From Totally Dark to Totally Old. The Formal Semantics of Subjectification.[1]

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Abstract. *Subjectification* is the process whereby meanings become increasingly based in the speakers' attitudes towards a proposition (Traugott 1989). While commonly invoked, such process has rarely been modeled in formal terms. 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. I 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. More specifically, I analyze the trajectory as a shift from degree to speech act modification, formally modeling the transition as a change in the nature of the targeted scale ('lexical degrees' → 'speaker's commitment'). The analysis recasts subjectification as a transition between different sources of scalarity, positing effects of *slack-regulation* as a natural bridge between these two stages.

Keywords: intensifiers, scalarity, diachrony, subjectification, totally, precision, speaker-oriented meaning

1 Introduction

Semantic phenomena have been traditionally investigated from both formal and diachronic perspectives. Yet, although the two approaches have contributed important insights in the respective domains, they have mostly proceeded on parallel tracks. Scholars working in the formal perspective, on the one hand, have been concerned with providing fine-grained abstract representations of semantic phenomena and categories. Scholars within the historical tradition, instead, have mainly focused on large scale descriptive models for semantic change, emphasizing how a limited set of processes — e.g *grammaticalization, subjectification, bleaching* — can be invoked to account for a wide array of different trajectories of semantic change. Only in recent years have semanticists finally begun to call for a methodological integration of these two perspectives. A paramount example of this research program is represented by the work of Deo 2006, where the author argues that unifying the grammaticalization perspective with a formally precise characterization of the semantic content of tense/aspect categories can significantly further the understanding of the phenomenon (see also Condoravdi and Deo To Appear, Deo To Appear). In a similar vein, Eckardt (2006) applies the formal notions of downward entailing context and scalar reasoning to the diachronic study of negation in Jespersen's cycle, contributing a novel perspective to a widely

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investigated phenomenon. The current project aims to extend this research program to the study of intensification and scalar meaning, a realm which has received considerable attention in both traditions, yet without significant integration between them. By providing a formal analysis of the trajectory involving the intensifier *totally*, this paper argues that the morpheme loosely moves from accessing lexically specified scalar domains to accessing pragmatic, speaker-oriented scalar domains, providing a formal implementation of the general process of *subjectification*.

2 Background

2.1 Synchronic approaches

The phenomenon of *intensification* manifests itself in a number of different ways.

(1) Mark is **very** tall. SOURCE: Lexical scale
(2) The ball is **perfectly** spherical. SOURCE: Precision scale
(3) Try answering the **fucking** question. SOURCE: Speaker-oriented scale

Intuitively, all the expressions in boldface perform an intensifying function, as they strenghten the intensity of an underlying scalar dimension. Yet, the modifiers differ in the kind of scale with which they combine.

Adjectives like *tall* are considered to be *gradable* (Heim 2000, Rotstein and Winter 2004, Kennedy and McNally 2005). They *inherently* encode a scale in their lexical meaning, as shown by the fact that they felicitously combine with comparatives (in (4a)) and wh-degree questions (in (4b), Kennedy 2007).

(4) a. Mark is tall-**er** than John. COMPARATIVE
b. **How tall** is Mark? WH-DEGREE

Intensifiers such as *very*, commonly referred to as *degree modifiers*, target such a lexically encoded scale, raising the degree to which the property is instantiated. Because they target scales that are encoded in the lexicon, degree modifiers achieve their effect in a straightforwardly compositional manner, changing the truth-conditions of the modified predicate. Assuming that a person counts as *tall* if her height exceeds a certain threshold value, a person will need to exceed a significantly higher threshold to count as *very tall*.

In (2) and (3), however, the following predicate does not make a scale available. In the former case, *perfectly* intuitively operates along a scale of *pragmatic precision*, specifying that the ball at stake is maximally adherent to a strict interpretation of the property, and cannot just be "more or less" spherical. Modifiers of this kind are normally referred to as *slack regulators* (Lasersohn 1999, Lauer 2012). Similarly to what we have seen for *very* in *very tall*, slack regulators also operate over an underlying scalar dimension. Yet, differently from the former modifier, they do not compositionally access the literal meaning of the modified predicate. While *very tall* has different truth conditions from *tall* in its positive form, the truth conditions of *spherical* and *perfectly spherical* are intuitively the same. What changes is the pragmatic tolerance that we are willing to apply in the interpretation of the predicate.

