

From *Totally* Dark to *Totally* Old. The Formal Semantics of Subjectification.

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Subjectification is process whereby meanings become increasingly based in the speakers' attitudes towards a proposition (Traugott 2004). While commonly invoked, such process has been rarely modeled in formal terms (modulo Eckardt 2009, Gutzmann 2013). As a consequence, it is often hard to see (i) *what* component of an expression undergoes change, and (ii) what semantic core persists through the shift. We present the intensifier *totally* as a case study to shed light on these issues, modeling the shift as a transition along domains with analogous scale-structure

DATA - In contemporary English *totally* feature three different usages: (a) a *degree modifier* one; (b) a *slack regulator* one; (c) a *speaker-oriented* one. As shown by diachronic data from COHA¹, while (1) and (2) were found in the 19th century, (3-4) emerged only in the past 30 years.

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| (1) | It was totally dark about me, and I knew not where I was. ² | DEGREE MODIFIER |
| (2) | By that time the bison was totally extinct east of the Miss. River. ³ | SLACK REGULATION |
| (3) | Because guess what? Castles are totally old. ⁴ | SPEAKER-ORIENTED |
| (4) | I totally think: Have I got to go and play basketball now. ⁵ | SPEAKER-ORIENTED |

Degree Modification - In the early 20th century, *totally* is an endpoint-oriented degree modifier. Consistently, it is found with upper-closed *absolute* gradable adjectives but not with *relative* ones.

- (5) NOT FOUND: ?? **totally** big/huge/hot... RELATIVE GRADABLE PREDICATE

Slack regulation - The picture, however, is more complex. At this stage, *totally* is also found with predicates that are *not* gradable. Here, it targets the *pragmatic halo* (Lasnik 1999) of the expression, determining a shift from a coarse-granularity interpretation - where a small number of individuals can be ignored - to a maximally fine one - where a single exemplar makes a difference. Note that degree modification and slack regulation, while similar, are distinct. The former operates over gradable predicates, while the latter does not (✓ Room A is darker than room B vs ?? Species A is more extinct than B). Also, the former operates at a truth-conditional level ('totally dark' > *darkness* 'dark'), the latter does not ('totally extinct' = 'extinct' = no exemplars).

Speaker-oriented - Starting from 1980, *totally* broadens its distribution to modify relative adjectives (e.g. *old*) and more non-gradable predicates (e.g. *think*). Here, as noted by McCready and Kauffman (2013), the adverb intensifies speech acts, functioning as an *inquiry stopper*, that is, a signal from the speaker to the addressee to halt discussion about a particular topic.

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| (6) | A: Castles are old. | (7) | A: Castles are totally old. |
| | B: ✓ Wait, are you sure? | | B: # Wait, are you sure? |

This usage is sensitive to speech act type - ok in assertions, bad in imperatives or questions - and contributes at an *expressive*, not at-issue level (for diagnostics, see Irwin 2013 and Mc&K 2013).

ANALYSIS - We argue that, throughout its diachronic evolution, *totally* consistently behaves as an intensifier selecting for a scalar maximum. What changes is the source of the ordering, which moves from the domain of lexical semantics to the domain of speech acts.

Degree modification - Let G be a gradable predicate. Following Kennedy and McNally (2005), *totally* requires that the degree encoded by the predicate G reaches the maximum on the encoded scale S_G via the " $= \max$ " function. This semantics derives the restriction of the intensifier to absolute adjectives. The lack of a maximum, as in relative adjectives, generates a compositional mismatch.

¹Corpus of Historical American English, <http://corpus.byu.edu/coha/>

²1823 Title Randolph: A Novel, Volume 1 Author Neal, John, 1793-1876 Source Randolph: A Novel, Volume 1

³1889 Title: The Extermination of the American Bison Author. Hornaday, William Temple, 1854-1937

⁴2004 Title: Princess in waiting. Author: Cabot, Meg.

