. Even if one does not, (10) demonstrates at least that there is no reason to suppose that expressive modifiers *do* have either of these types.

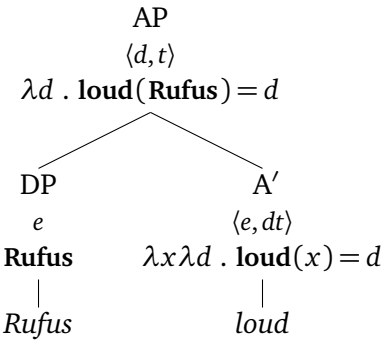
between individuals and degrees. Among the canonical pieces of evidence that motivate this assumption are positive (i.e., morphologically unmarked) adjectives with measure phrases such as *Rufus is six feet tall*. It is very natural to suppose that *six feet* and *Rufus* are both arguments of *tall*. Schwarzschild, however, observes that such examples are actually very much the marked case, both within English and cross-linguistically. It is in fact far more typical for positive adjectives to be incompatible with measure phrases.

In many languages, measure phrases are simply impossible in this position. Among these are Japanese (Snyder et al. 1995), Russian (Matushansky 2002), and Spanish (Bosque 1999). Even within English, many adjectives don't accept measure phrases in the positive form. These include adjectives for which a clear system of measurement is available, such as *heavy, hot, fast, rich, big* and *loud*. In stark contrast, comparatives support (differential) measure phrases systematically: *200 pounds heavier*, *30 degrees hotter*, *80 m.p.h. faster*. This is not only the case in English, but also a common state of affairs cross-linguistically, including in languages that exclude measure phrases entirely from positive adjectives.

To reflect these facts, Schwarzschild's returns to the intuition, expressed in McConnell-Ginet (1973), that measure phrases are 'predicates of gaps'. Comparatives inherently present a gap between two degrees, the difference between them. It is such gaps that measure phrases measure. In a positive adjective, there is typically no analogous gap, and therefore nothing for a measure phrase to measure. Formally, he represents this difference by distinguishing two types of degrees: points (which he calls simply 'degrees') and intervals (what Kennedy 2001 and others call 'extents'). I'll represent the type of degrees as d, and of intervals—because they are sets of point-degrees—as $\langle d,t\rangle$. To grease the compositional wheels, I will depart from Schwarzschild's assumptions in at least one significant way: I will assume an 'exactly' rather than an 'exceeds' interpretation of adjectives—that is, I will assume $[\![\textit{tall}]\!]([\![\textit{Rufus}]\!])$ is a predicate that holds of precisely one degree, that of Rufus's height, rather than that degree and all below it. This is not the standard view, but a convenient one for current purposes.

Measure phrases, I will assume, denote properties of intervals, type $\langle dt,t\rangle$. To fully cash out the intuition, however, they must be considerably more constrained than this type alone would suggest. They need to be defined only for proper intervals—sets of points that are not discontinuous, empty, or singletons. Without a measure phrase, an AP would be interpreted as in (13):

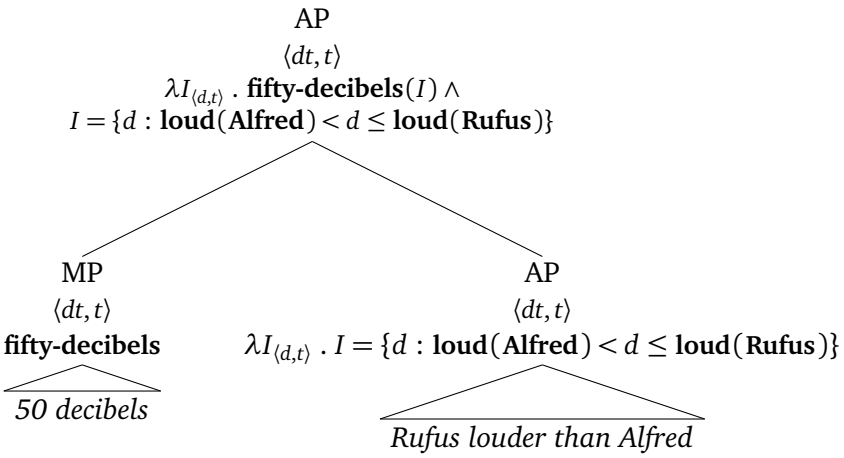
(13)



This assumes that the subject begins inside AP and is interpreted there, and that the degree argument is saturated by existential closure higher in the tree. (The requirement of having exceeded the standard for tallness must of course be imposed, by a degree morpheme or perhaps the EVAL operator of Rett 2008.) Crucially, the resulting AP denotation is of type $\langle d,t\rangle$, so it can't apply to a measure phrase denotation, which is of type $\langle dt,t\rangle$. Nor can the measure phrase apply to it, because AP does not denote a proper interval for which a measure phrase denotation is defined (but rather, by hypothesis, a singleton set).[6]

Comparatives, on the other hand, inherently make available intervals:[7]

(14)



The denotation of the comparative AP itself is a property that holds of the

[6] As a reviewer points out, one could also have ruled this out by assuming adjective denotations are of type $\langle d,et\rangle$. This may ultimately be the better course, because it could avoid the nonstandard assumption that adjectives receive an 'exactly' reading. It would, however, hew less closely to the analytical intuition behind the interval/point distinction, so I won't pursue it here.

