Scalar meaning in diachrony. The case of the suffix -issimo
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From Classical Latin (CL) to contemporary Italian (CI), the suffix -issimo goes from being restricted to gradable predicates to including certain non-gradable ones, and, finally, nouns. This paper offers a formal analysis of this path, modeling the change in terms of the source of the scalar dimension that is targeted by the suffix: -issimo starts out as selecting for hosts that lexically specify a scale, and ends up merely requiring that such a scale be pragmatically inferred. The analysis explains (a) what makes the new contexts a natural class (they are all scalar in some sense) and (b) the direction of change (semantics → pragmatics).

Background Intensifiers presuppose that the property with which they combine is scalar (Eckardt 2009). On a more fine-grained level, research in theoretical semantics has shown that various kinds of scales can be available for intensification, and that intensifiers vary depending on the kind of such scale (Kennedy and McNally 2005, Lasersohn 1999, Constantinescu 2011). On the other hand, historical work on the topic focuses on shifts from lexical words to functional ones (e.g., really/very) and analyzes intensification as a final stage of grammaticalization (Partington 1993, Lorenz 2002). By treating intensifiers as a monolithic category, however, this approach reveals little as to how different flavors of intensification, and different kinds of scales, figure in the evolution of intensifiers. This paper aims at providing an answer to this question.

Data - In contemporary Italian the intensifier -issimo has three different usages: lexical degree-modification, slack-regulation, nominal intensification. Relying on evidence from written diachronic corpora, Classical Latin is shown to only have the first one (1), while old Italian innovated the second one (2), and nominal intensification is exclusive of CI (3).

(1) In alt-issimam turrem ascendit animo (100a.D.,LatinLibraryText)
   He climbed the tall-ISSIMO (extremely tall) tower courageously

(2) Un si fatto poema riuscira di assai piu giovamento che nessun-issima storia (1500a.D, LIZ)
   Such a poem will be much more useful than any-ISSIMA (any story at all) story.

(3) E la partit-issima, la sfida cruciale come nel settimo incontro del baseball (1987, LaRepubblica)
   Its the game-ISSIMO (huge/important/spectacular game), like the W.Seriesgame7.

STAGE 1 - In Latin, -issimo is a DEGREE MODIFIER. It exclusively combines with gradable predicates and selects for the upper extreme portion of the scale they encode. At this stage, -issimo is non-trivially modifying the truth conditions of the host: in order to be tall-issimo, indeed, the individual must exceed a degree significantly higher than the one required by bare tall.

STAGE 2 - In Old Italian (XIV Century, henceforth OI), innovates the SLACK-REGULATION function, expanding to some non-gradable expressions. -issimo now intensifies the scale of pragmatic precision used by the speaker, reducing the pragmatic halo (Lasersohn 1999) of the expression. For instance, the interpretation of nessuno could normally allow for some exceptions which, given their marginal status, can be ignored for pragmatic purposes, without making the sentence false. (e.g., some very exceptional story, like the Bible, could be actually more useful than the poem and be disregarded for pragmatic purposes). The use of -issimo in (2) signals that the interpretation of nessuno must rule out even those exceptions, forcing a precise interpretation (≈ any at all in English). Note that the suffix is no longer affecting the truth conditions, which are the same for nessuno and nessun-issimo (Story(x) ∩ More useful than poem(x)= ∅).

STAGE 3 - Finally, the NOMINAL INTENSIFICATION usage in (3) emerges only in Contemporary Italian. Now the scale that -issimo intensifies can come from any dimension that can be associated to the predicate. Such ordering is external to the hosts lexical meaning, and changes from context to context. The salient must be inferred by the listener, and is often explicitly made explicit by the speaker with no effect of redundancy (e.g. discourse continuation like the W.S. game7 suggests that “importance” is the relevant dimension here).

Analysis - We argue that, thoughout its diachronic evolution, -issimo (i) always presupposes an argument that introduces a scale and (ii) restricts such scale to an extreme final subinterval. What changes is the source
of the scale, which gradually goes from being lexically supplied to being contextually inferred.

