

Intensification without degrees cross-linguistically

Andrea Beltrama & M. Ryan Bochnak

Natural Language & Linguistic Theory

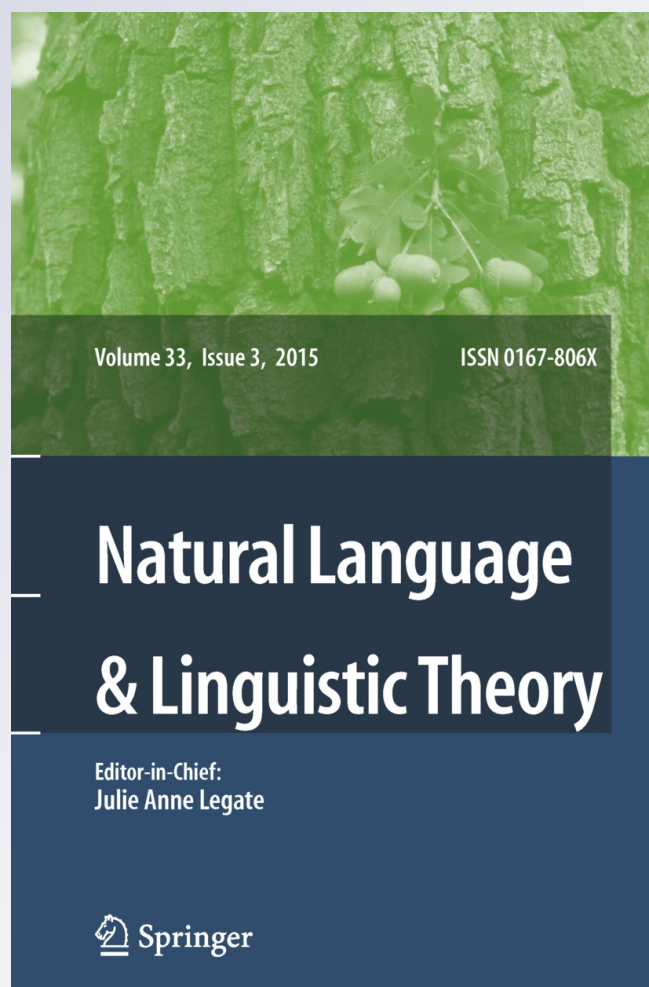
ISSN 0167-806X

Volume 33

Number 3

Nat Lang Linguist Theory (2015)
33:843-879

DOI 10.1007/s11049-015-9294-8



Your article is protected by copyright and all rights are held exclusively by Springer Science +Business Media Dordrecht. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your article, please use the accepted manuscript version for posting on your own website. You may further deposit the accepted manuscript version in any repository, provided it is only made publicly available 12 months after official publication or later and provided acknowledgement is given to the original source of publication and a link is inserted to the published article on Springer's website. The link must be accompanied by the following text: "The final publication is available at link.springer.com".

Intensification without degrees cross-linguistically

Andrea Beltrama¹ · M. Ryan Bochnak²

Received: 18 October 2012 / Accepted: 13 May 2014 / Published online: 8 May 2015
© Springer Science+Business Media Dordrecht 2015

Abstract In this paper, we examine the semantics of two cross-categorical modifiers that receive an interpretation of intensification: *-issimo* in Italian, and *šému* in Washo. Given that both modifiers can combine with a wide range of categories, including those not typically considered grammatically gradable, we argue against an analysis of these modifiers along the lines of e.g., Kennedy and McNally (Language 81(2):345–381, 2005) for *very*, as uniformly boosting a degree standard. Rather, we argue that the type of modification found with *-issimo* and *šému* is one that manipulates a contextual parameter present in the modified expressions, and more specifically universally quantifies over possible contexts of evaluation. Such an analysis allows us to account for the wide distribution of these modifiers, and their co-occurrence with categories that do not encode degree variables. We therefore argue for a typological split in the landscape of intensifiers, both across and within languages, between those that track degree variables, and those that do not.

Keywords Intensification · Modification · Gradability · Degree semantics · Expressives · Italian · Washo

To appear in *Natural Language and Linguistic Theory*.

✉ A. Beltrama
andremormora@uchicago.edu
M.R. Bochnak
bochnak@berkeley.edu

¹ Department of Linguistics, University of Chicago, 1115 E. 58th Street, Chicago, IL 60637, USA

² Department of Linguistics, University of California, Berkeley, 1203 Dwinelle Hall, Berkeley, CA 94720-2650, USA

1 Introduction

Intensification in natural language can be achieved through a variety of different means. Here are some examples from English that intuitively involve the intensification of some gradable property:

- (1) Mark is very tall. [adverbs]
- (2) He's a big idiot. [adjectival modifiers]
- (3) What a beautiful dog! [exclamatives]

The speaker of (1) is making the claim that Mark's height is greater than that of someone who would be considered just 'tall'. Similarly, the speaker of (2) is claiming that the subject is even more idiotic than just any old idiot. Likewise for (3), the speaker seems to convey that the dog is more than just 'beautiful'.

A fruitful line of work has emerged that treats (1)–(3) as degree constructions. For instance, *very* in (1) has been characterized as having a standard-boosting function, whereby the adverb raises the (contextual) standard degree (e.g. Kennedy and McNally 2005; McNabb 2012b). An object counts as *very Adj* if the degree to which it is *Adj* exceeds a standard degree which is higher than the standard for unmodified *Adj*. In the case of (2), Morzycki (2009) treats nouns like *idiot* as gradable, on a par with gradable adjectives, i.e., they lexicalize degree relations just like *tall*. He treats *big* in this environment as measuring the degree of an individual's idiocy, and requiring that this degree exceed a standard of bigness. Meanwhile, exclamatives like (3) have also received a degree-based analysis in the recent literature (e.g. Castroviejo 2006; Rett 2008, 2011).¹ These authors argue that exclamatives express surprise at a high degree, and show that in some languages, these constructions are accompanied by overt degree morphology.

In this paper, we present an analysis of intensifiers in two genetically and typologically unrelated languages that at first glance appear to have interpretations similar to those found in (1)–(3). These are the suffix *-issimo* in Italian, and the modifier *šému* in Washo.²

- (4) La casa è bell-**issima**.
The house is beautiful-ISSIMO
'The house is extremely beautiful.' ITALIAN
- (5) dawp'áp'il delélegi? Migi-ʔáŋaw-iʔ šému-yi
flower red look-good-ATTR ŠÉMU-IPFV
'The red flower is very pretty.' WASHO

¹Though see Zanuttini and Portner (2003) for a non-degree approach.

²The suffix *-issimo* agrees in number and gender with the subject, just like most adjectives in Italian. The version *-issimo* is masculine singular, *-issima* is feminine singular, *-issimi* is masculine plural and *-issime* feminine plural. For sake of simplicity, we consistently gloss these as *-ISSIMO* in the examples. The other morphological glosses used in this paper are as follows: AOR = aorist; ATTR = attributive; COP = copula; DU = dual; INCH = inchoative; IPFV = imperfective; POSS = possessive; PRT = particle; Q = question; REFL = reflexive; SR = switch reference. Washo orthography conforms largely to the standard IPA values with the following exceptions: *M* = [m]; *š* = [ʃ]; *y* = [j]. The acute accent represents primary stress.

Using (4) intuitively means that the house has a high degree of beauty, and we use the gloss ‘extremely’ in the English free translation. Likewise, (5) seems to indicate that the red flower has a high degree of beauty, and is often translated by speakers as ‘very’. However, we argue that both cases are not instances of true degree intensification of the sort found in (1)–(3). As we will show, both modifiers have a much wider distribution than would be expected from true degree modifiers. Both *-issimo* and *šému* modify not only gradable predicates, but many other non-gradable categories as well. We propose an analysis of these modifiers that makes use of quantification over contexts of evaluation of the predicate. That is, rather than making a claim about a property holding to a high degree, *-issimo* and *šému* state that the predicate holds in the context of utterance, as well as in other contexts that may have more stringent standards.

We believe that the facts examined in this paper with respect to these modifiers show that intensification can manifest itself in two ways. The first way targets what we might call ‘grammatical’ gradability, whereby an intensifier tracks scales and orderings that are lexically encoded in the modified expression. The constructions in (1)–(3) are examples of this sort of intensification. Their distribution is quite constrained, and limited to expressions that are ‘grammatically’ gradable. These constructions receive a natural interpretation within a degree-based framework, for example, whereby the distribution of the modifiers track the presence of a specific type of degree variable introduced by the modified expression.³ The second main type of intensification, by contrast, is more pragmatic in nature, in that it only targets some aspect of the meaning of the modified expression that is context-dependent in some way. This type of modification does not rely on the presence of grammaticalized scales, but rather is more general, and not restricted to expressions that encode degree variables of a particular sort. We propose that *-issimo* and *šému* fall under this second category. We spend the rest of this paper detailing how these modifiers differ from those tracking grammatical gradability, and outline a proposal for how this type of ‘pragmatic’ intensification may be implemented formally.

The paper proceeds as follows. In Sect. 2, we lay out the empirical picture, and show that both *-issimo* and *šému* have a wide distribution and can modify both gradable and non-gradable categories alike. In Sect. 3 we argue why these modifiers should not be analyzed in terms of degree modification, or in terms of prototypicality scales. Then in Sect. 4 we propose an account that treats both modifiers as manipulating a contextual parameter present in the expressions modified by *-issimo* and *šému*. After presenting the unified semantic core of the two modifiers, we discuss their interpretational and distributional differences in Sect. 5. Specifically, we argue that *-issimo* carries an additional expressive component of meaning which is absent in *šému*, and also that *-issimo* has more restricted syntactic selectional restrictions than *šému*. Section 6 concludes.

³See Rett (2008, 2011) for arguments that even in cases of exclamation without overt gradable expressions (e.g. *What peppers he ate!*), a covert degree operator is present that introduces a degree-based interpretation.

2 The landscape of cross-categorical modification

In this section we discuss the distribution of the suffix *-issimo* in Italian and *šému* in Washo. Both modifiers can apply to gradable and non-gradable predicates alike, though the perceived semantic effect of the modifiers is somewhat different across the different types of predicates that can be so modified. While the distributions of *-issimo* and *šému* overlap in many ways, we also point out a few cases where their behaviors diverge.

2.1 Gradable predicates

As we have already observed in the introduction, both *-issimo* and *šému* can modify canonical gradable predicates. In cases like (4) and (5), the result of applying the modifiers to a gradable predicate results in a reading that can be characterized as ‘standard-boosting’, whereby the subject must hold the relevant property to a high degree. This fact makes these modifiers look similar to familiar degree adverbs in other languages, for example *very*.

However, there is an important difference between the distribution of *-issimo* and *šému* on the one hand, and English degree adverbs on the other. It has been observed in the literature that degree adverbs in English are only acceptable with certain subsets of gradable predicates, depending on the type of standard it encodes (Rotstein and Winter 2004; Kennedy and McNally 2005). For instance, *very* typically only modifies those gradable predicates whose standards are *relative*, like *tall*, while *completely* only modifies gradable predicates that have *maximum* standards, like *closed*, as shown by the contrasts in (6).⁴ The Italian modifier *molto* also has a distribution similar to English *very*, and combines freely with relative-standard predicates, though is somewhat degraded with maximum-standard predicates, as shown in (7).⁵

- (6) a. The bottle is {very/??completely} tall.
b. The bottle is {completely/??very} closed.
- (7) a. La casa è **molto** bella.
the house is MOLTO beautiful
‘The house is very beautiful.’
b. ?? Lo straccio è **molto** asciutto.
the towel is MOLTO dry
Intended: ‘The towel is very dry.’

⁴The distribution of *very* is slightly more complicated than the way we have described it here. For instance, McNabb (2012b) shows that *very* is productive with minimum-standard predicates as well as relative-standard ones. Meanwhile, Syrett (2007) classifies *very* as being unrestricted in its modification properties, although the interpretation of *very* is relative across uses. Even though *very* is less restricted than Kennedy and McNally (2005) claim, we show in this section that the distributions of both *-issimo* and *šému* are even wider. See Gumiel-Molina et al. (2015) for a recent approach to the relative-absolute distinction that is divorced from the scale structure of gradable predicates.

⁵*Molto*, instead, is fine with minimum standard predicates. While this does not immediately follow from Kennedy and McNally’s (2005) theory of degree modifiers, we observe that for many degree modifiers the patterns of combination with minimum-standard adjectives are somewhat controversial. See the previous footnote on *very*, for instance.

Note that both *bella* ‘beautiful’ and *asciutto* ‘dry’, while different in terms of their standard of comparison, are fully gradable predicates, as shown by the fact that they freely occur in comparative constructions.⁶

- (8) a. Questa casa è **più** bella di quella.
 this house is more beautiful than that
 ‘This house is more beautiful than that one.’
 b. Questo straccio è **più** asciutto di quello.
 the towel is more dry than that
 ‘This towel is drier than that one.’