[7] The syntactic category labels here and subsequently are for convenience only. The comparative denotation in (14) is essentially Schwarzschild's.

interval that starts just above the loudness of Alfred and extends to that of Rufus. Because this is of type $\langle dt, t\rangle$, as the measure phrase is, they can combine intersectively. The result consequently also requires that the interval measure 50 decibels.

These assumptions account for why measure phrases are in general impossible in positive forms. Something special, however, needs to be said about the positive adjectives that *do* allow measure phrases, such as *tall*. Schwarzschild proposes that these involve a distinct denotation for the adjective, derived by an optional lexical rule (a type shift, essentially). Adjusting it only to reflect my assumptions here, it is as in (15):

(15) a. HOMONYM RULE: from degrees to intervals.

If A has meaning that relates individuals to degrees via a measure function A', then A has a secondary meaning relating individuals to sets of degrees (intervals). The secondary meaning is given by:

$$\lambda x \lambda I_{\langle d,t\rangle} \,.\, I = \{d : d \leq A'(x)\}$$

b. Homonym Rule applies to *tall, wide, deep, thick, old, long, high*

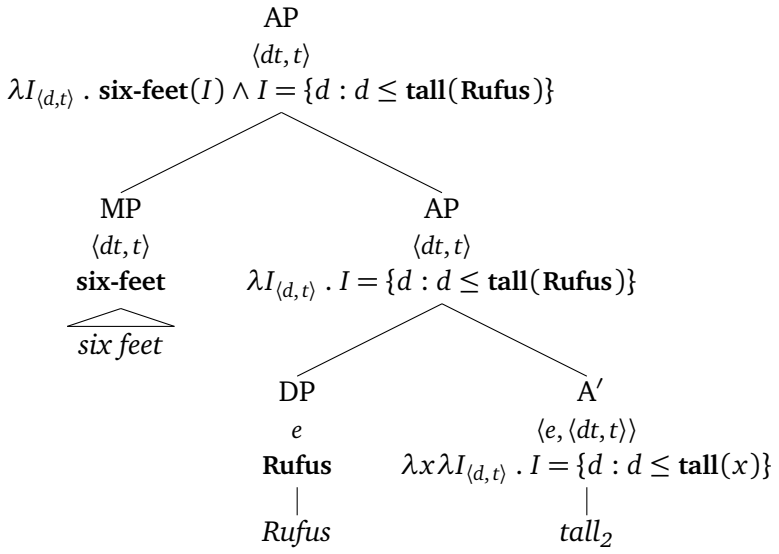
Thus alongside the ordinary denotation of *tall* in (16a), there is the shifted denotation in (16b):

(16) a. $[\![\, tall \,]\!] = \lambda x \lambda d [\mathbf{tall}(x) = d]$

b. $[\![\, tall_2 \,]\!] = \lambda x \lambda I_{\langle d,t\rangle} [I = \{d : d \leq \mathbf{tall}(x)\}]$

The denotation of $tall_2$ in (16b) relates an individual and an interval consisting of all degrees of height up to and including the individual's height. Once the individual argument is saturated, this yields an AP denotation of type $\langle dt, t\rangle$, which can combine intersectively with the measure phrase:

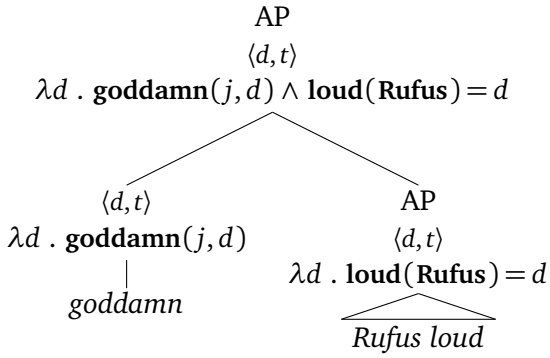
(17)



5 Bringing Things Together

Together, these assumptions about expressive modifiers and measure phrases yield an account of their incompatibility. In its AP-modifying use, *goddamn* denotes a property of degrees, $\langle d,t\rangle$, so it will happily combine intersectively with APs:

(18)



Importantly, the higher AP here remains of type $\langle d,t\rangle$, meaning that degree words can be layered above this structure in the ordinary way, making possible *really goddamn loud*, *more goddamn loud*, and the like.

With measure phrases, however, there is no place for *goddamn* to fit. In the structure in (17), there is simply no node of type $\langle d,t\rangle$ for *goddamn* to combine with. It could occur neither below the measure phrase (**six feet goddamn tall*) nor above it (**goddamn six feet tall*). One could of course simply posit a denotation for *goddamn* that would be of the right type—that

is, either type $\langle dt, t\rangle$ or $\langle\langle dt, t\rangle, \langle dt, t\rangle\rangle$. In either case, it would be combining with a generalized quantifier over degrees. But as we have seen in section 3, combining with generalized quantifiers is precisely what expressive modifiers can't do. In this respect, two sources of evidence converge on a common result.

6 Final Remark

The central empirical observation here has been that measure phrases are systematically incompatible with expressive modifiers. On standard assumptions, this is surprising. But it is expected if Schwarzschild (2005) is right that measure phrases are predicates of intervals and that there is an important distinction between intervals and ordinary degrees. There is an ancillary point underlying this discussion as well: that expressive modifiers have a distribution that is sufficiently restrictive and systematic to serve as a useful probe into the properties of the expressions they modify.

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