Finally, modifiers like *fucking* directly boost the intensity of the emotional involvement of the speaker, targeting a *speaker-oriented* scale. On par with the other modifiers, *fucking* also modulates the intensity of some scalar dimension. Here, for instance, it could be possible to paraphrase its effect by suggesting that it conveys a high degree of frustration/emotive involvement (Potts 2003, Potts 2005) on the part of the speaker with respect to the question. Yet, these modifiers have minimal semantic interaction with their complement. By directly expressing the speaker's attitude/stance towards a certain state of affairs, they specify a kind of content that is virtually independent from the propositional content.[2]

As emerged from this quick overview, the category of intensification exhibits a great deal of internal diversity. Intensifiers, while presupposing the underlying presence of an ordering, can target scales of different nature and operate on them via different kinds of semantic operations. The following table summarizes two important parameters of variation. One represents their distribution, where degree modifiers are maximally restricted, speaker-oriented maximally unrestricted, and slack regulators occupy a middle ground. The other concerns the effect of the modifier on the meaning of the modified predicate. Degree modifiers modify the truth conditions of their complement, speaker-oriented intensifiers have virtually no impact on the predicate's meaning, and slack regulators once again occupy an intermediate position. The table below summarizes this categorization.

[2]Interestingly, a potential counterexample to this observation seems to come from usages in which speaker-oriented intensifiers are followed by a gradable predicate. For example, saying that "a road is *damn long*" normally gives rise to the inference that the road in question has greater length than a "regular" road, and therefore has a similar effect to a degree modifier. To solve this puzzle, a typical explanation is that *damn* brings about the boosting effect as a "side effect" (Constantinescu 2011): As the speaker has strong feelings towards the fact that the road is long, then it is natural to infer that such a road must be outstanding in length, even though the modifier does not compositionally interact with the adjective.

(5)

Intensifier	Targeted scale	Distribution	Semantic impact
Degree Modifiers	Lexical scale	Gradable predicates	Changes truth-conditions
Slack regulator	Scale of precision	Expressions amenable to imprecision	Changes extension
Speaker-oriented intensifier	Speaker's attitude	Any expression	Specifies independent content

2.2 Diachronic approaches

From a diachronic perspective, intensifiers have been widely investigated due to their instability and the related tendency to stratify across the socioeconomic space (Kwon 2012; Macaulay 2006; Rickford 2007; Tagliamonte 2008; Tagliamonte and Roberts 2005). With respect to the semantic aspect, the scientific debate focuses on two broad processes: Grammaticalization and Subjectification.

The former, which is often conceptualized in terms of *bleaching* or *delexicalization*, can be defined as the transformation of independent lexical content words into bound, functional "grammatical" words (Eckardt 2002). Prime examples of this type of change are English *will*, which transitions from being a volitional verb to a tense marking auxiliary, or *going to*, which evolves from expressing physical movement to marking future. With respect to intensifiers, a textbook example of the shift is provided by *very*, which once featured the independent meaning of "genuine" or "true", and has now turned into a functional morpheme, whose contribution is only meaningful in relation to the meaning of the following predicate. Similar trajectories can be pointed out for many other intensifiers, including *really*, *pure* (Macaulay 2006) and *dead* (Blanco-Suarez 2013). While insightful, the application of the grammaticalization model to the study of intensifiers raises some issues. First, the very idea of seeing bleaching as a "loss" of meaning is rather problematic (von Fintel 1995 and Eckardt 2002), and does not quite capture the intuition that a shift from the independent-to-functional meaning shift is more properly framed as a change in semantic *type*, as opposed to an erosion of *semantic content*. Second, these accounts predict that intensification represents a terminal stage of semantic change, beyond which further steps cannot be posited (Lorenz 2002), and cannot say much about the diachronic tranformations of morphemes that are already functional. Third, by treating intensifiers as a homogenous category, it misses the axes of semantic variation that underlie the category of intensification, as discussed in Section 2.1.