Notably, both *-issimo* and *šému* seem to be immune from such restrictions on the type of standard encoded by a gradable predicate. Both can occur with relative, maximum, and minimum-standard predicates, as shown in (9)–(10). In addition, the intensifying effect of *-issimo* seems to be somewhat stronger in intensity than *molto* or *šému*. We argue in Sect. 5.1 that this is due to the additional expressive layer of meaning encoded by the suffix, whereby the speaker is in a heightened emotional status about the content of the proposition.

- (9) a. La torre è alt-**issima**.
 The tower is tall-**ISSIMO**
 ‘The tower is very/extremely tall.’ RELATIVE STANDARD
 b. Il serbatoio è pien-**issimo**.
 The tank is full-**ISSIMO**
 ‘The tank is completely/perfectly full.’ MAXIMUM STANDARD
 c. Il panno è sporch-**issimo**.
 The towel is dirty-**ISSIMO**
 ‘The towel is very/extremely dirty.’ MINIMUM STANDARD
- (10) a. t'é:liwɰ ʔil-téteb-iʔ **šému**-yi
 man ATTR-fat-ATTR ŠÉMU-IPFV
 ‘The man is very fat.’ RELATIVE STANDARD
 b. máʔak ʔil-ší:šib-iʔ **šému**-yi
 wood ATTR-straight-ATTR ŠÉMU-IPFV
 ‘The stick is really straight.’ MAXIMUM STANDARD
 c. máʔak ʔil-k'únk'un-iʔ **šému**-yi
 wood ATTR-bent-ATTR ŠÉMU-IPFV
 ‘The stick is really bent.’ MINIMUM STANDARD

The use of these modifiers appears to have a non-trivial truth-conditional effect in these cases. For instance, in both languages, one can claim that the unmodified

⁶This test cannot be performed in Washo, as it lacks a dedicated comparative construction (Bochnak 2013a,b). We discuss this point later on in this section. We also point out here that gradable expressions in Washo are lexicalized as verbs, as there is no syntactic category of adjectives in this language. Verbal predicates can be nominalized with the prefix *de-*, in which case the gradable predicate appears with a copula.

predicate holds, while denying that the modified version holds, as shown in (11)–(12). This property makes these modifiers look similar to degree modifiers in English, as evidenced by the fully acceptable free translations of the Italian and Washo examples.

- (11) La torre è alta ma non alt-**issima**.
The tower is tall but not tall-ISSIMO
'The tower is tall but not extremely tall.'
- (12) mé:hu ?il-káykay-i?-i ?iɣa ?il-káykay-i? **šému**-yé:s-i
boy ATTR-tall-ATTR-IPFV but ATTR-tall-ATTR ŠEMU-NEG-IPFV
'The boy is tall, but not very tall.'

Thus, *-issimo* and *šému* share certain properties with degree adverbs in English when they combine with gradable predicates, although the former are fully productive with predicates that encode both relative and absolute standards. As we now go on to show, *-issimo* and *šému* have an even wider distribution, and can modify non-gradable predicates as well.

2.2 Non-gradable predicates

We additionally find *-issimo* and *šému* modifying non-gradable expressions. In the case of Italian, evidence that such expressions are non-gradable comes from the fact that they do not form comparatives, and combination with *molto* is degraded. Two examples are shown in (13)–(14) for *subito* 'immediately' and *proibito* 'prohibited'.⁷

- (13) a. Serve un governo subito-**issimo**.
is.needed a government immediately-ISSIMO
'We need a government right now.'
- b. ?? Serve un governo **molto** subito.
is.needed a government MOLTO immediately
Intended: 'A new government is needed right now.'
- c. ?? A noi serve un governo piu' subito che a loro.
To us is.needed a government more immediately than to them.
Intended: 'We need a government more immediately than them.'
- (14) a. Fumare dal benzinaio è proibit-**issimo**.
Smoking at.a gas station is forbidden-ISSIMO
'Smoking at a gas station is absolutely/strictly forbidden.'
- b. ?? Fumare dal benzinaio è **molto** proibito.
Smoking at.a gas station is MOLTO forbidden
Intended: 'Smoking at a gas station is very forbidden.'

⁷Since *proibito* 'forbidden' is modal, it could be considered gradable in the sense that it is associated with an ordering source (Kratzer 1981), which could be seen as lexically encoded ordering. However, as shown in (14), it does not appear in comparatives, or with *molto*. From this point of view, the behavior of *proibito* diverges in a crucial way from a gradable predicate like *alto* 'tall', and we conclude that it is in fact non-gradable.

- c. ?? Fumare dal benzinaio è più proibito che fumare in un bar.
 Smoking at a gas station is more forbidden than smoking in a bar.
 Intended: ‘Smoking at a gas station is more forbidden than smoking in a bar.’

In these examples, *-issimo*’s effect can be informally described as a reinforcement of the meaning of the expression it combines with. Intuitively, although *subito*’s truth conditions require that the relevant event takes place within a time minimally following the utterance, a variable time lag between the two times is normally tolerated. For instance, a government that is formed within a week from the time of the utterance can be still reasonably count as *subito*. The presence of *-issimo*, however, forces as close as possible an interpretation to the literal truth conditions, dramatically reducing the time difference that can be tolerated. An expression that does a similar job in English in this context is *right now*. A similar reasoning can be applied with respect to *proibito* above. In this case *-issimo* forces a strict reading of the predicate in which the activity at stake can be considered as prohibited under any interpretation, including the strictest one. An English counterpart of *-issimo* for this predicate is an expression like *strictly prohibited*. In both these cases, the suffix also provides the usual expressive contribution, suggesting that the speaker is in a heightened emotional status about the content of the proposition.

Note that in these situations the suffix, contrary to what we observed with gradable adjectives, appears to have no effect on the truth conditions of the predicate. As a consequence, it cannot be targeted by negation while the unmodified form still holds.⁸

- (15) ?? Attraversare fuori dalle strisce è proibito ma non
 Crossing outside of the crosswalk signs is forbidden but not
 prohibit-**issimo**.
 forbidden-**ISSIMO**
 Intended: ‘Crossing outside the crosswalk is forbidden, but not absolutely forbidden.’

In Washo we also find *šému* applying to predicates that are decidedly non-gradable. There is a complication here though, as the tests for gradability that we used for Italian (forming comparatives, and appearing with other degree adverbs), are not applicable for Washo, since this language lacks a grammatical comparative construction and other degree adverbs (Bochnak 2013a,b; see discussion in Sect. 3.1). However, we observe that *šému* is acceptable with the predicate *yuli* ‘dead’, a non-gradable predicate par excellence.⁹

- (16) a. Context: You and a friend are walking along a path and come across a rabbit lying on the ground. You ask your friend if the rabbit is dead. Your friend replies:

⁸The only possible reading for (15) would be one in which the speaker wanted to achieve a markedly sarcastic and humorous effect.

⁹The context described for this use of *šému* is one where there is uncertainty as to whether the predicate holds or not. This may be significant, as discussed later on in Sect. 2.5.

- b. lí: de-yúli-yi? **šému** k'-é?-i
 PRT NMLZ-dead-ATTR ŠÉMU 3-COP-IPFV
 'It's really dead!'

In this case, the speaker is not making the claim that the rabbit is dead to a high degree, but rather seems to be expressing a high degree of certainty about the truth of the proposition that the rabbit is dead.

We furthermore find that *šému* is generally productive with verbs in this language. As observed in (17)–(18), the typical effect of the modifier seems to be one where the intensity of the event described is increased.¹⁰

- (17) lák'a? lá:du yáha **šému**-yi
 one 1POSS.hand hurt ŠÉMU-IPFV
 'One of my hands really hurts.'
- (18) ?i?ip **šému**-ya?
 cry ŠÉMU-AOR
 'He's really crying.' / 'He's crying sincerely.'

While it may be plausible to consider *yaha* 'hurt' and *?i?ip* 'cry' as gradable, lexicalizing a scale of intensity, such an account cannot be extended to *yuli* 'dead'. In sum, *šému* can modify gradable and non-gradable predicates alike.

2.3 Nouns

We also find these modifiers combining with nouns in both languages. This is particularly striking in Washo, where such uses seem to be freely productive. A few examples are shown in (19)–(21):

- (19) t'é:liwhu dókto **šému** k'-é?-i
 man doctor ŠÉMU 3-COP-IPFV
 'The man is a real doctor.'
 Speaker's comment: "It means he's not a quack!"
- (20) lélim **šému**
 night ŠÉMU
 'middle of the night' / 'really dark'
- (21) gum-bu?-a?al-i?-**šému**-yeti?-a?
 REFL-DU-house-ATTR-ŠÉMU-INCH-AOR
 'They (dual) made a permanent home together.' (Jacobsen 1964, p. 539)

In these cases, the effect of *šému* seems to be one of picking out a special instance of the noun it modifies. In (19) *šému* seems to be picking out a prototypical instance of a doctor, or a good exemplar of a doctor. Likewise in (20) and (21), we can informally describe these cases as identifying a good exemplar, or a clear case of instantiating the relevant noun (i.e., the middle of the night is a clear case of night time; a permanent home is a clear case of a home).

¹⁰See Fleischhauer (2013) for degree modification of change of state verbs in German.

As for Italian, *-issimo* can be found with nouns as well. However, while nominal occurrences of the suffix had already been noticed in the previous literature, they have not received very much attention compared to the adjectival ones, partly because these uses are very recent (Gaeta 2003), partly because they are less productive, and their distribution is somewhat patchy and not entirely predictable. This could very well be due to the fact that the extended use of *-issimo* to modify nouns represents a form of change in progress from an older stage of Italian where it only modified adjectives and adverbs (Beltrama 2014).¹¹ Two instances of nominal usages of the suffix are shown in (22)–(23).

- (22) Occasion-**issima** Siena in avvio di ripresa: Vergassola fallisce
Occasion-ISSIMO for.Siena in beginning of second.half: Vergassola misses
un rigore.
a penalty
'Huge chance for Siena in the beginning of second half: Vergassola misses a
penalty.'¹²
- (23) Michael Jordan è un champion-**issimo**.
Michael Jordan is a champion-ISSIMO
'Michael Jordan is a big/real champion/the champion of champions.'

In both these examples, it appears that the speaker is emotionally involved with respect to the content of the proposition, suggesting that *-issimo* is providing a contribution on the expressive level. In addition, like the Washo cases, these examples seem to be identifying a clear case or a good exemplar of the noun being modified. For example, it is perfectly plausible to think of someone who *might* or *might not* be considered to be a champion: perhaps a player who is good enough (or has won enough) to be in the conversation for being considered a champion, but is not good enough to indisputably make the cut. The presence of *-issimo*, here, excludes such borderline cases and suggests that the missed penalty and Michael Jordan are clear cases of "chance to score" and "champion", respectively. It is less clear, however, that this characterization can be applied to all cases. See, for example, (24) below, taken from a Facebook caption of a picture in which a fisherman is portrayed with a huge dorado-fish:

- (24) Lampugh-**issima** in Alto Adriatico
dorado-ISSIMO in northern Adriatic Sea
'{Outstanding / Huge / Spectacular} exemplar of dorado-fish caught in north-
ern Adriatic Sea'

Occurrences of *-issimo* with nouns like *lampuga* feature limited productivity and a somewhat idiosyncratic flavor, to the point that most of them exhibit fluctuating acceptability across subjects and are often felicitous only in particular contexts. In (24),

¹¹In addition, we also observe some variability in judgments from native speakers, as we have witnessed when we presented this data to various audiences. Some speakers prefer other strategies for nominal intensification, e.g. the prefix *super* or the suffix *-one*. We thank Giorgio Magri for pointing this out.

¹²Source for (22): <http://calcio.fanpage.it/> accessed May 11, 2013.

-issimo is not so much identifying a clear case of the property. Intuitively, such species of fish displays a set of biological characteristics that make it indisputably distinguishable from other species of fish, with no room for borderline cases.¹³ Rather, the suffix is just conveying that the noun's referent is somehow outstanding according to some contextually inferrable dimension, be that the size of the fish, its color, its prestige or some other criterion. Because a contextual inference is necessary to interpret the precise contribution of *-issimo* with nouns like this, the suffix can be felicitous only if the context does provide enough clues to draw this inference (just like the Facebook picture mentioned above does here). It is not the case that *-issimo* would be felicitous with *lampuga* in any use, just like it would be felicitous with adjectives like *alto* in any environment. Other examples of these expressions that we observed include those in (25). Importantly, all of these cases resist other kinds of degree modification, such as degree adverbs and comparatives.¹⁴

- (25) a. film-issimo
movie-ISSIMO
'outstanding movie'
- b. tramont-issimo
sunset-ISSIMO
'spectacular, impressive sunset'
- c. professor-issimo
professor-ISSIMO
'outstanding professor'

2.4 Quantifiers, ordinals, and numerals

The distribution of these modifiers extends even further beyond non-gradable predicates and nouns. For instance, the suffix *-issimo* can appear with "n-words", as in (26), and with ordinals like *primo* 'first' and *ultimo* 'last', as in (27). Once again, these expressions are not grammatically gradable, as they do not combine with degree modifiers or appear in comparatives.