⁵1996 Title: Wherever he goes, there he is. (cover story). Author: Heath, Chris

- (8) a. $\llbracket \text{TOTALLY}_{DM} \rrbracket = \lambda G_{\langle d, et \rangle} \lambda x. G(x) = \max(S_G)$
 b. $\llbracket \text{TOTALLY DARK} \rrbracket = \lambda x. \text{dark}(x) = \max(S_{dark})$

Slack regulation - Although *extinct* does not encode an upper-closed scale, imprecision can supply one. Let us parameterize the interpretation of *extinct* to different discourses D, each of which imposes a different granularity level (for a similar account of slack regulation, see S&Z 2012). In D2 a species is extinct if it has < 10 exemplars; in D1 if < 5. Finally in D0, the maximally fine-grained level, if no exemplars remain. Imagining that |bison|=0, |buffalo|=5, and |cougar|=7, the sets associated with each level of granularity can be ordered according to a subset relation, were the set associated with the maximally fine-grained level emerges as the natural endpoint.

- (9) a. For $>_{granularity}$, if $D0 > D1 > D2$, $\llbracket \text{Extinct} \rrbracket_{D0} \subset \llbracket \text{Extinct} \rrbracket_{D1} \subset \llbracket \text{Extinct} \rrbracket_{D2}$
 b. $\llbracket \text{extinct} \rrbracket_{D0} = \{\text{bison}\} \subset \llbracket \text{extinct} \rrbracket_{D1} = \{\text{bison}, \text{buffalo}\} \subset \llbracket \text{extinct} \rrbracket_{D2} = \{\text{bison}, \text{buffalo}, \text{cougar}\}$

For a property P, *totally* forces an interpretation with maximal granularity, excluding coarser levels and narrowing down the extension of the predicate.

- (10) a. $\llbracket \text{TOTALLY}_{SR} \rrbracket = \lambda P \lambda x. \max D: \{P(x)_D = 1\} = \max D$
 b. $\llbracket \text{TOTALLY EXTINCT} \rrbracket = \lambda x. \max D: \{\text{extinct}(x)_D = 1\} = \max D$

Speaker-oriented - In its recent usage *totally* has the effect of halting inquiry about a certain topic. Here, it is modifying a speech act rather than a specific property. We suggest that the adverb conventionally implicates a maximal degree of confidence of the speaker towards the proposition. This, in turns, gives rise to the inquiry closing effect - it is pragmatically unsavvy to question the assertion of a maximally confident speaker - and derives the incompatibility with imperatives, which are merely licensed by external authority, and are therefore unrelated to degrees of confidence, and questions, which naturally entail lack of confidence. We capture it with a Potts' style multi-tiered semantics: p is a proposition, μ is a measure for the speaker's confidence in asserting p , s is the speaker to which the degree of confidence is anchored. Finally t is a regular and u an expressive type. *Totally* combines with p , returning a maximal value of μ for p .

- (11) a. $\llbracket \text{TOTALLY}_{SO} \rrbracket = \lambda p_t. [\mu(p)(s) = \max(\mu)]_u$
 b. $\llbracket \text{CASTLES ARE TOTALLY OLD} \rrbracket = [\mu(\text{castles are old})(s) = \max(\mu)]_u$

DISCUSSION - Both recent and non recent usages of *totally* operate over same-structured orderings. While the underlying presence of an endpoint makes the move semantically natural, we model subjectification as a shift in the nature of the scale (i) from lexical semantics to speaker-oriented content, (ii) from at-issue to expressive types (see Gutzmann 2013). Moreover, as is the case for other intensifiers (see Beltrama 2013 on *issimo*), slack regulation emerges as a plausible intermediate step for the emergence of speaker-oriented meanings. On the one hand, granularity manipulations, like degree modification, determine different extensions of the predicate; on the other hand, they are a non truth-conditional *pragmatic* phenomenon, which is fixed by the discourse context. As our data show, speaker-oriented *totally* comes after slack regulation/degree modification usages. We therefore suggest that slack regulation serves as a crucial gateway for the subjectification of a intensifier. Once an expression becomes established as a modifier of pragmatic halos, and not just of lexical degrees, it can also have access to other, similarly-structured pragmatic orderings, which are directly anchored to the speaker's attitudes and pertain to a higher level of the discourse model.
Ref: Beltrama, 2013. Scalar meaning... • Eckardt, 2009. Avoid Pragmatic Overload • Kennedy & McNally, 2005. Scale... predicates. • Lasersohn, 1999. Pragmatic Halos. • Gutzmann 2013. Pragmaticalization • Irwin, 2013. Totally speaker-oriented. • McCready & Kauffman, 2013. Maximum intensity. • Potts 2005. The logic of... • Roberts 1996. Towards. • Sassoone & Zevakhina 2012. Granularity shifting. • Traugott 2004. Historical pragmatics.