The latter process, introduced first by the work of Traugott, refers to the process whereby meanings become increasingly based in the speaker's subjective beliefs/attitudes towards a proposition (Traugott 1989).[3] Countless examples of this kind of change have been discussed in the litera-

[3]Note that the debate is ongoing as to whether subjectification and grammaticalization should really be considered

ture, including the emergence of evaluative meanings (e.g. English *boor*, 'countryman, farmer' > 'crude person' in Traugott 2004) and of epistemic modality (e.g. *must*, Traugott 1989). According to Traugott, most intensifiers also emerged following this direction of change. Expressions like *very* and *really* have evolved to "encode the speakers assessment of the referentiality of the item selected" (Traugott 1995: 44), marking a move away from the propositional content and towards the speaker's perspective. More recently, Hoeksema 2011 delineates the trajetory of the intensifier *helemaal* in Dutch, which moves from a meaning as a degree modifier (≈ *entirely*) to a meaning of a scalar particle (≈ *especially*), where the scale is not encoded by the predicate, but is constructed on the basis of the previous discourse and pragmatic expectations. As such, the intensifier's trajectory also subtends a shift from semantics to pragmatics, and from a propositional to a more speaker-oriented kind of content.

Similarly to grammaticalization, the notion of subjectification, while empirically adequate to capture the general trajectory of the path, is not unproblematic. First, there is a general lack of discussion of what the linguistic/grammatical properties of subjective meaning are. A promising proposal to fill this gap comes from the work of Gutzmann 2013, who models subjectification as a diachronic semantic type shift from *descriptive* to *expressive* types (Potts 2003, Potts 2005). Yet, while adequate for Gutzmann's case study, shifts along these lines cannot be extended to just any instance of subjectification, especially considering that Traugott's notion of expressivity involves kinds of content that go beyond expressivity. Second, it is often not clear what semantic component undergoes change, and what semantic core persists throughout subjectification shifts. As a result, it is often hard to characterize the diachronic shifts in a precise way.[4] Finally, with the exception of Hoeksema 2011, no account has addressed the issue of subjectification *within* the category of intensification. While the observation that intensifiers as a whole constitute an example of "subjective meaning" is empirically sound, it remains to be seen whether and how a similar trajectory emerges in light of the different types of scalar meaning discussed above.

2.3 Interim summary

Intensification has received considerable attention from both a synchronic and a diachronic perspective. In synchronic semantics, research has focused on the different kinds of orderings that intensifiers can target. In diachronic investigations, instead, scholars have attempted to frame

as distinct notions (see Traugott 1982, Traugott 1989, Traugott 2010). Because these debates are only tangentially relevant to the current paper, they will not be elaborated on any further here.

[4] A notable exception, in this sense, comes from Eckardt's work (Eckardt 2009, Eckardt 2002). For example, she analyzes Italian *perfino*, which comes to mean "even" after meaning "at the end", as a transition from a temporal to a pragmatic likelihood scale, where the underlying presence of an ordering is retained in the process. Moreover, Eckardt argues against using this notion as an independent explanation of the trajectory and advocates a model of semantic change in which hearers, once confronted with an expression in a novel context, re-analyze the meaning of the expression to "make things fit", originating a new meaning. I refer to Eckardt 2009 for further discussion on the topic.

intensification within broader models of semantic change, such as subjectification and grammaticalization. Yet, while scholars in either field have achieved important results, synchronic and diachronic approaches have rarely been fruitfully integrated. On the one hand, formal semanticists focused on the grammatical encoding of intensification as a crystallized phemomenon, paying little attention to the diachronic relation between different categories of scalar meaning. On the other hand, historical semanticists have explored the general patterns involving intensifiers, treating them as a largely homogenous category. As a result, they could not incorporate in their work the fine-grained semantic distinctions which have been uncovered in syncronic studies. In light of this state of affairs, integrating these two approaches represents a worthy scientific enterprise, both in the study of intensifiers, and in the study of meaning in general. In the current paper, I explore the diachronic trajectory of *totally*, aiming to provide a contribution within this spirit.

3 The trajectory of *totally*

Synchronically, the intensifier *totally* in American English features a striking amount of flexibility, and can represent all the kinds of intensification discussed above.