- (26) Non c'è {nessun-**issima** / ***molto** nessuna} possibilità di vincere.
Not there.is {any-**issima** / MOLTO any} chance of winning
'There is no chance at all to win the game.'
- (27) a. Per la {prim-**issima** / ***molto** prima} volta, ho vinto una
For the first-**issimo** / MOLTO first time, I have won a
scommessa.
bet.
'For the very first time I won a bet.'
- b. Voglio chiederti l' {ultim-**issima** / ***molto** ultima} cosa.
I want to ask you the last-ISSIMO / MOLTO last thing
'I want to ask you the very last thing, then you are off the hook.'

¹³Such borderline cases could exist in a context in which the person does not really know enough about fish to distinguish a dorado from another similar species. But this is clearly not the case in the context here.

¹⁴These examples have been collected by browsing Facebook on May 11, 2013.

In a similar fashion to the effect with the predicates discussed in Sect. 2.2, *-issimo* in (26)–(27) seems to force a stricter, more literal interpretation of the element it applies to.

In the case of (26), *-issimo* provides a contribution comparable to the one afforded by expressions like *at all* or *whatsoever* with *any* in English (cf. Krifka 1995). By saying *nessunissima possibilità*, the speaker is emphasizing that not even the most remote chance of winning the game exists, whereas with an unmodified occurrence of *nessuna*, the possibility of some extremely remote chance would have been somewhat tolerable, and pragmatically ignorable. By the same token, in (27) *-issimo* signals that the ordinal must receive a strict interpretation. For example, if someone is the *primissimo* to do something, it means that he is *really* the first one, and not more loosely among the first ones, or the first to the exclusion of a few ignorable exceptions. English counterparts of this usage are *very first* and *very last*. Once again, there is no effect of the suffix on the truth conditions of the predicate; the effect is purely one of precision.

Whereas Washo does not have expressions corresponding to *nessuno* and *primo/ultimo*, we do find a similar effect of *šému* when it applies to numerals, as shown in (28).

- (28) dubáldi? **šému** hé:s ʔiʔw-i
 five ŠÉMU Q 3.eat-IPFV
 ‘Did he eat exactly five (apples)?’

Just like in the Italian cases considered above, the use of *šému* in (28) forces a strict, exact interpretation, in this case of the numeral. Whereas the interpretation of numerals can often be approximate (Krifka 2009), the use of *šému*, or in English *exactly*, forces a strict interpretation. Such a use for *-issimo* is unavailable, where the modifier *esattamente* ‘exactly’ is used instead.

- (29) Lucia ha mangiato {**esattamente** cinque /*cinque-**issime**} mele.
 Lucia has eaten {exactly five /five-ISSIMO} apples
 ‘Lucia has eaten exactly five apples.’

2.5 Conversational uses

Finally, we observe that the distribution of these modifiers cannot be adequately captured by just focusing on the nature of the predicates that host them. In particular, discourse environments such as questions, rebuttals or elaboration of previous statements seem to be able to license the modifiers regardless of their host. We thus descriptively label such cases as conversational uses. For instance, *-issimo* is not generally felicitous with *primo* ‘prime’, which is non-gradable and does not lend itself to imprecise uses; see (30). However, if we insert this predicate in an answer to a question or in a rebuttal to a previous statement, as in (31), *-issimo* becomes perfectly felicitous. Note that *molto* is unacceptable in this environment as well, showing that it is not the case that any intensifier can perform such a conversational function.

- (30) ?? 7 è un numero prim-**issimo**.
 7 is a number prime-ISSIMO
 Intended: ‘7 is an extremely prime number.’

- (31) a. A: 7 è un numero primo?
 7 is a number prime
 ‘Is 7 a prime number?’
 B: Prim-**issimo**! / ??Molto primo!
 prime-ISSIMO / very prime
 ‘Absolutely prime!’
 b. A: 7 non è un numero primo.
 7 not is a number prime
 ‘7 is not a prime number.’
 B: Ma no! E’ prim-**issimo**! / ??E’ molto primo!
 but no is prime-ISSIMO / is very prime
 ‘No! It’s absolutely prime!’

This use of *-issimo* appears to be licensed by the presence of a discourse that creates uncertainty as to whether the predicate truthfully applies to the relevant individual. Previous authors already noticed the discourse-sensitive nature of the suffix. Rainer (1983) termed such cases as “confirmative uses” of *-issimo*, and treats it as polysemous with the other uses described in this section. Dressler and Merlini Barbaresi (1994) add that in this environment the suffix has no effect on the propositional content, but merely strengthens the speaker’s commitment. Following these authors, we suggest that a context that presupposes some sort of uncertainty can sometimes be sufficient to license *-issimo*. Like *primo* ‘prime’, *morto* ‘dead’ is not normally a productive host for *-issimo*, but the suffix can be licensed in situations in which there is a great amount of uncertainty as to whether the predicate applies or not.¹⁵

- (32) a. Bin Laden è mort-**issimo**.
 Bin Laden is dead-ISSIMO
 ‘Bin Laden is really dead.’
 b. ?? Bin Laden è molto morto.
 Bin Laden is very dead
 Intended: ‘Bin Laden is very dead.’

We have already seen a similar case with *šému*, namely with the predicate *yuli* ‘dead’, repeated in (33). As described in the context, the status of the rabbit’s death is explicitly under discussion, and we observe that *šému* is acceptable.

- (33) a. Context: You and a friend are walking along a path and come across a rabbit lying on the ground. You ask your friend if the rabbit is dead. Your friend replies:
 b. lí: de-yúli-yi? **šému** k’-é?-i
 PRT NMLZ-dead-ATTR ŠÉMU 3-COP-IPFV
 ‘It’s really dead!’

¹⁵The example in (32) comes from a newspaper article that confirms the death of Osama Bin Laden, where there had previously been uncertainty as to whether he was dead or still alive. The degree modifier *molto* is not licensed even in this case. Source for (32): www.repubblica.it accessed May 11, 2013.

To summarize, both modifiers may be licensed in contexts where there is uncertainty as to whether the property holds of an individual, and a speaker wishes to confirm that the property does in fact hold.

2.6 Interim summary

In this section we provided an informal overview of the distribution of *-issimo* and *šému*, showing that they can be found in a variety of environments, including with gradable and non-gradable expressions alike, and even with nouns. We also observed that specific contexts, such as a discourses inducing uncertainty and scenarios that supply some criterion to consider the referent at stake as outstanding, can serve to license these modifiers with predicates that would not be able to license them out of the blue. Across all these uses, the common contribution of the modifiers can be informally described as strengthening or intensification of the meaning of the host, including apparent degree-boosting effects and precisification effects.

While the environments where we find *-issimo* and *šému* overlap in many respects, there are certain differences between the two that we observe. First, *šému* can modify numerals to yield an ‘exactly *n*’ interpretation, while *-issimo* cannot (see Sect. 2.4). Second, *-issimo* seems to have an additional extremeness effect, and also an expressive component, whereby the speaker feels a heightened emotional state. This effect is absent in *šému*. The analysis we ultimately propose will therefore aim to capture the cross-categorical nature common to both *-issimo* and *šému*, as well as the differences observed between the two modifiers.

3 Degrees and prototypes are not enough

Before presenting our analysis of these modifiers, we first address two analytical possibilities that seem promising at first glance, but which we ultimately reject. The first is an analysis based on grammatical gradability, whereby the modifiers would target scales lexically encoded in the meanings of the hosts for *-issimo* and *šému*. The second is an analysis based on prototypes, whereby the modifiers identify the most prototypical instances of the predicates they apply to. We show that both analyses are undesirable, and then provide a new analysis in Sect. 4.

3.1 Degree-based approaches

Given that *-issimo* and *šému* both productively modify gradable predicates, and contribute an interpretation of intensification similar to degree adverbs like *very*, an analysis of these modifiers in terms of degree semantics seems initially plausible. Under this view, the modifiers would combine with a gradable predicate and require that an individual hold the relevant property to a high degree. Such an analysis could be formalized along the lines of (34):^{16,17}

¹⁶Going forward, we use *mod* to represent the underlying semantic core shared by *-issimo* and *šému*, abstracting away from their differences at this point. This section and Sect. 4 are dedicated to characterizing the common semantic components of both modifiers, while in Sect. 5 we focus on accounting for the differences observed between them.

¹⁷In (34) we assume a semantic type for gradable predicates that includes a degree argument, $\langle d, \langle e, t \rangle \rangle$, following Cresswell (1976), von Stechow (1984), Kennedy and McNally (2005), among others. There is

- (34) A degree-based analysis for *-issimo* and *šému* (to be rejected):

$$\llbracket \text{mod} \rrbracket = \lambda G_{\langle d, et \rangle} \lambda x. \exists d [G(x)(d) \wedge d >! s]$$

In this analysis, *-issimo* and *šému* apply to gradable predicates and return a predicate that is true of an individual x if the degree to which x holds the relevant property to a degree that is much higher than a standard degree (represented as $>! s$). Such an analysis treats *-issimo* and *šému* parallel to other degree modifiers, whose function is to bind the open degree argument of a gradable predicate and place restrictions on its possible values (Kennedy and McNally 2005).

In the case of Washo, there are independent, language-internal reasons to believe that (34) cannot be the correct analysis for *šému*. As argued by Bochnak (2013a,b), Washo does not have any degree morphology of the type in (34), including comparatives, measure phrases, or any other degree adverbs. Bochnak in fact argues that a degree-based analysis for gradable predicates in this language is not correct. That is, gradable predicates in this language are not type $\langle d, \langle e, t \rangle \rangle$ and do not introduce degree variables. It would therefore be quite strange to say that *šému* is apparently the only degree morpheme in this language, especially since, as we have shown in the previous section, its distribution is quite different from more canonical examples of degree adverbs in other languages. Even if we were to grant the possibility that *šému* is a degree adverb, and thus parallel to *-issimo* in this respect, such an account still faces several problems, which we outline here.

Analyses along the lines of (34) have in fact been pursued for *-issimo* by Wierzbicka (1991), Dressler and Merlini Barbaresi (1994), and Rainer (1983) (although they do not offer formalizations of their analyses). According to Wierzbicka (1991), the semantic contribution of *-issimo* is similar to that of a degree modifier like *very* or *extremely*. In a similar fashion, Dressler and Merlini Barbaresi (1994) suggest that *-issimo* selects for an extreme degree of a gradable property. Finally, Rainer (1983) also claims that *-issimo* is an “extreme” intensifier which only combines with adjectives that can also be modified by *molto*. According to these accounts, both *-issimo* and *molto* are assigned a roughly equivalent semantic analysis, modulo their differences with respect to ‘extremeness’. The stronger effect of *-issimo* is due to the fact that the suffix specifies that the property holds to a more extreme degree than *molto* (Rainer 1983), and has an additional layer of expressive meaning (Wierzbicka 1991).

Such proposals face an obvious challenge: if *-issimo* and *šému* are degree modifiers, it does not follow naturally that they can also combine with predicates that are not grammatically gradable, as we showed in Sect. 2. By hypothesis, non-gradable predicates do not lexicalize degree scales, which accounts for why they do not form comparatives or appear with any other degree morphology. Indeed, the discrepancy between the predicted distribution of a degree modifier and the distribution of *-issimo* has already been noted in passing by the authors mentioned above. However, it was treated more as the result of isolated idiosyncrasies, which could be explained away

another line of research on gradable predicates that denies that they are endowed with degree arguments, and treat them as a subset of the $\langle e, t \rangle$ predicates (e.g. Kamp 1975; Klein 1980; van Rooij 2011). The criticisms for what we call degree-based approaches in this section apply to both styles of analysis, since both are intended to be analyses of gradable predicates.

by resorting to ad hoc solutions that would not call into question the degree modifier account. Dressler and Merlini Barbaresi (1994) and Merlini Barbaresi (2004) argue that occurrences of the suffix with non-gradable predicates are only possible in special conversational uses (such as those described in Sect. 2.5), or whenever “they are associated with an intensifiable quality, be that of contextual or metaphorical nature” (Merlini Barbaresi 2004, pp. 448–9). With respect to nominal usages (see Sect. 2.3), for instance, they claim that the actual licenser of *-issimo* is a covert, unpronounced gradable adjective. *Partitissima* therefore could in principle mean something like “extremely beautiful game,” containing the silent adjective *bella* ‘beautiful’.

However, this approach runs into several problems. First, it cannot account for all the other instances in which the distribution of the suffix diverges from that of degree modifiers. Whereas positing a covert adjective may be a syntactically plausible solution in the presence of a noun, it is much less so when *-issimo* combines with non-gradable predicates such as *primo* ‘prime’. Second, this solution largely over-generates the environments in which *-issimo* can occur and the interpretations that it might receive, since these authors say nothing about the possible values of the covert adjective. While in principle any covert gradable adjective could combine with a noun, it is not the case that *-issimo* can modify every nominal predicate with equal acceptability (see Sect. 2.3). We furthermore do not find interpretations of *partitissima* that correspond to ‘an extremely ugly game’, or ‘an extremely windy game’, where the covert adjectives would be *brutta* ‘ugly’ or *ventosa* ‘windy’.