**STAGE 1** - Be \( G \) a gradable adjective of type \(<e,\alpha>\) (e.g. \( \text{alto} \), “tall”) and \( \alpha \) a degree from the scale in \( G \). In addition, be \( \text{Extreme}_C \) a contextually restricted function that selects for a final subinterval of the scale that counts as extreme in the context. An individual \( x \) is \( \text{tall-issimo} \) if the maximum degree to which \( x \) is tall belongs to such extreme final subinterval. Needless to say, the scale here is directly supplied by the adjective.

\[
\begin{align*}
(4) \quad a. \quad \text{-issimo}_\text{STAGE 1} &= \lambda G_{<e,\alpha>}, \lambda x. \text{Extreme}_C(\text{Max}\{d: G(d,x)\}) \\
& b. \quad \text{Alt-issim}o &= \lambda x, \text{Extreme}_C(\text{Max}\{d: \text{TALL}(d,x)\})
\end{align*}
\]

**STAGE 2** - \( \text{nessuno} \), contrary to \( \text{alto} \), is not gradable. However, its meaning retains a scalar component, which is what makes precisification natural. Here, for instance, the quantification operation triggered by \( \text{nessuno} \) can be interpreted according to different contextually determined domains \( D \). Such domains can be ordered according to a subset relation and constitute a scale, which give rise to asymmetrical entailments. The larger the domain, the stronger the statement.

\[
\begin{align*}
(5) \quad \text{If } D_1 \subset D_2 \subset D_3: \text{Any}(x)_{D_3} &\rightarrow \text{Any}(x)_{D_2/D_1}, \text{Any}(x)_{D_2} \rightarrow \text{Any}(x)_{D_1} \text{ but Any}(x)_{D_1} \nrightarrow \text{Any}(x)_{D_2/D_3}.
\end{align*}
\]

The slack regulation effect achieved by \text{-issimo} is determined by an operation analogous to Kadmon and Landman’s (1993) domain widening. By selecting a larger domain, \text{-issimo} forces the new domain to include those elements that were left outside, and therefore could be ignored, in the unmodified interpretation. Following Morzycki 2010, we formalize precision in terms of a degree \( d \) (superscript value in (6)) to which the interpretation of an expression \( \alpha \) is parameterized (since expressions of different types might be subject to im precision, we choose not to specify a type for \( \alpha \)). The higher the degree of precision, the smaller the tolerated slack (and, for \( \text{nessuno} \), the larger the domain according to which the expression is interpreted). The suffix requires that the maximum degree of precision relative to which the expression can be truthfully interpreted must count as extreme in the context (via \( \text{Extreme}_C \)).

\[
\begin{align*}
(6) \quad a. \quad \text{-issimo}_\text{STAGE 2} &= \lambda \alpha \lambda x. \text{Extreme}_C(\text{Max}\{d: [\alpha(x)]^d\}) \\
& b. \quad \text{Nessun-issimo} &= \lambda x, \text{Extreme}_C(\text{Max}\{d: [\text{ANY}(x)]^d\})
\end{align*}
\]

The notion of a precision scale, while not directly encoded in the lexical meaning of the expression (unlike the \( \text{tallness} \) scale for \( \text{tall} \)), is related to the semantics of the host. With any, for instance, precision is naturally mapped onto a scale of orderable domains supplied by the quantifier.

**STAGE 3** - We model this usage of \text{-issimo} with nouns partially following Sassoon (2012) analysis of size adjectives as adnominal modifiers. Be \( N \) a noun and \( \text{DIM}(N) \) a function that returns the set of (gradable) dimensions \( Q \) associated with a noun \( N \) in a context \( C \). Crucially - unlike in Sassoon’s proposal for \( \text{big} \)-, such dimensions is external to the lexical meaning of the noun. It can be simply contextually associated to it, and needs to be inferred by the hearer. Here, \text{-issimo} imposes that the referent of the noun ranks extremely high according to one such dimension: the maximum degree to which \( Q \) holds of \( x \) must qualify as extreme in the context.

\[
\begin{align*}
(7) \quad a. \quad \text{-issimo}_\text{STAGE 3} &= \lambda N_{<e,\alpha>}, \lambda x, \exists Q_{<e,\alpha>} : Q \in \text{DIM}_C(N) \& \text{Extreme}_C(\text{Max}\{d: Q(x)\}) \\
& b. \quad \text{Partit-issimo} &= \lambda x, \exists Q_{<e,\alpha>} : Q \in \text{DIM}_C(\text{GAME}) \& \text{Extreme}_C(\text{Max}\{d: Q(x)\})
\end{align*}
\]

**Discussion** - The notion of scalarity constitutes the common thread tying together the usages developed by \text{-issimo} over time. The suffix is always selecting for the upper extreme of a scale, and each new diachronic context of usage constitutes a novel, gradually less lexically-based and more pragmatic-oriented strategy of supplying such scale. The proposed account is consistent with the predictions of models of meaning change such as Traugott’s (1995) subjectification, which has rarely been modeled in terms of a formal theory of meaning. With respect to intensifiers, we have recast this notion as a transition between different sources of scalarity, bridging the gap between synchronic and diachronic approaches to the study of intensifiers.

**CORPORA** - Latin Library Text/LIZ/Italian Crusca Academy/Repubblica