(6) a. The tank is **totally** full. (≈ full to the brim) Lexical scale
b. Dinosaurs are **totally** extinct. (≈ absolutely extinct) Precision scale
c. We **totally** won the game! (≈ the speaker is maximally committed) Speaker-oriented scale

While the promiscuous distribution of the intensifier has been addressed in synchronic work (Irwin 2014 and McCready and Kaufmann 2013), no study has investigated the diachronic trajectory whereby such polysemy came into being. The only relevant observation, in this respect, is that speaker-oriented usages tend to be associated with younger speakers and informal varieties, and sound intuitively "more recent" to native speakers' ears.[5] This paper aims to explore the historical connection between the different uses of *totally* by addressing the following question: Is there a principled diachronic ordering in which *totally* came to modify these different types of scale? If the diachronic trajectory of *totally* conforms to the direction of change posited by subjectification, we predict that uses like the one in (6c) have emerged at a later stage, consistent with the intuition that these forms sound somewhat "innovative". If this turned out to be true, we would be in the position of recasting subjectification as a transition between different types of semantic ordering, providing a formal account of this mode of change within a theory of scalar meaning.

[5]This observation has been made, in anecdotal form, by various authors (Zwicky 2011 and Irwin 2014).

Relying on evidence from the Corpus of Historical American English (COHA, Davies (2010-)[6], I will show that this prediction is borne out. While occurrences of the intensifier as a degree modifier and a slack regulator have been around for at least the past two hundred years, speaker-oriented usages only emerged past 1980 (roughly), and are therefore confirmed to be significantly more recent than the other two. I now proceed to discuss the semantic representations of each stage of the transition, focusing on which part of the meanings remains constant throughout the path, and which, instead, undergoes change.

3.1 *Totally* as a degree modifier

COHA covers a period of time ranging from 1810 to 2010. In the earliest texts, *totally* is already systematically attested as a degree modifier. That the intensified predicates are gradable is confirmed by the tests illustrated below (in (7c)).

(7) a. It was **totally** dark about me. [7]
b. A civilization **totally** independent of true refinement, but which so smooths and polishes its disciples.[8]
c. i. ✓Room A is darker than Room B
ii. ✓How dark is Room A?

In this context, *totally* requires that the property denoted by the complement hold to the maximum degree. It follows that its distribution is sensitive to the kinds of scale lexicalized by the predicate (Kennedy and McNally 2005). Adjectives with upper-bounded scale (i.e. *absolute* gradable predicates in Kennedy and McNally 2005's terminology, or *total* predicates in Yoon 1996's) are a productive target. On the other hand, *relative* adjectives, which encode a scale that cannot supply a maximum to the composition, are not attested (in (8)).

(8) Not found: ?? **totally** big/huge/hot... Relative gradable predicate

In formal terms, I follow Heim (2000) and Kennedy and McNally (2005)'s models in proposing that *totally* combines with a gradable predicate *G* of type <*d,et*> and requires that the degree to which the property is instantiated correspond to the maximum degree of the scale ($\max(S_G)$.[9] The

[6] http://corpus.byu.edu/coha/

[7] 1823 Title: Randolph: A Novel, Volume 1 Author: Neal, John, 1793-1876 Source: Randolph: A Novel, Volume 1

[8] 1833; Title: Crayon Sketches [ed.] Volume 2; Author: Fay, Theodore S. (Theodore Sedgwick)

[9] Note that using degree types in the ontology is not necessary. See in particular the work by Klein (1980) and its recent revisitation by Doetjes et al. (2009) for degree-less implementations. The argument developed in the present paper is compatible with both approaches.

lack of a maximum, as in relative adjectives, generates a compositional mismatch, preventing the derivation from going through.

(9) a. $[\![\text{TOTALLY}_{DM}]\!] = \lambda\, G_{<d,et>}\ \lambda\, x.\ \text{G}(x) = \max(\text{S}_G)$
b. $[\![\text{TOTALLY DARK}]\!] = \lambda\, x.\ \text{dark}(x) = \max(\text{S}_{dark})$

3.2 *Totally* as a slack regulator

In the same time frame, *totally* is also attested with several *non-gradable* predicates, as shown in (10).