An alternative solution, discussed by Rainer (1983), would be to posit two lexical entries for *-issimo* (and by extension *šému*): the “intensifying” use, which occurs with gradable predicates and boosts the standard degree; and the “confirmative” use, which occurs with non-gradable predicates and “confirms”, as it were, that the predicate really applies in the context. On the one hand, this proposal would be able to maintain a degree-based analysis for the occurrences with gradable predicates. On the other hand, however, we are left with a non-unified analysis of the modifiers, which is less than desirable.

A third conceivable solution, which has not been explicitly advocated by any author to our knowledge, would be to argue that the occurrences of *-issimo* and *šému* with non-gradable predicates can be derived via a type-shifting mechanism, which coerces the host into a fully gradable predicate, therefore solving the mismatch. Coercion accounts have indeed been suggested for many situations within scalar semantics (e.g. Sawada and Grano 2011 for measure phrases in Japanese; Bogal-Allbritten 2014, for English *slightly*; Anderson 2013 for the English modifier *sorta*). However, we believe that this would hardly be an optimal solution for *-issimo* and *šému* for several reasons. First, the set of non-gradable predicates that these modifiers combine with is extremely large and diverse, including n-words and ordinals in Italian, and numerals in Washo. In light of this, it seems to be difficult, though not impossible in principle, to find a unique coercion mechanism that could apply to all these situations. Second, it is not obvious how stipulating a coercion mechanism to add a degree scale would capture the correct interpretations. For example, if *proibitissimo* were licensed by coercing *proibito* ‘prohibited’ into a gradable predicate, its meaning would be paraphraseable as “more forbidden than something that is merely forbidden.” However, as already discussed in Sect. 2.2, this does not quite capture the actual

contribution of the suffix with this predicate, which seems to be more about strictness of interpretation than “degrees of prohibitedness.”

In sum, a degree-based analysis for *-issimo* and *šému* is undesirable. Such an analysis would have difficulty predicting the wide distribution of these modifiers, and in the case of Washo seems highly unlikely given that this language lacks degree morphemes altogether. Before advancing our own analysis of these modifiers, we first consider and reject another style of analysis based on references to prototypes.

3.2 Prototype-based approaches

An alternative analysis for *-issimo* and *šému* could take as its starting point the observation that in many circumstances, in particular with non-gradable predicates and especially nouns, these modifiers seem to select a prototypical instance of that predicate. Since the work of Rosch (1975), the notion of prototype has been widely discussed and implemented in various theories of meaning (Lakoff 1973; Osherson and Smith 1981; Kamp and Partee 1995; Sassoon 2005, 2013). The key intuition behind prototypes is that members of a semantic category can be ordered according to their typicality, that is, how well they represent the category itself. For example, a robin or a sparrow are considered to be more typical of a bird than an ostrich or a penguin (Sassoon 2005). We could then try to extend such a prototypicality-based analysis to the other environments in which the modifiers appear. Such an analysis could be modeled along the lines of (35), following Morzycki’s (2012) analysis for the English modifier *real*, which he argues operates over scales of prototypicality, and also has a wide cross-categorical distribution. Following Morzycki, the function **prototype** maps a predicate P to its most prototypical exemplar, the context-sensitive function **similar** _{c} measures the degree of similarity between an individual x and the prototype of P , and the function **large** _{c} maps that degree of similarity to true so long as that degree counts as large enough in a context c .¹⁸

- (35) A prototype-based analysis for *-issimo* and *šému* (to be rejected):

$$[[\text{mod}]]^c = \lambda P \lambda x. P(x) \wedge \text{large}_c(\text{similar}_c(x, \text{prototype}(P)))$$

A welcome consequence of the analysis is that it does not require that *-issimo* and *šému* combine with predicates that encode a degree relation, which was a major reason for rejecting a degree-style analysis above.

While the idea of treating *-issimo* and *šému* as prototypicality modifiers seems plausible at first glance (especially considering data like (19)–(21) and (23) discussed in the previous section), we argue that it ultimately misses some crucial facts about the behavior of these modifiers, and must be rejected. In particular, we follow Kamp and Partee (1995) in maintaining that the notions of *typicality* and *membership* should be kept distinct, and argue that these modifiers are concerned with membership, rather than typicality. For instance, both a sparrow and an ostrich are full-fledged members of the category bird, even though the former is definitely more typical than the latter.

¹⁸We borrow Morzycki’s (2012) analysis for *real* simply for the purposes of providing a concrete illustration of what an analysis based on prototypes might look like. There are of course other technical means through which such an analysis could be achieved.

As we observe in (36), modifying *uccello* ‘bird’ with *-issimo* is somewhat degraded, even on the intended reading where we are trying to assert that the sparrow is a prototypical case of a bird.

- (36) ?? Il passero è un uccell-**issimo**.
 The sparrow is a bird-ISSIMO
 Intended: ‘The sparrow is a prototypical bird.’

The conversational use of *-issimo* can be licensed with *uccello* in a situation in which category membership is uncertain. However, as (37) shows, it is even licensed when speaking about ostriches, definitely not a prototypical instance of the category *bird*.

- (37) A: Lo struzzo non vola nemmeno. E’ veramente un uccello?
 an ostrich not fly even is really a bird?
 ‘An ostrich doesn’t even fly. Is it really a bird?’

- B: Un uccell-**issimo**!
 a bird-ISSIMO
 ‘It’s definitely a bird!’

Clearly, *-issimo* is obviously not picking out a prototypical example of bird. Rather, the suffix is reinforcing the idea that the expression *uccello* can be truthfully applied to ostriches, which is subject to doubt in the discourse.

A further, and perhaps even more telling example is offered below in (38). The example refers to Mario Balotelli, a world famous Italian soccer player born from Ghanaian parents, and therefore with black skin, which is obviously not prototypical of Italians.¹⁹

- (38) Mario Balotelli, l’italian-**issimo** calciatore nero
 Mario Balotelli, the.Italian-ISSIMO soccer.player black
 ‘Mario Balotelli, the absolutely Italian black soccer player’

In fact, since he started playing for the national team, many people have been calling into question his right to belong to the team, mostly on the basis of racist considerations (which we of course do not condone). It is clear from the example that *-issimo* here is not targeting a prototypicality ordering, but rather concerns the membership of Balotelli to the category *Italian*. Again, this use of *-issimo* is licensed because of the doubt surrounding whether Balotelli should be considered a member of the category to begin with.

An example from Washo that shows that category membership is at issue for *šému* is (39). The context makes clear that it is not the prototypical attributes of a chief that are under discussion, but rather the status of a particular individual as instantiating the category of tribal chief.

- (39) a. Context: The tribal chief has taken a leave of absence and John has been named the acting chief. Tim comes to Dresslerville and meets John, and thinks he’s the real chief.

¹⁹Source for (38): www.gazzetta.it, accessed April 24, 2013.

- b. Tim hádiǵi t'él:liwlu detúmu **šému** k'-á?-a? hámu-ya? ?išǵa
 Tim that man leader ŠÉMU 3-COP-AOR 3.think-AOR but.SR
 detúmu šému-yé:s k'-é?-i
 leader ŠÉMU-NEG 3-COP-IPFV
 'Tim thinks that man is the real chief, but he's not the real chief.'

Like in the Italian examples, this use of *šému* arises from uncertainty, or in this case the mis-identification, of an individual as instantiating a category. Thus both *-issimo* and *šému* target category membership rather than typicality.

A final argument against a prototype-based analysis for these modifiers comes from the observation that they are productive with predicates that do not have a clear prototype to begin with. For instance, gradable predicates like *tall* have been argued not to have denotations ordered according to typicality (Kamp and Partee 2005). Indeed, a person who is nine feet tall would license the use of these modifiers with the equivalents of *tall* in these languages, though such a person could not be considered a prototype of a tall person. Therefore, in order to maintain the claim that these modifiers return a prototypical instance of a predicate, it would be necessary to posit two different meanings for them, depending on whether the modified predicate can or cannot be ordered according to typicality. But then such a homophony analysis brings us back to a criticism that led us to reject the degree-based analysis as well.

In sum, while in some contexts *-issimo* and *šému* appear to be picking out a prototypical instance of the predicates they modify, the relevant notion targeted by these modifiers is in fact category membership. We maintain that the interpretations of these modifiers that apparently relate to prototypes comes from the fact that in many cases, membership and prototypicality overlap: the more prototypical an individual is, the more it represents a clear case as a member of that category (for categories that have prototypes to begin with).

4 The common semantic core of *-issimo* and *šému*

We have argued in the previous section that *-issimo* and *šému* should not be given an account in terms of a degree-boosting effect, or prototypicality. In this section we outline an analysis for the common semantic core of these modifiers, suggesting that both modifiers operate over the contextual parameters that affect the interpretation of the elements that they combine with. The basic idea can informally be stated as follows: the sorts of predicates that these modifiers combine with receive their interpretation in part based on parameters that can vary from context to context. We spell out the formalization of this idea in Sect. 4.1. Then in Sect. 4.2 we apply the analysis to the various environments where *-issimo* and *šému* are licensed, and show that this proposal can account for the wide distribution of these modifiers. We account for the differences between the two modifiers in Sect. 5.

4.1 Quantifying over contexts

The basic idea that we are pursuing is that *-issimo* and *šému* operate over the contextual parameter settings that affect the interpretation of the predicates they modify, and in particular universally quantify over them.

We implement our analysis in the following way: both *-issimo* and *šému* apply to a context-sensitive predicate P_c , and universally quantify over the contextual parameters that contribute to the interpretation of P_c . In the case of relative-standard gradable adjectives, the relevant contextual parameter is the relevant comparison class to derive the standard; in the case of absolute-standard and other precise predicates, the relevant parameter is the amount of “pragmatic slack” allowed by the context (Lasnik 1999).²⁰ We represent the context-sensitivity of the relevant predicates using the notation P_c , where c represents a free variable whose value must be fixed contextually.

We represent this idea formally by introducing c as a parameter on the interpretation function. Assuming that the interpretation of linguistic expressions is also relativized to (at least) a world w and an assignment function g , the template for deriving the meanings of context-sensitive predicates can be modeled as in (40).

$$(40) \quad \llbracket P_c \rrbracket^{w,g,c} = \lambda x. P(x) \text{ in } c$$

We propose that *-issimo* and *šému* universally quantify over possible values of c , and state that P_c must hold under all possible values of the contextual parameters. As such, an individual must count as instantiating P_c even under the most restrictive context, leading to the intensified interpretation. Specifically, P_c holds for all c' that bear a relation R to c . The relation R holds between c and c' if c' is just like c , except possibly for the values they assign to the relevant contextual parameter that affects the interpretation of P_c . Our unified semantic core for both *-issimo* and *šému* is modeled as in (41).²¹

$$(41) \quad \llbracket \text{mod} \rrbracket^{w,g,c} = \lambda P_c \lambda x. \forall c' [c R c' \rightarrow P(x) \text{ in } c']$$

We assume that R must be reflexive to ensure that $P_c(x)$ holds in the actual context as well (i.e., that x is tall is true in addition to x is tall-mod).

Our analysis involving universal quantification over contexts bears similarities to several proposals that have already been outlined in the literature to deal with similar phenomena. In the first place, it is quite similar in spirit to the analyses offered by Williamson (1999) and Barker (2002) for the English modifier *definitely*, and McNabb (2012a) for Hebrew *mamaš* ‘really’. For Williamson, *definitely* applies to a proposition (set of worlds), and returns a proposition that is true in all worlds accessible from the actual world, according to some accessibility relation R . We do not borrow this implementation wholesale for our analysis for three reasons. First, the morphosyntactic facts do not appear to support an analysis of *-issimo* and *šému* as a propositional modifier. Rather, in our analysis we would like to capture the fact that these elements modify and affect the interpretation of predicates.²² Second, we would like to keep world variables separate from contextual variables in the semantics of these predicates. We want to distinguish between modal verbs and propositional attitude verbs which bind world variables, and the modifiers we discuss here

²⁰We explain in more detail below how the proposed analysis applies to the different classes of predicates these modifiers apply to.

²¹Going forward, we will suppress w and g as parameters of the interpretation function when reference to them is not relevant.

²²Modulo cases like *nessunnissimo* ‘any-issimo’, discussed in Sect. 2.4.

which operate over contextual variables. While comparing the specific behaviors of world versus contextual variables is beyond the scope of this paper, we believe that examples such as (39) above, where *šému* occurs embedded under the verb *hamu* ‘think’, provides some initial evidence that world and contextual variables should be kept separate. Third, the definition of the accessibility relation *R* is left rather vague on Williamson’s account. Depending on the choice of *R*, though, the interpretation of *definitely* could vary wildly. For instance, if *R* is a doxastic accessibility relation, the interpretation of *definitely* ends up essentially being equivalent to that of *believe*, which seems too weak.²³

Barker gets around this problem by dispensing with the accessibility relation. He uses quantification over candidate worlds within a dynamic framework. In his approach, *John is definitely tall* is true in a world $c \in C$ (a member of the context set *C*) if John counts as tall in *c* and there is no other $c' \in C$ in which John’s height is the same but he does not count as tall *c'*. Similarly, McNabb (2012a) proposes that the Hebrew modifier *mamaš* ‘really’ applies to a property and states that the property holds of an individual in all relevant contexts of evaluation.²⁴ This is exactly the intuition we would like to capture for the semantic contribution of *-issimo* and *šému*. However, we would like our approach to be even more general than Barker’s, since he only considers *definitely* in contexts where it modifies gradable adjectives in English, and consequently his analysis is degree-based. However, even Barker’s analysis for English should be made more general, given that *definitely* regularly modifies other predicates as well (e.g. *It’s definitely raining*, *He is definitely a doctor/a champion/Italian*), which makes *definitely* look a lot like *-issimo* and *šému* with respect to cross-categorical modification.

Next, the general idea of quantifying over contexts bears similarities to supervaluationist theories of comparatives (e.g. Klein 1980; and more recently Doetjes et al. 2009; van Rooij 2011). Under such analyses, comparatives existentially quantify over the contextually-provided comparison classes that are used in the interpretation of relative gradable predicates. Specifically, the sentence *John is taller than Bill* is true only if there is a context in which the domain can be partitioned in such a way that John counts as tall in that context and Bill does not. Our approach is similar in that it involves quantification over contextual parameters such as comparison classes. However, what we propose is more general in the sense that comparison classes are not the only contextual parameters that may be targeted by *-issimo* and *šému*: these modifiers, we claim, can also target contextual levels of pragmatic slack that can be tolerated in the evaluation of non-vague predicates, for instance.

Finally, the current proposal resembles Burnett’s (2014) analysis of French *tout* ‘all’ in the attempt to give a unified core semantics to modifiers that produce superficially different effects. With respect to *tout*, Burnett observes that the modifier can either have a degree boosting effect or a precisification effect, depending on whether it combines with relative or absolute adjectives respectively. In order to capture both

²³We thank an anonymous reviewer for pointing out that an earlier implementation of our analysis that was more similar to Williamson’s in this respect also ran into this problem.

²⁴McNabb’s notion of ‘relevant’ contexts is left somewhat vague. We try to avoid this issue by specifying in more detail the characteristics of a relation *R* between contexts, but ultimately conclude that there must be some sort of contextual domain restriction present to rule out unwanted interpretations.

effects, she assigns *tout* a semantics in terms of slack regulation by adopting Cobreros et al.'s (2012) notion of tolerant truth: *tout* always forces a non-tolerant interpretation of the complement, which eliminates borderline cases from its extension. The two different effects emerge from the interaction between this semantics and the type of scale structure encoded by a predicate. Our proposal is similar in the sense that we also account for the apparently disparate semantic contributions in a unified way. However, the semantics that we assign to *-issimo* and *šému* is different from that assigned to *tout* by Burnett.

Before continuing, we want to briefly specify more about the sorts of things that our *c* affects in the interpretation of predicates, and those things that it does not. First, we want to keep *c* separate from the assignment function *g*, which assigns values to free variables such as pronouns. While we sometimes describe the contribution of *c* as assigning a value to a variable, the function of *c* is different from that of assignment functions as they are normally conceived. Rather, *c* affects the interpretation of predicates, which are constants in the model, as opposed to open variables such as pronouns. Likewise, our *c* does not affect the parameters related to context-sensitivity observed in indexical expressions, as in Schlenker (2003) and Anand and Nevins (2004). The parameter *c* as we conceive it here is only intended to apply to contextual parameters such as comparison classes and amount of precision tolerated, and only affects the interpretation of predicates that are subject to context-sensitivity along those parameters.

In what follows, we apply this analysis to the different classes of elements that *-issimo* and *šému* can modify. We show that this approach is general enough to capture the wide distribution of these modifiers, and their semantic effect with each type of predicate they apply to.

4.2 Applying the analysis

4.2.1 Degree-intensification effect

We start to apply the analysis from the occurrences of *-issimo* and *šému* with canonical relative standard gradable predicates such as *alto* 'tall' in (42) or *?ilkaykay-i* 'tall' in (43), where the modifiers generate a degree intensification effect.

- (42) Marco è alt-**issimo**.
 Marco is tall-ISSIMO
 'Marco is very/extremely tall.'
- (43) mé:hu ?il-káykay-i?-i
 boy ATTR-tall-ATTR-IPFV
 'The boy is tall.'

The interpretation of relative gradable adjectives depends on a contextually determined standard of comparison, which establishes the degree that must be exceeded by the gradable predicate to count as true. This contextually-determined value depends on the individuals with whom it is being implicitly compared to (i.e., the *comparison class*, see Klein 1980 and Kennedy 2007 among others). On the degree-based analysis of Kennedy and McNally (2005) and Kennedy (2007), the standard value *s* is

contributed by the null positive morpheme POS, as in (44). In (44b), s is the standard relative to a context c containing a comparison class.

- (44) a. $\llbracket \text{POS} \rrbracket^c = \lambda G_{\langle d, \langle e, t \rangle \rangle} \lambda x. \exists d[(G(d)(x) \wedge d > s \text{ in } c)]$
 b. $\llbracket \text{POS}(\text{alto}) \rrbracket^c = \lambda x. \exists d[\text{tall}(d)(x) \wedge d > s \text{ in } c]$

As for Washo, which by hypothesis does not introduce degree variables, gradable predicates are lexicalized directly as vague predicates, with no recourse to POS necessary (Bochnak 2013a,b). Thus, *?ilkaykay?* ‘tall’ can be rendered as in (45), where a contextual parameter c is a free variable whose value is related to the relevant comparison class in c .

- (45) $\llbracket ?ilkaykay? \rrbracket^c = \lambda x. x \text{ counts as tall in } c$

The modifiers *-issimo* and *šému* apply to the $\langle e, t \rangle$ predicates in (44b) and (45), respectively, and universally quantify over possible assignments of the standard values. The use of these modifiers require that an individual x count as tall under any assignment of the contextual parameter, as shown in (46).^{25,26}

- (46) $\llbracket \text{mod tall}_c \rrbracket^c(x) = 1 \text{ iff } \forall c' [c R c' \rightarrow \text{tall}(x) \text{ in } c']$

For example, if *altissimo* is true of Marco, then Marco must count as tall not only in the actual context of utterance c (e.g. a comparison class of adult males), but under all other contexts c' containing comparison classes that may introduce higher standards (e.g. a comparison class of professional basketball players). It can therefore be inferred that Marco must be well above the cut-off for counting as tall in the actual context c , since he must count as tall under even the strictest contexts c' .

4.2.2 Slack regulation effect

Another common effect achieved by these modifiers is one of precisification, as exemplified by the cases in (47)–(48).

- (47) a. Il serbatoio è pien-**issimo**.
 The tank is full-**ISSIMO**
 ‘The tank is completely/perfectly full.’
 b. Maria è l’ultim-**issima** ragazza avuta da Gianni prima che morisse.
 Maria is the.last-**ISSIMO** girlfriend had by Gianni before he died.
 ‘Maria is the very last girlfriend that Gianni had before he died.’
 (48) a. má?ak ?il-ší:šib-i? šému-yi
 wood ATTR-straight-ATTR ŠÉMU-IPFV
 ‘The stick is really straight.’

²⁵Some sort of domain restriction on possible contexts is necessary to prevent unwanted effects, e.g., admitting comparison classes that the individual x could not conceivably be a part of. We set aside how exactly this should be done for further research.

²⁶In (46), we intend for tall to stand in for *alto* in Italian or *?ilkaykay?* in Washo, where c stands in for the relevant contextual value that varies across contexts.

- b. dubáldi? **šému** hé:s ?í?w-i
 five ŠÉMU Q 3.eat-IPFV
 ‘Did he eat exactly five (apples)?’

As observed by Lasersohn (1999) and Kennedy and McNally (2005), such predicates are often subject to imprecision. That is, a glass may not be full to the brim to be considered full in most contexts. The level of imprecision tolerated, however, is context-dependent. Lasersohn terms this effect as *pragmatic slack* and treats certain elements like *exactly* as *pragmatic slack regulators*. That is, there are certain linguistic expressions whose function is to affect the level of precision tolerated in a context. He models this formally in terms of pragmatic halos. The pragmatic halo of an expression α is a set of objects of the same type as α 's denotation, which differ in ways that are pragmatically ignorable. The size of the halo may vary from context to context, and depending on the pragmatic needs of the situation, we may be in a context where more or less precision is necessary. The halo of α is thus rendered as $H_c(\alpha)$, where the value of c would be assigned a value from the assignment function h .²⁷

We argue the parameter determining the amount of imprecision in each context is determined via the same contextual parameter that determined the standard of comparison of relative gradable predicates. Just as the contextual parameter c affected the choice of comparison class with predicates that required one, it can also fix the level of precision relative to which a predicate can be interpreted. By universally quantifying over all the possible contextual values that can be associated with the halo of a predicate, *-issimo* and *šému* ensure that the property holds true for every value of precision according to which it is interpreted.

Let us first consider the case of maximum-standard predicates like *pieno* ‘full’ or *?ilši:šibi?* ‘straight’. The standards for these predicates are not context-dependent, and so *-issimo* and *šému* do not target an open contextual variable here. Rather, what is affected is the amount of imprecision tolerated. As we said above, this can be modeled under a Lasersohn-style analysis whereby a free variable that determines the amount of precision tolerated in a context c . The predicate must be true of an individual x under any assignment of the contextual parameter, even the strictest ones where we are required to be as precise as possible. This means that even the highest standard of precision must be met, leading to the precisification effect of *-issimo* and *šému* with imprecise predicates.

$$(49) \quad \llbracket -issimo(pieno_c)(serbatoio) \rrbracket^c = 1 \text{ iff } \forall c' [cRc' \rightarrow \text{full}(t) \text{ in } c']$$

For this analysis of these predicates to go through, we must say that the interpretation of predicates subject to imprecision are context-sensitive, rather than having strict truth conditions that can pragmatically be subject to imprecision along the lines of Lasersohn (1999) or Kennedy and McNally (2005). We suggest that this can be achieved by hard-wiring in the semantics of pragmatic halos directly into the semantics of these predicates, though we do not formalize this here.

²⁷ An alternative formalization of pragmatic slack is offered by Morzycki (2011), who translates halos in terms of degrees of precision. In his analysis, the interpretation of an expression α is relativized to a contextually determined degree of precision d ranging between 0 (lowest degree) to 1 (highest degree, no slack tolerated). The value of d must be contextually supplied, depending on how much pragmatic slack is tolerated in a particular context. Under our analysis, this value would be determined by h .

In the case of *ultimissima* in (47b), *-issimo* requires that Maria must count as Gianni's last girlfriend under every value of precision relative to which the predicate is interpreted. This means that she counts as last even under the maximum standard of precision, which does not allow for any deviation from the truth conditions. Hence, the intuition that the suffix is “reinforcing” the truth conditions, excluding the tolerant interpretations and forcing a strict one.

Such an approach is also able to account for the effect with numerals in Washo as in (48b), or with n-words in Italian like *nessuno* ‘any’, reported in Sect. 2. Intuitively, a contextually determined parameter of precision in the interpretation of numerals or *nessuna* is also what is being manipulated here. There is a possible compositional difficulty since it is not clear that either numerals or n-words have a semantic type $\langle e, t \rangle$, which is required for the first argument of the modifiers. What is needed to get the semantics to work in this case is a type-shifting rule that could convert these expressions into expressions of type $\langle e, t \rangle$, which can then be used as the first argument of the modifiers. Alternatively, we may need to invoke a type-flexible approach that would allow numerals and quantifiers to act as the first argument of the modifiers. Furthermore, we are also forced to say that numerals, at least in Washo, are context-sensitive just like other imprecise predicates (i.e., *dubaldi?* in Washo literally means ‘approximately 5’, where the level of precision is determined by context). While we cannot provide a full account for reason of space, we do not have any preference for either solution, and think that either one can be adopted here.

Finally, a further environment in which *-issimo* and *šému* can be found is as modifiers of nouns, although the productivity of *-issimo* with these expressions is subject to a great deal of variability. An intuitive, yet largely approximate characterization is that in its most productive nominal usages the modifiers pick out a “clear case” of the sort of thing named by the noun. As we observed in Sect. 3.2, such clear cases of nouns often coincide with a prototype of that noun. We repeat a couple of relevant examples in (50)–(51).

- (50) Michael Jordan è un campion-**issimo**.
Michael Jordan is a champion-ISSIMO
‘Michael Jordan is the champion of champions/a real champion.’
- (51) t'é:liwlu dókto **šému** k'-é?-i
man doctor ŠÉMU 3-COP-IPFV
‘The man is a real doctor.’

We account for this effect by suggesting that such nouns are also interpreted according to a contextual parameter, which affects which individuals fall under their extensions in a particular context. For example, someone with a PhD may be considered a doctor in one context, but not in another. In a certain sense, the effect is similar to that observed with precise predicates: more or fewer individuals may count as instantiating the relevant property or not, depending on the value of a contextual parameter that affects the interpretation of these expressions. As before, the value of the contextual parameter is fixed by c . The use of the modifiers requires an individual x to count as, say, a doctor or champion under every value of the contextual parameter. Thus, only the clearest cases of individuals instantiating those nouns will

do, leaving us with the set of real champions or real doctors, and excluding more marginal cases. In many cases, the most typical members of a category will be the ones that count as instantiating that category in all contexts, leading to the apparent prototypicality effects.

$$(52) \quad \llbracket \text{-issimo}(\text{campione}_c)(MJ) \rrbracket^c = 1 \text{ iff } \forall c' [cRc' \rightarrow \text{champion}(mj) \text{ in } c']$$

Note that the mechanism through which this effect is achieved is exactly the same that allowed to account for the intensification effect described above. The only difference is what gets manipulated by the context: standards of comparison with relative standard adjectives, values of precision with maximum standard adjectives and other non-gradable predicates.