(10) a. By that time the bison was **totally** extinct in all the region east of the Mississippi River.[10]
b. Dew is **totally** absent in some regions, as in our Death Valley.[11]

Here, *totally* achieves an effect very similar to the one brought about by slack regulators like *perfectly* or *absolutely*. For example, if only a few exemplars of a species are alive, we can consider the species to be *practically* extinct, adopting a loose interpretation of the predicate. The use of *totally* eliminates this tolerance, triggering a strictly truth-conditional interpretation of the predicate.

Note that this contribution of *totally* is qualitatively distinct from the use as a degree modifier, as shown in (11).

(11) a. ?? Dodos are more extinct than Dinosaurs.
b. ?? How extinct are dodos?
c. ?? Dew in point A is more absent than dew in point B.
d. ?? How absent is dew here?
e. ✓Room A is darker than Room B.
f. ✓How dark is Room A?

Another difference is that slack regulation does not interact with the truth-conditions of the modified predicate. On the one hand, a *totally dark* object must feature a higher degree of of darkness that a simply *dark* one. On the other hand, *extinct* has the same meaning as *totally extinct*: no living animals of a certain species must remain in the world. (12) illustrates this contrast.

[10] 1889; Title: The Extermination of the American Bison Author Hornaday, William Temple, 1854-1937
[11] 1905 Publication information Harpers: 1905-03 p. 577-583 Title Plant life in the desert Author Ernest Ingersoll

(12) a. 'totally extinct' ='extinct' = no exemplars
b. 'totally dark' $>_{darkness}$'dark

When it comes to formalizing the slack regulation effect, two questions need to be addressed in a diachronic perspective. First, what semantic features make an expression amenable to (im)precision? Second, what is the common core shared by the semantics of *totally* as a degree modifier and *totally* as a slack regulator? Concerning the first question, I propose that expressions like *extinct* or *absent*, despite having a fixed lexical meaning, can be parameterized to different contextual restrictions, each of which determines the amount of tolerated deviance for the interpretation. Second, I argue that *totally* selects for the least tolerant of these restrictions. Notably, such contextual restrictions are similar to those that normally set the domain of universal quantifiers (von Fintel 1995), the main difference being that, for slack regulation, they target the *granularity* levels with which the expression ought to be interpreted (see Sauerland and Stateva 2007 and Sassoon and Zevakhina 2012 for further discussion of imprecision in terms of granularity).

To see how this would work, let us imagine that there are three different granularity levels *G* to which *extinct* can be parameterized (this, of course, represents an idealized scenario). In *G2* only intervals between 0 and 10 are relevant. As a result, a species counts as extinct if it has < 10 exemplars; in G1 intervals between 0 and 5 are relevant. Therefore, in *G1* a species counts as extinct if it has < 5 survivors. Finally in *G0*, every single unit counts. Therefore, in *G0* a species qualifies extinct if *zero* exemplars remain, in agreement with the actual denotation.

(13) a. $[\![\text{EXTINCT}]\!]_{G2} = < 10$ exemplars
b. $[\![\text{EXTINCT}]\!]_{G1} = < 5$ exemplars
c. $[\![\text{EXTINCT}]\!]_{G0} = 0$ exemplars

Let us imagine that, in our idealized world, these three species feature the following number of survivors:

(14) a. $|$ BISON $| = 0$
b. $|$ BIGHORN SHEEP $| = 5$
c. $|$ AMARGOSA VOLE $| = 7$

In light of their effects on the extension of the predicate, the restrictions can be ordered according to asymmetric entailment relations. If something is in the extension of *extinct* in *G0*, it will also be in the extension in *G1/G2*, but not vice-versa. This is a desirable result, as it derives the strengthening effect of slack regulation: a more precise interpretation is more informative than a less precise one, in that it asymmetrically entails it. For R being a restriction determined by the granularity level in the context, the stengthening effect can be captured in the following way.

(15) a. If R0 $>$ R1 $>$ R2, then G: Extinct$_G$(x) in R0 $>$ G: Extinct$_G$(x) in R1 $>$ G: Extinct$_G$(x) in R2
b. If R0 $>$ R1 $>$ R2, then $[\![\text{Extinct}]\!]_{R0} \subset [\![\text{Extinct}]\!]_{R1} \subset [\![\text{Extinct}]\!]_{R2}$
c. If R0 $>$ R1 $>$ R2, then $[\![\text{Extinct}]\!]_{R0} \rightarrow [\![\text{Extinct}]\!]_{R1} \rightarrow [\![\text{Extinct}]\!]_{R2}$

We can now sketch out a meaning for this use of *totally*. For a property *P*, the intensifier picks the highest restriction on the ordering, namely the one which allows for the least indifference, triggering an interpretation which is maximally adherent to the truth conditions.

(16) a. $[\![$ TOTALLY$_{SR}$ $]\!]$= $\lambda P \lambda$ x. max R: $\{$P(x)$_R$=1$\}$ = max R:P(x)$_R$
b. $[\![$ TOTALLY EXTINCT $]\!]$= λ x. max R: $\{$extinct(x)$_R$=1$\}$ = max R:extinct(x)$_R$

The analysis shows the underlying semantic core beneath the usage of *totally* as a degree modifier and as a slack regulator. In both cases, the intensifier targets an ordered domain, selecting for its endpoint. Second, it also reveals that both degree modification and slack regulation, despite their different nature, bring about an intensification effect that is based on asymmetrical entailment relationships.

3.3 *Totally* as a speaker-oriented intensifier

While distinct, occurrences of *totally* as a degree modifier and a slack regulation are simultaneously attested in each period covered by the corpus. Things, however, become diachronically intriguing when one gets to the most recent years. Here, *totally* suddenly broadens its distribution. Besides being found with absolute gradable predicates or with expressions amenable to imprecision, it is now also attested with non-gradable predicates, relative adjectives (e.g. *old*), negated constituents, and noun phrases. It is also found as a stand alone expression to express agreement in response to a previous statement. (17) provides several examples.

(17) a. I **totally** think: Have I got to go and play basketball now?[12] Non-gradable predicate
b. Because guess what? Castles are **totally** old[13]. Relative adjective
c. It's strapless - **totally** not the dress code for a suburban house in Upper Darby, RI[14]. Negated constituent
d. A: Did you ever have an awkward phase? B: **Totally**[15] Stand alone

[12] 1996, Rolling Stone: 12/12/96 Issue 749: p40, 9
[13] 2004, New York: HarperCollins, Edition: 1st Harper Trophy ed.
[14] 2004, New York: Atria, Edition: 1st Atria books hardcover ed.
[15] 2009 (Jun 29, 2009) Vol. 71, Iss. 25; pg. 64

It is hard to see how the intensifier, in these contexts, could have anything in common with either a degree modifier or a slack regulator. On the one hand, none of the expressions above encodes an upper-bounded lexical scale. On the other hand, they do not appear to lend themselves to the application of pragmatic tolerance. It therefore appears to be legitimate to suggest that *totally*, here, acts as a speaker-oriented modifier. By doing so, it modulates the *attitude* that the speaker has towards the expression. A few observations support this view. First, this usage of the intensifier is now sensitive to *speech act type*, as discussed in McCready and Kauffman (2013). It is felicitous in assertions, but not in direct imperatives or questions. The search on the corpus confirmed this prediction, finding no examples of speaker-oriented *totally* with these types of sentence form. [16]

(18) a. ✓I **totally** think: Have I got to go and play basketball now?
b. ?? **Totally** think: Have I got to go and play basketball now?
c. ?? Who **totally** thinks: Have I got to go and play basketball now?

Second, the adverb, consistent with the general properties of speaker-oriented meaning, is a positive polarity item (see Irwin (2014) for a thorough discussion of this property). No examples of *totally* under the scope of negation are found in the corpus. Native speaker judgments support this claim. While (19a) sounds infelicitous, occurrences of *totally* as a degree modifier or a slack regulator are fine in this environment.

(19) a. ?? I don't **totally** think: Have I got to go and play basketball now?
b. ✓Dinosaurs aren't **totally** extinct.
c. ✓The room isn't **totally** dark.

Third, speaker-oriented *totally* cannot be targeted by denials. This suggests that it is not part of the asserted content, but pertains to an independent semantic level, similarly to other kinds of non at-issue content (e.g. Potts 2003 on expressive meaning, Rett and Murray 2013 on mirative evidentials). Note that an occurrence of *totally* as a degree modifier and as a slack regulator can instead be targeted by negation.

(20) a. A: I **totally** think: Have I got to go and ...
B: # No, that's not true! You are not strongly committed to the fact that you think this!
B': ✓ No, that's not true! You don't think that.