4.2.3 Context-licensed usages

Finally, we observed that *-issimo* and *šému* can be licensed in specific discourse configurations. The peculiarity of these occurrences is that the modifier is not systematically productive with the predicate that is hosting it. Rather, its felicity seems to be strictly dependent on the specific context in which it is found. We have seen two main examples of such context-licensed usages. The first one is the usage of *-issimo* with nouns that do not give rise to borderline cases, such as (24) (reproduced below in (53)). As it can be recalled from Sect. 2.3, this sentence was the caption of a Facebook picture where an angler was proudly showing his catch of the day. The suffix here is suggesting that the referent of the noun is outstanding according to some contextually inferable dimension. Without seeing the picture and the situation, several native speakers of Italian that we informally consulted questioned the used of *-issimo* with a noun of this kind.

- (53) lampugh-**issima** in Alto Adriatico
 dorado-**ISSIMO** in upper Adriatic
 ‘{outstanding/huge/spectacular} exemplar of dorado-fish caught in the northern Adriatic Sea’

The second one is the usage of *-issimo* in a context that induces some sort of uncertainty or disagreement as to whether the property holds. For instance, combining *-issimo* with a predicate like *primo* ‘prime’ would not normally be felicitous. However, it becomes acceptable within question/answer pairs or elaborations of previous statements (see (31) in Sect. 2.5, reproduced below as (54)). We similarly observed this with both *-issimo* and *šému* when they modify non-gradable predicates like *morto* and *deyuli?* ‘dead’ in (32)–(33).

- (54) a. A: 7 è un numero primo?
 7 is a number prime
 ‘Is 7 a prime number?’
 B: Prim-**issimo**! / ??Molto primo!
 prime-**ISSIMO** / very prime
 ‘Absolutely prime!’

- b. A: 7 non è un numero primo.
 7 not is a number prime
 '7 is not a prime number.'
- B: Ma no! E' prim-**issimo**! / ??E' molto primo!
 but no is prime-**ISSIMO** / Is very prime
 'No! It's absolutely prime!'

We suggest that these discourse configurations externally coerce a contextual parameter, even if the predicate does not normally have one in its interpretation: in these special contexts, the extension of the predicate becomes context-sensitive, and therefore can be fixed by modifiers such as *-issimo* and *şému* with no effect of redundancy.

The case of *primo* 'prime' illustrates this nicely with a context of uncertainty. When the adjective is used out of the blue, its interpretation does not contain any contextual parameter, and universal quantification yields a trivial result: whatever the value for *c*, 7 will always be a prime number, rendering the suffix redundant. However, the uncertainty induced by a question or a rebuttal takes away this clear-cut boundary between the extensions of *P* and $\neg P$. Note that the boundary between *prime* and *not prime* does *not* become blurry per se. Rather, what creates room for variability is the fact that the speakers in the context cannot come to an agreement as to where such boundary lies, creating the pragmatic conditions to specify that a certain individual (number 7 here) is indisputably a member of the extension of the property. In this way, the intensification effect is no longer redundant, and the suffix becomes felicitous.²⁸

By the same token, the use of *-issimo* with nouns that do not normally give rise to any form of contextual variability (such as *lampuga*) can also be analyzed in terms of a context-induced coercion of a contextual parameter in the meaning of the predicate. In this case, however, what triggers it is not uncertainty, but rather the speaker himself, who introduces a new, more restricted partitioning of the extension on the fly. While under normal circumstances the extension of *lampuga* is fixed (presumably, by a set of clearcut biological criteria), in the new one it only includes a subset of the original extension. Crucially, the sense in which the new partitioning is different from the original one must be retrievable from the context. In the case of (53), the picture shows a rather massive exemplar of the fish, which leads to the inference that only dorado fish over a certain size can be considered members of the new extension. What *-issimo* does is ensure that the individual in the picture is part of the extension under either partitioning, generating the well known intensification effect. Instead, whenever the context does not provide enough clues, as in any out of the blue usage, coercion will fail to yield an interpretable result, and the use of the modifier will be uninterpretable. This sort of context-dependence explains why the acceptability of the modifiers with nouns such as *lampuga* is contingent on having an appropriate scenario, while the (presumably high) cognitive effort required by computing the new extension explains why there is a considerable amount of inter-speaker variation.

²⁸We observe similarities between this case and the use of "do support" in English as a verum focus operator, investigated by Höhle (1992) and Gutzmann and Castroviejo (2011). We leave a more thorough comparison to verum focus and *-issimo* and *şému* to future work.

Finally, note that, in spite of the apparent similarities, this kind of coercion of the predicate (from context-invariant to context-variable) is different from coercion of non-gradable predicates into gradable ones. In both the environments of (53) and (54) degree morphology—e.g. degree adverbs like *molto*—would *not* be able to achieve the same effect as *-issimo*. In fact they would not be felicitous at all, regardless of how good the context is for *-issimo*. This constitutes further evidence of the fact that the suffix is not manipulating degrees, but contexts. If anything, the coercion involving gradability and coercion involving context sensitivity can be seen as parallel processes, which can both add arguments (degrees and contextual parameters, respectively) that are not inherently supplied by the predicate.

5 Teasing apart *-issimo* and *šemu*

We have thus far provided a unified analysis for *-issimo* and *šemu* for what we consider to be the common core meaning that is shared by these two modifiers. However, they differ in two important ways. First, *-issimo* has a more ‘extreme’ intensification flavor compared to *šemu*. Second, *šemu* has a somewhat wider distribution than *-issimo*, the former able to modify verbs and numerals while the latter unable to do so. In this section, we account for each of these differences in turn. To account for the first difference, we propose that *-issimo* comes equipped with an expressive component that contributes the extreme nature of the modifier. To account for the second difference, we claim that the two modifiers have different syntactic selectional restrictions.

5.1 The expressive dimension of *-issimo*

A shared intuition is that *-issimo* is more than simply an intensifier. First, besides modifying the host predicate, it also conveys emphasis or strong emotion on the part of the speaker, which has been characterized by Wierzbicka (1991) as “a self evident exaggeration” (p. 271), or “affection or unconditional commitment towards the truthfulness of the statement on the part of the speaker” according to Rainer (2003, p. 134). Second, it is generally perceived as encoding an “extremeness” flavor, making its semantic contribution stronger than that of *molto* and other intensifiers. Unsurprisingly, prescriptive and descriptive grammars alike describe it as an “elative” (Dressler and Merlini Barbaresi 1994) or as an “absolute superlative” (Rainer 2003; Gaeta 2003). From a semantic perspective, however, such definition is clearly inaccurate, even though *-issimo* did have a pure superlative function in Classical Latin, which then got lost in the transition to Italian (Tekavcic 1972 among others). First, no superlative would be possible in the presence of non-gradable predicates. Second, even among gradable predicates, it is perfectly possible to think of an *altissimo* man, and at the same time concede that there exist taller men than him, as the absence of contradiction in (55) shows:

- (55) Marco è **alt-issimo**, ma Giovanni è ancora più alto di lui.
 Marco is tall-**ISSIMO**, but Giovanni is even more tall than him.
 ‘Marco is extremely tall, but Giovanni is even taller than him.’

We suggest that the extremeness flavor is not encoded in the asserted content of the modifier, but rather operates on an expressive dimension of meaning, in the sense of Potts (2005).

5.1.1 *The expressive component: an informal overview*

While we basically concur with the intuitions put forward in the past literature, we would like to observe that the nature of this contribution bears significant resemblance to the expressive component of exclamative sentences.²⁹ Potts and Schwarz (2008) and Chernilovskaya et al. (2012), in particular, suggest that exclamatives index a “heightened emotional status” on the part of the speaker: the speaker has some attitude towards the content of the utterance (e.g., surprise, amazement, awe), but the nature of such attitude is too generic to be further specified. In a similar way, the expressive part of *-issimo* seems to be hard to pin down in a precise way, as the very nature of the associated feeling varies from context to context. We therefore opt to simply treat this contribution as generic *emotional involvement* of the speaker.

In particular, we suggest that *-issimo* conveys that the speaker is in a state of maximal, unbeatable emotional involvement about the fact that an individual *x* has property *P*. In a sense, it is as if *-issimo* represents an emotional ceiling effect for the speaker,³⁰ beyond which any difference in the descriptive content is indifferent to the expressive one. As such, the superlative flavor exclusively pertains to the affective content. While a particular individual may not be the tallest in the context, taller individuals would not trigger any higher emotional involvement. Informally, the two-fold contribution of the suffix is summarized in (56).

- (56) Marco e' alt-**issimo**.
 Marco is tall-**ISSIMO**.
 DESCRIPTIVE CONTENT: ‘Marco counts as tall in every context.’ (see Sect. 4)
 EXPRESSIVE CONTENT: ‘The speaker could not be more excited/amazed/surprised that Marco is tall.’

Before proposing a formal characterization of this contribution, we first show that this aspect of the meaning of *-issimo* is expressive in the sense of Potts (2005). In particular, we analyze *-issimo* as a *mixed expressive* (McCready 2010; Gutzmann 2011), which contributes both descriptive and expressive content simultaneously.

5.1.2 *-issimo as a mixed expressive*

While the idea that certain expressions specifically convey attitude, emotions and evaluations on the part of the speaker has been around for several decades, only in recent years expressive meaning has received a significant amount of attention in formal semantics (Potts 2005, 2007; McCready 2010; Gutzmann 2011, among others). Potts (2005) provides the first attempt for a formalization of this class of meaning,

²⁹This parallel is only relative to the expressive component. In terms of their propositional contribution, in fact, exclamatives and *-issimo* exhibit a significantly different behavior (see Sect. 1).

³⁰We thank Galit Sassoon for suggesting this expression.

outlining several properties that distinguish it from propositional ones. In this section we apply several of his tests to show that the emphatic contribution of *-issimo* actually qualifies as expressive meaning.

First of all, the expressive contribution of *-issimo* cannot be targeted by logical operators. For instance, it cannot be negated, as the example below shows. By contrast, the descriptive part can be targeted by negation.

- (57) a. Marco non è alt-**issimo**. #E'
 Marco is not tall-**issimo** he.is
 {davvero/incredibilmente/estremamente} alto, ma non mi fa
 {really/incredibly/extremely} tall, but not me it.makes
 sentire nulla.
 feel anything
 'Marco is not tall-**ISSIMO**. He's {really/incredibly/extremely} tall, but I
 don't feel anything about this'.

INTENDED: EXPRESSIVE CONTENT NEGATED

- b. Marco non è alt-**issimo**. E' (abbastanza) alto, ma nulla più.
 Marco not is tall-**issimo**. He's (quite) tall, but nothing more
 'Marco is not tall-**ISSIMO**. He's (quite) tall, but nothing more.'

ASSERTED CONTENT NEGATED

At the same time, it must be noted that the affective part cannot survive negation. If the predicate to which *-issimo* attaches is negated, the expressive component is also suppressed. While failure to project through negation is unexpected for a pure expressive, we derive it from the hybrid nature of the suffix in Sect. 5.1.3, suggesting that the expressive part of the *-issimo* is factive, as it presupposes that the descriptive content also holds.³¹

- (58) Marco non è alt-**issimo**. #Sono così eccitato!
 Marco not is tall-**issimo**. I'm so excited
 'Marco is not tall-**ISSIMO**. I'm so excited!

EXPRESSIVE CONTENT DOES NOT SURVIVE NEGATION

The second expressive-like property of this component of *-issimo* is that it is nondisplaceable. According to Potts, it is impossible for expressives to be predicated

³¹ Note that this behavior with respect to negation is not isolated, as it is commonly found among evaluative suffixes, which are also normally analyzed as mixed modifiers. In Italian, the suffix *-ino* conveys that the referent is small at a descriptive level, and that the speaker feels some positive affection towards the referent at the expressive level. Whenever the host+suffix are under negation, both the descriptive and the expressive part are suppressed. Steriopo (2008) provides similar examples from Russian.

- (1) a. Quello è un topol-**ino**!
 That is a mouse-**INO**.
 'That is a small mouse (descriptive). + I feel some affection for it (affective).'
- b. Quello non è un topol-**ino**!
 That not is a mouse-**INO**.
 'That is not a small mouse (descriptive).' (affective content suppressed)

in a time interval other than the context of utterance, as the example below with *ouch* shows (Potts 2007).

(59) #Ouch, last night, over in the kitchen!

The heightened emotional status conveyed by *-issimo* behaves similarly in this respect, as it is always tied to the time of utterance. Suppressing the presence of the emotional component at the time of utterance is odd, even when the descriptive part is displaced in the past. By contrast, the descriptive part of *-issimo* is perfectly displaceable in time with no contradictory effect.