[16] Interestingly, however, native speakers I consulted deemed all sentences above as acceptable. In addition, several counterexamples like the following were found on the Corpus of American English (Davies (2010-), which is more sizeable than COHA.

(1) **Totally** go get it

b. A: The room was **totally** dark.
B: ✓No, that's not true! It was almost dark, but not completely so.

c. A: Dinosaurs are **totally** extinct
B: ✓No, that's not true! They are almost extinct, but not completely so.

A fourth property is that speaker-oriented *totally*, by virtue of modifying a dimension relative to the speaker, is *perspective-dependent*. As such, it shifts whenever it is embedded under the matrix subect of a reportative verb (Irwin 2014).

(21) a. Mark **totally** thinks... ANCHOR: the speaker
b. John said that Mark **totally** thinks... ANCHOR: John

In sum, the recent usage of *totally* features four main characteristics. It is sensitive to speech act type; it is exclusively licensed with positive polarity; it is not part of the asserted content, and it is perspective dependent. At this point, it is possible to address the crucial issue: what is the semantic contribution of *totally*, here? In informal terms, I propose that *totally* modifies a property of the speech act. More precisely, it modulates the degree of *commitment* that the speaker has towards the assertion.

In more formal terms, I model this contribution as a conventional implicature operating at the speech act level. Because the notion of sincerity is entirely grounded in the speaker's perspective, it is in principle always available with an assertion. In modeling the effect, I adopt a Potts style multi-tiered semantics: p is a proposition, μ is a gradable predicate describing the speaker's commitment towards the proposition, and s is the speaker to which the degree of commitment is anchored. Finally t is a regular and u an expressive type, used to refer to content encoded at the level of conventional implicatures. *Totally* combines with p, returning a maximal value of μ for p.

(22) a. $[\![\text{TOTALLY}_{SO}]\!] = \lambda p_t.\ [\mu(p)(s) = \max(\mu)]_u$
b. $[\![\text{I TOTALLY THINK}]\!] = [\mu(\text{I think})(s) = \max(\mu)]_u$

Framing the contribution of *totally* in these terms helps us to make sense of the distributional properties discussed above. First, because commitment concerns a dimension of the speech act rather than the propositional content, we correctly predict that this use of *totally* does not interact with logical operators. Second, the incompatibility of *totally* with command imperatives and information questions can be accounted for. By virtue of being commands, imperatives do not make reference to a gradable notion of commitment. Rather, they presuppose a particular structure of authority, which is either realized or not (McCready and Kaufmann 2013). Concerning information questions, they presuppose that the speaker cannot have any precise thought or commitment with respect to the proposition. As such, intensification along this dimension results in infelicity.

Third, anchoring the contribution of *totally* to the speaker correctly accounts for the perspective-dependent nature of the meaning, as observed in (21).

3.3.1 *Totally*: summarizing the trajectory

Totally retains a common semantic core throughout its diachronic trajectory, represented by the "=Max" function in the denotations below. Both recent and non-recent uses of the modifier operate over same-structured, upper bounded orderings, selecting for the maximum point of this scale. What changes across the different usages is the nature of the scale: It starts out as being lexically encoded and ends up as being entirely rooted in the speaker's attitude towards the speech act.

(23) a. $[\![\text{TOTALLY}_{DM}]\!] = \lambda\, G_{<d,et>}\, \lambda\, x.\ \text{G}(x) = \textbf{max}(\textbf{S}_G)$ Degree modifier

b. $[\![\text{TOTALLY}_{SR}]\!] = \lambda P \lambda\, x.\ \text{max D: } \{P(\text{x})_D\text{=1}\} = \textbf{max D}{:}P(\text{x})_D$ S. regulator

c. $[\![\text{TOTALLY}_{SO}]\!] = \lambda p_t.\ [\mu(\text{p})(\text{s}) = \textbf{max}(\mu)]_u$ Speaker-oriented

4 Subjectification at work

As discussed in the earlier sections, the main empirical question motivating the present study can be framed as follows: Is there a principled order in which different domains of scalarity emerge in the evolution of *totally*? The emerging trajectory is one which the semantic contribution of the intensifier starts as modifying a gradable property encoded in the denotation of an adjective, and is able to modify a scale that is grounded in the speaker's perspective. The two pathways can be summarized as follows.