- (60) a. Marco tra dieci anni sarà alt-**issimo**. Mi batte già il
Marco in ten years will.be tall-ISSIMO. To.me it.beats already the
cuore a pensarci.
heart to think.about.it
'Marco in ten years will be tall-ISSIMO. My heart is already pounding
when thinking about it.' EXPRESSIVE CONTENT NOT DISPLACED
- b. Marco tra dieci anni sarà alt-**issimo**. #Adesso però non provo
Marco in ten years will.be tall-ISSIMO. Now however not I.feel
niente.
anything
'Marco in ten years will be tall-ISSIMO. Now, however, I don't feel any-
thing about it.' INTENDED: EXPRESSIVE CONTENT DISPLACED
- c. Marco tra dieci anni sarà alt-**issimo**. Adesso però è ancora
Marco in ten years will.be tall-ISSIMO. Now however he's still
basso.
short.
'Marco in ten years will be tall-ISSIMO. Now, however, he's still short.'
DESCRIPTIVE CONTENT DISPLACED

Third, the expressive component has a performative flavor. As a consequence, whenever the descriptive part applies, the expressive one cannot be canceled, contrary to an implicature (Potts 2007).

- (61) La casa è bell-**issima!**, #ma non sono così eccitato.
the house is beautiful-ISSIMO but not I.am so excited
The house is beautiful-ISSIMA, but I'm not so excited about it!
INTENDED: EXPRESSED CONTENT CANCELED

Finally, as we have already indicated, the expressive component of *-issimo* displays a significant amount of descriptive ineffability, which, according to Potts, is another distinctive feature of expressive meaning. Labels such as "emphasis" or "heightened emotional status," which we will end up using in our analysis, are at best an approximation of what the suffix is actually conveying at the expressive level.

5.1.3 Modeling the expressive component of *-issimo*

Having established that *-issimo* also makes a contribution at the expressive dimension, we are now in a position to provide a final lexical entry for the suffix as a mixed expressive. Whereas Potts (2005) has claimed that there are no natural language expressions that contribute both to the expressive and descriptive dimensions (and consequently, his compositional system reflects this fact), recent research has revealed that mixed expressives do in fact exist, and in particular expressive modifiers tend to be mixed expressives across languages (Gutzmann 2011; McCready 2010; Sawada 2009).

We analyze the expressive content of *-issimo* by defining two new functions. The first one is a function **speaker.involvement** (abbreviated as **SI**), which is a measure function from propositions to degrees of the speaker's emotional involvement in that proposition. The second one is a context-sensitive function **extreme_c** (abbreviated as **EX**), which is true of a degree if it counts as extremely high in a context *c*.³²

A pre-condition to the expressive component is that *-issimo* must first apply to *P* at the descriptive level, in order to capture the fact that this part of the meaning also does not survive under negation. While this interdependence between the descriptive and expressive dimensions is usually not expected for expressives, we argue that in this case it arises because of the factive nature of the **SI** function.³³ As a consequence, whenever the descriptive content is denied, the expressive component is also suppressed, even though it cannot be directly targeted by negation.

The final ingredient of the expressive meaning involves introducing a new semantic type *u* for “use conditional meaning,” following Gutzmann (2012). This type, as opposed to the traditional descriptive type *t*, refers to propositions that have *use conditions*, as opposed to truth conditions. In this case, the superlative emotional state associated with the suffix is a proposition of type *u*. If *-issimo* is used by a speaker that is not experiencing any emotion, the proposition does not become false, but rather insincere, and therefore infelicitous.

We model the expressive component of the suffix as in (62), where the suffix takes a property of type $\langle e, t \rangle$ as input and returns a function of type $\langle e, u \rangle$ from individuals to a use-conditional meaning (we use subscripts *ex* and *des* to distinguish the expressive and descriptive components of *-issimo*).

$$(62) \quad \llbracket -issimo_{ex} \rrbracket = \lambda P \lambda x. (\llbracket -issimo_{des} \rrbracket(P))(x) = 1 \rightarrow \mathbf{EX}(\mathbf{SI}(P(x)))$$

To combine the descriptive and expressive components of the meaning, we follow the compositional system and notation developed by Gutzmann (2011) and McCready (2010), which is an extension of Potts's (2005) multidimensional logic for conventional implicatures. A schematic version of a sample parse tree under this system is given in (63), whereby the descriptive component α and the expressive component β constitute two different parts of the denotation, separated by the diamond sign \diamond . These two parts simultaneously combine with the same descriptive input γ ,

³²Note that this function is context-sensitive in the exact same way, i.e., relativized to the parameter *c*, as other context-sensitive predicates that *-issimo* and *ému* can apply to.

³³In this respect, **SI** is similar to emotive factive predicates like *regret*, or *be excited*.

but yield two different outputs, one on the descriptive dimension and one on the expressive dimension. The bullet \bullet notation is used to show that these two parts are kept separate during the subsequent composition. In this system, σ and τ are descriptive types, and ν is a pure expressive type, meaning that $\langle \sigma, \nu \rangle$ is a mixed type (see Gutzmann 2011, 2012, for further formal details of this system).

$$(63) \quad \begin{array}{c} \alpha(\gamma) : \tau \\ \bullet \\ \beta(\gamma) : \nu \\ \swarrow \quad \searrow \\ \alpha : \langle \sigma, \tau \rangle \diamond \beta : \langle \sigma, \nu \rangle \quad \gamma : \sigma \end{array}$$

Following this model, our final denotation for *-issimo* is given in (64). The composition of the sentence *Marco è altissimo* ‘Marco is tall-issimo’ is given in (65).³⁴

$$(64) \quad \begin{aligned} \llbracket -issimo \rrbracket^c &= \lambda P_c \lambda x. \forall c' [c R c' \rightarrow P(x) \text{ in } c'] : \langle \langle e, t \rangle, \langle e, t \rangle \rangle \diamond \\ &\quad \lambda P_c \lambda x. (\llbracket -issimo_{des} \rrbracket(P_c))(x) \\ &= 1 \rightarrow \mathbf{EX}(\mathbf{SI}(P(x))) : \langle \langle e, t \rangle, \langle e, u \rangle \rangle \end{aligned}$$

$$(65) \quad \begin{array}{c} \forall c' [c R c' \rightarrow \mathbf{tall}(m) \text{ in } c'] : \langle t \rangle \\ \bullet \\ \llbracket issimo_{des} \rrbracket(alto_c)(m) = 1 \rightarrow \mathbf{EX}(\mathbf{SI}(alto(m))) : \langle u \rangle \\ \swarrow \quad \searrow \\ \lambda x. \forall c' [c R c' \rightarrow \mathbf{tall}(x) \text{ in } c'] : \langle e, t \rangle \quad \text{Marco} : \langle e \rangle \\ \bullet \\ \lambda x. \llbracket -issimo_{des} \rrbracket(alto_c)(x) = 1 \rightarrow \mathbf{EX}(\mathbf{SI}(alto(x))) : \langle e, u \rangle \\ \swarrow \quad \searrow \\ -issimo \quad \text{POS}(alto_c) : \langle e, t \rangle \\ \quad \quad \quad \text{(cf. (44b))} \\ \lambda P_c \lambda x. \forall c' [c R c' \rightarrow P(x) \text{ in } c'] : \langle \langle e, t \rangle, \langle e, t \rangle \rangle \diamond \\ \lambda P \lambda x. \llbracket -issimo_{des} \rrbracket(P)(x) = 1 \rightarrow \mathbf{EX}(\mathbf{SI}(P(x))) : \langle \langle e, t \rangle, \langle e, u \rangle \rangle \end{array}$$

By encoding the notion of extreme speaker involvement of *-issimo* at the expressive level, we can now account for the fact that *-issimo* encodes an extremeness flavor, even though its descriptive truth conditions bear no trace of it. The suffix’s asserted component merely brings about a more general intensifying effect, just like *šému*; where the two modifiers differ in their interpretation is at the expressive level. Note that the nexus between extremeness and expressive meaning has already been noted elsewhere. Potts and Schwarz (2008), for example, analyze online reviews of books and hotels and observe that exclamatives tend to strongly correlate with ratings situated at the extreme of a scale. In addition, Constantinescu (2011) points out that expressive modifiers such as *awfully* in *awfully messy* often generate the inference that the predicate that they modify holds to an extreme degree, even though they are

³⁴Going forward, we suppress reference to w and g to simplify the notation.

not actually performing any direct manipulation over the degree variables introduced by such predicates. Finally, we would like to point out that the idea that the superlative meaning has shifted into the expressive level is not merely stipulative, but rather represents an empirically sound scenario from a diachronic perspective: the suffix indeed started out as a regular superlative in Latin, but it slowly lost this function at the descriptive level, pushing towards other layers of the meaning. At the same time, the superlative meaning becomes generalized as extreme value. Similar diachronic trajectories with other expressions are widely attested cross-linguistically, both for intensifiers and other linguistic expressions (Sawada 2009; Gutzmann 2013).

5.2 Distributional differences between *-issimo* and *šému*

Having provided an explanation for the first difference between *-issimo* and *šému*, we now turn to the second main difference: the distribution of the modifiers. Recall that while both *-issimo* and *šému* can both modify gradable predicates of all scale types, as well as nominal predicates, *šému* can also modify verbs more generally (recall (17) and (18)) and numerals (recall (28)), whereas *-issimo* does not occur in these environments.

We propose that these differences are essentially syntactic in nature: the two modifiers have different selectional restrictions. While *-issimo* only selects for adjectives and nouns, *šému* also selects for verbs and numerals. That *šému* can apply more generally to verbs is perhaps not so surprising, given that Washo has no independent syntactic category of adjectives; gradable concepts are lexicalized as verbs in this language. It therefore must already be part of the lexical entry of *šému* that it can syntactically select for verbs. And since the semantics of the modifier is general enough to apply to any context-sensitive predicate, it follows that any verb that has a contextual component that can be supplied by the assignment function can be modified by *šému*. Meanwhile, *-issimo* has slightly different selectional restrictions: it is specified to select only for adjectives and nouns. In Italian, adjectives form a different syntactic class from verbs, and so the selectional restrictions can make reference to these different categories, unlike in Washo. Thus, the fact that *-issimo* cannot apply to verbs is a purely syntactic fact, and is not due to a difference in the semantics between *-issimo* and *šému*.

We can explain the difference between the two modifiers with respect to their (non-)combination with numerals in a similar way. While the selectional restrictions for *šému* allow it to combine with numerals, those for *-issimo* are more restrictive and do not allow such combinations. Alternatively, we could view this difference as one of lexical competition, along the lines of an Elsewhere condition as in Kiparsky (1973). Italian has a more specific modifier *esattamente* ‘exactly’, which can combine with numerals to achieve the precisification effect (recall (29)). The meaning we have given for *-issimo*, however, is much more general, and allows for precisification and intensification more generally across categories. Thus, the application of *-issimo* is blocked by the availability of a more specific lexical item, *esattamente*, which can apply to numerals. Washo, meanwhile, has no other modifier that is more specific than *šému* and that can apply to numerals as a precisifier. Thus, the lexical competition that exists in Italian between *-issimo* and *esattamente* is absent in Washo, and we find that *šému* can apply to numerals as well.

In sum, we do not believe that the distributional differences between *-issimo* and *šému* are semantic in nature. Rather, they are due to different selectional restrictions on these modifiers, or in the case of numerals to blocking effects from lexical competition.

6 Conclusion

We have shown that the modifiers *-issimo* and *šému* have a wider distribution than other examples of intensification found in the literature, such as English *very*, cases of intensification of gradable nouns such as *big idiot*, and exclamatives, which have all been recently analyzed as boosting a degree argument associated with a grammatically gradable lexical item. We therefore argue that *-issimo* and *šému* represent cases of *pragmatic* intensification, as opposed to *grammatical* intensification. Whereas grammatical intensification targets specific degree scales lexicalized in gradable expressions, pragmatic intensification is more general and targets a contextual variable implicated in the interpretation of some expression, whether or not that expression is grammatically gradable (i.e., introduces a degree variable). Consequently, the distribution of pragmatic intensifiers like *-issimo* and *šému* is much wider than that of grammatical intensifiers such as *very*.

Our particular analysis for *-issimo* and *šému* invoked universal quantification over possible values of a contextual parameter associated with the interpretation of the modified expressions. Whether this analysis can be used to capture other pragmatic intensifiers cross-linguistically (perhaps, for example, English *really*) remains to be seen. We believe that it is likely to turn out that such intensifiers do not form a homogeneous class, and we hope that future research will uncover other intensifiers across languages that can receive an analysis along the lines we propose for *-issimo* and *šému*, or which achieve pragmatic intensification through some other means. At the very least, the data in this paper make a contribution to the growing body of literature that is dedicated to uncovering the diversity of intensifiers in natural language.

Acknowledgements We would like to thank audiences at the workshop “Modification (with & without modifiers)—MDF2011” in Madrid, Semantics of Underrepresented Languages of the Americas 6 in Manchester, and Illinois Language and Linguistics Society 4 for feedback on various versions of this work. We are particularly grateful for helpful discussion and comments from Heather Burnett, Itamar Francez, Daniel Gutzmann, Vera Hohaus, Stefan Hofstetter, Chris Kennedy, Peter Klecha, Yaron McNabb, Maria Napoli, Malvina Nissim and Galit Sassoon. Comments from three anonymous reviewers also greatly improved this paper, especially in terms of organization and argumentation. Ryan Bochnak would like to thank Washo elders Ramona Dick and Steven James for their patience and help with the Washo language. Bochnak’s fieldwork was supported by grants from the Jacobs Fund of the Whatcom Museum, the American Philosophical Society, and the National Science Foundation under grant #1155196. We also thank Elena Castroviejo and Berit Gehrke for organizing, editing, and including us in this special issue. All errors and oversights are our own responsibility.

References

- Anand, Pranav, and Andrew Nevins. 2004. Shifty indexicals in changing contexts. In *Semantics and Linguistic Theory (SALT) 14*, ed. Robert Young, 20–37. Ithaca: CLC Publications.

- Anderson, Curt. 2013. Gradability in the absence of degree scales. Talk presented at *Semantics and Linguistic Theory (SALT) 23*, University of California, Santa Cruz.
- Barker, Chris. 2002. The dynamics of vagueness. *Linguistics and Philosophy* 25: 1–36. doi:10.1023/A:1014346114955.
- Beltrama, Andrea. 2014. Scalar meaning in diachrony: The suffix -issimo from Latin to Italian. In *Proceedings of the North East Linguistic Society 44*, eds. Jyoti Iyer and Leland Kusmer. Vol. 1, 29–41. Amherst: GLSA.
- Bochnak, M. Ryan. 2013a. Cross-linguistic variation in the semantics of comparatives. PhD diss., University of Chicago, Chicago.
- Bochnak, M. Ryan. 2013b. The non-universal status of degrees: evidence from Washo. In *North East Linguistics Society (NELS) 42*, eds. Stefan Keine and Shayne Sloggett, 79–92. Amherst: GLSA.
- Bogal-Allbritten, Elizabeth. 2014. Slightly coerced: Processing evidence for adjectival coercion by minimizers. In *Chicago Linguistic Society (CLS) 48*, ed. Andrea Beltrama et al.
- Burnett, Heather. 2014. From quantification and intensification to slack regulation: adjectival ALL. In *Chicago Linguistics Society (CLS) 48*, ed. Andrea Beltrama et al. Chicago: Chicago Linguistic Society.
- Castroviejo, Elena. 2006. A degree-based account of wh-exclamatives in Catalan. In *Sinn und Bedeutung 11*, ed. Estela Puig-Waldmüller, 134–149. Barcelona: Universitat Pompeu Fabra.
- Chernilovskaya, Anna, Cleo Condoravdi, and Sven Lauer. 2012. On the discourse effects of wh-exclamatives. In *West Coast Conference on Formal Linguistics (WCCFL) 30*.
- Cobrerros, Pablo, Paul Egré, David Ripley, and Robert van Rooij. 2012. Tolerant, classical, strict. *Journal of Philosophical Logic* 41 (2): 347–385.
- Constantinescu, Camelia. 2011. *Gradability in the nominal domain*. LOT dissertation series 288. Utrecht: LOT.
- Cresswell, Max J. 1976. The semantics of degree. In *Montague grammar*, ed. Barbara Partee, 261–292. New York: Academic Press.
- Doetjes, Jenny, Camelia Constantinescu, and Kateřina Součková. 2009. A neo-Kleinian approach to comparatives. In *Semantics and Linguistic Theory (SALT) 19*, eds. Ed Cormany, Satoshi Ito, and David Lutz, 124–141.
- Dressler, Wolfgang, and Lavinia Merlino Barbaresi. 1994. *Morphopragmatics: diminutives and intensifiers in Italian, German, and other languages*. Berlin: de Gruyter.
- Fleischhauer, Jens. 2013. Interaction of telicity and degree gradation of change of state verbs. In *Studies in the composition and decomposition of event predicates*, eds. Boban Arsenijević, Berit Gehrke, and Rafael Marín, 125–152. Dordrecht: Springer.
- Gaeta, Livio. 2003. Produttività morfologica verificata su corpora: il suffisso -issimo. In *In nuovi media come strumenti per la ricerca linguistica*, eds. Franz Rainer and Achim Stein, 43–60. Frankfurt/Main: Peter Lang.
- Gumiel-Molina, Silvia, Norberto Moreno-Quibén, and Isabel Pérez-Jiménez. 2015. A syntactic approach to the relative/absolute distinction: the case of adjectives in copular sentences in Spanish. In *Natural Language and Linguistic Theory*.
- Gutzmann, Daniel. 2011. Expressive modifiers & mixed expressives. In *Empirical issues in syntax and semantics*, eds. Olivier Bonami and Patricia Cabredo Hofherr. Vol. 8, 123–141. http://www.cssp.cnrs.fr/eiss8/index_en.html.
- Gutzmann, Daniel. 2012. Use-conditional meaning: studies in multi-dimensional semantics. PhD diss., University of Frankfurt, Frankfurt/Main.
- Gutzmann, Daniel. 2013. Pragmaticalization and multidimensional semantics. Paper presented at the workshop on systematic semantic change, University of Texas, Austin.
- Gutzmann, Daniel, and Elena Castroviejo. 2011. The dimensions of verum. In *Empirical issues in syntax and semantics* 8, eds. Olivier Bonami and Patricia Cabredo Hofherr, 143–166. http://www.cssp.cnrs.fr/eiss8/index_en.html.
- Höhle, Tilman N. 1992. Über Verum-fokus im Deutschen. In *Informationsstruktur und Grammatik*, ed. Joachim Jacobs, 112–141. Opladen: Westdeutscher Verlag.
- Jacobsen, William H. 1964. A grammar of the Washo language. PhD diss., University of California, Berkeley.
- Kamp, Hans. 1975. Two theories of adjectives. In *Formal semantics of natural language*, ed. Edward Keenan, 123–155. Cambridge: Cambridge University Press.
- Kamp, Hans, and Barbara Partee. 1995. Prototype theory and compositionality. *Cognition* 57: 129–191.

- Kennedy, Christopher. 2007. Vagueness and grammar: the semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy* 30 (1): 1–45. doi:[10.1007/s10988-006-9008-0](https://doi.org/10.1007/s10988-006-9008-0).
- Kennedy, Christopher, and Louise McNally. 2005. Scale structure, degree modification and the semantics of gradable predicates. *Language* 81 (2): 345–381. doi:[10.1353/lan.2005.0071](https://doi.org/10.1353/lan.2005.0071).
- Kiparsky, Paul. 1973. Elsewhere in phonology. In *A festschrift for Morris Halle*, eds. Stephen R. Anderson and Paul Kiparsky, 93–106. New York: Holt, Reinhart, and Winston.
- Klein, Ewan. 1980. A semantics for positive and comparative adjectives. *Linguistics and Philosophy* 4 (1): 1–46. doi:[10.1007/BF00351812](https://doi.org/10.1007/BF00351812).
- Kratzer, Angelika. 1981. The notional category of modality. In *Words, worlds, and contexts: new approaches to word semantics*, eds. Hans-Jürgen Eikmeyer and Hannes Rieser, 163–201. Berlin: de Gruyter.
- Krifka, Manfred. 1995. The semantics and pragmatics of polarity items. *Linguistic Analysis* 25 (3–4): 209–257.
- Krifka, Manfred. 2009. Approximate interpretations of number words: a case for strategic communication. In *Theory and evidence in semantics*, eds. Erhard Hinrichs and John Nerbonne, 109–132. Stanford: CSLI Publications.
- Lakoff, George. 1973. Hedges: a study in meaning criteria and the logic of fuzzy concepts. *Journal of Philosophical Logic* 2 (4): 458–508.
- Lasersohn, Peter. 1999. Pragmatic halos. *Language* 75 (3): 522–551.
- McCready, Eric. 2010. Varieties of conventional implicature. *Semantics and Pragmatics* 3: 1–58.
- McNabb, Yaron. 2012a. Cross-categorical modification of properties in Hebrew and English. In *Semantics and Linguistic Theory (SALT)* 22, ed. Anca Chereches, 365–382. Ithaca: CLC Publications.
- McNabb, Yaron. 2012b. The syntax and semantics of degree modification. PhD diss., University of Chicago, Chicago.
- Merlini Barbaresi, Lavinia. 2004. Aggettivi deaggettivali. In *La formazione delle parole in italiano*, eds. Mario Grossman and Franz Rainer, 444–450. Tübingen: Niemeyer.
- Morzycki, Marcin. 2009. Degree modification of gradable nouns: size adjectives and adnominal degree morphemes. *Natural Language Semantics* 17 (2): 175–203.
- Morzycki, Marcin. 2011. Metalinguistic comparison in an alternative semantics for imprecision. *Natural Language Semantics* 19 (1): 39–86.
- Morzycki, Marcin. 2012. The several faces of adnominal degree modification. In *West Coast Conference on Formal Linguistics (WCCFL)* 29, eds. Jaehoon Choi, E. Alan Hogue, Jeffrey Punske, Deniz Tat, Jessamyn Schertz, and Alex Trueman, 187–195. Somerville: Cascadilla Proceedings Project.
- Osherson, Daniel, and Edward Smith. 1981. On the adequacy of prototype theory as a theory of concepts. *Cognition* 11: 237–262.
- Potts, Christopher. 2005. *The logic of conventional implicature*. Oxford: Oxford University Press.
- Potts, Christopher. 2007. The expressive dimension. *Theoretical Linguistics* 33: 165–198.
- Potts, Christopher, and Florian Schwarz. 2008. Exclamatives and heightened emotion: extracting pragmatic generalizations from large corpora. Ms. University of Massachusetts.
- Rainer, Franz. 1983. L'intensificazione di aggettivi mediante *-issimo*. In *Akten des 2. Österreichisch-italienischen Linguistentreffens*, eds. Dardano Maurizio, Wolfgang Dressler, and Gudrum Held, 94–102. Tübingen: Narr.
- Rainer, Franz. 2003. Studying restrictions on patterns of word-formation by means of the Internet. *Rivista Di Linguistica* 15 (1): 131–140.
- Rett, Jessica. 2008. A degree account of exclamatives. In *Semantics and Linguistic Theory (SALT)* 18, eds. Tova Friedman and Satoshi Ito. Ithaca: CLC Publications.
- Rett, Jessica. 2011. Exclamatives, degrees and speech acts. *Linguistics and Philosophy* 34: 411–442.
- Rosch, Eleanor. 1975. Cognitive representations of semantic categories. *Journal of Experimental Psychology: General* 104 (3): 192–233.
- Rotstein, Carmen, and Yoad Winter. 2004. Total adjectives vs. partial adjectives: scale structure and higher-order modifiers. *Natural Language Semantics* 12 (3): 259–288. doi:[10.1023/B:NALS.0000034517.56898.9a](https://doi.org/10.1023/B:NALS.0000034517.56898.9a).
- Sassoon, Galit Weidman. 2005. Typicality: an improved semantic analysis. In *Israel Association for Theoretical Linguistics (IATL)* 21, ed. Yehuda N. Falk, 1–34. Jerusalem: Israel Association for Theoretical Linguistics.
- Sassoon, Galit Weidman. 2013. *Vagueness, gradability, and typicality: the interpretation of adjectives and nouns*. Boston: Brill.
- Sawada, Osamu. 2009. Pragmatic aspects of scalar modifiers. PhD diss., University of Chicago.

- Sawada, Osamu, and Thomas Grano. 2011. Scale structure, coercion, and the interpretation of measure phrases in Japanese. *Natural Language Semantics* 19: 191–226. doi:[10.1007/s11050-011-9070-1](https://doi.org/10.1007/s11050-011-9070-1).
- Schlenker, Philippe. 2003. A plea for monsters. *Linguistics and Philosophy* 26: 29–120.
- Steriopolo, Olga. 2008. Form and function of expressive morphology: a case study of Russian. PhD diss., The University of British Columbia, Vancouver.
- Syrett, Kristen. 2007. Learning about the structure of scales: Adverbial modification and the acquisition of the semantics of gradable adjectives. PhD diss., Northwestern University, Evanston, IL.
- Tekavcic, Pavao. 1972. *Grammatica storica dell'italiano*. Il Mulino.
- van Rooij, Robert. 2011. Implicit versus explicit comparatives. In *Vagueness and language use*, eds. Paul Egré and Nathan Klinedinst, 51–72. New York: Palgrave MacMillan.
- von Stechow, Arnim. 1984. Comparing semantic theories of comparison. *Journal of Semantics* 3: 1–77. doi:[10.1093/jos/3.1-2.1](https://doi.org/10.1093/jos/3.1-2.1).
- Wierzbicka, Anna. 1991. *Cross-cultural pragmatics: the semantics of human interaction*. New York: de Gruyter.
- Williamson, Timothy. 1999. On the structure of higher-order vagueness. *Mind* 108 (429): 127–143. doi:[10.1093/mind/108.429.127](https://doi.org/10.1093/mind/108.429.127).
- Zanuttini, Raffaella, and Paul Portner. 2003. Exclamative clauses: at the syntax-semantics interface. *Language* 79 (1): 39–81.