(24) **Stage 1**: Degree modifier/slack regulator → **Stage 2**: Speaker-oriented intensifier.

The notion of scalarity constitutes the common thread tying together the various diachronic stages, and captures the semantic core maintained by the intensifiers: Throughout the respective trajectories, *totally* always selects for a scalar endpoint. What changes is the nature of the modified scale, which extends to embrace an ordering grounded in the speaker's perspective.

This pattern of semantic change carries relevant implications from both a diachronic and a synchronic perspective. Starting with diachrony, it appears to be consistent with the predictions of Traugott's *subjectification* models. In particular, the proposed analysis suggests that, for intensification, subjectification can be modeled as a transition across similarly structured scalar domains, and as a broadening of the compositional mechanisms necessary to modify such scales. While the

ordering starts out as being exclusively grounded in the propositional content, by the end of the trajectory *totally* is able to modulate speaker-oriented scales. As a result, a more nuanced view of the diachronic status of intensifiers must be adopted. General models like bleaching and grammaticalization, while empirically insightful, simply cannot tell the whole story. Instead, intensifiers should be treated as an internally multifaceted category, within which processes of systematic semantic change are possible. Crucially, such a perspective appears to be more adequate to the consensus view in synchronic formal semantics, where scholars have long been discussing the empirical and theoretical distinctions between various types of scalarity (see in particular Lasersohn 1999, McCready and Kaufmann 2013, Bylinina 2011, Irwin 2014, Beltrama and Bochnak To appear, McNabb 2012).

From a synchronic perspective, the analysis presented here provides a novel vantage point to look at the relationship between the various manifestations of scalarity. The fact that transitions across different scalar domains are historically attested suggests that a certain diachronic permeability exists across different types of intensification, supporting a view in which the different categories of scalarity, despite their differences, are not completely independent domains. On the other hand, the fact that the flavors of *totally* enter the picture following an orderly trajectory suggests that the distinction between categories of scalar meaning, despite the underlying shared core, is indeed important, and should therefore be maintained.

(25)

+	Constrained	-
Degree modifiers	Slack regulators	Speaker-oriented intensifiers
+	Impact on complement's meaning	-

An intriguing puzzle, in this picture, concerns the historical status of slack regulators. In the synchronic classification illustrated above, these modifiers occupy a middle ground, both in terms of their distribution and their impact on the complement's meaning. It would be reasonable, in light of the analysis proposed, if the diachronic trajectory turned out to mirror this pattern. Simply stated, the reasoning would be the following: Once an expression makes the leap from being a degree modifier to being a modifer of precision, it can also have access to other, similarly-structured pragmatic orderings (e.g. commitment, confidence, expressivity). The trajectory of *totally*, however, does not provide direct evidence against or in support of this hyptohesis. The temporal frame of COHA is simply not deep enough to check if, at some point in time, usages of *totally* as a degree modifier preceded the one as a slack regulator. We suggest that looking for more fine-grained diachronic evidence to test this claim might be desirable. In particular, it is encouraging news that slack regulation does emerge as an intermediate historical stage for other intensifiers. In the trajectory from Latin to Italian, for instance, the intensifier suffix *-issimo* goes through an initial stage in which it exclusively operates as a degree modifier, and only several centuries later begins to function as a slack regulator (Beltrama 2014).

5 Conclusion and Avenues for future research

By discussing the trajectory of *totally* in American English, the current paper attempts to provide a contribution to the study of intensification and scalar meaning both at a diachronic and a synchronic level. Concerning the diachronic dimension, the analysis argues that the pathway followed by the intensifier aligns with the prediction of *subjectification* models, outlining a formal implementation of the model in terms of a transition across similarly-structured scalar domains. On a synchronic level, the historical continuity between different types of scales supports the idea that the various manifestations of scalarity are closely related categories, and not independent domains. From a methodological perspective, the present study applies the toolbox of formal semantics to corpus-based work, taking a step in the direction of a much needed integration between synchronic and diachronic approaches to the investigation of meaning. This research enterprise, recently launched by several authors in the field, shows intriguing potential, and is well worth being extended to cover other phenomena in the realm of semantics.

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