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Two “many”-Words in Italian? On *Molto-Tanto* and Cross-Linguistic Differences in Quantification*

Greta Mazzaggio, Penka Stateva*

Università degli Studi di Firenze (<greta.mazzaggio@unifi.it>);
Univerza v Novi Gorici (<penka.stateva@ung.si>)

Abstract:

This article investigates the variability in the meaning of vague quantifiers across different languages, focusing on Italian’s *m*(any)-words *molto* and *tanto*. The aim was to replicate a previous analysis conducted on Slovenian *m*-words – *precej* and *veliko* – examining whether the Italian ones exhibit a similar pragmatic strengthening effect. Using a sentence-picture verification task, we tested 88 Italian monolingual participants on their evaluation of sentences of the form “Quantifier X are Y”. Our results showed that, unlike Slovenian speakers, Italian speakers do not exhibit a difference in the evaluation of *molto* and *tanto*, suggesting that the two words have the same numerical bound and are interchangeable as amount modifiers. Our analysis suggests that there are underlying semantic distinctions between *molto* and *tanto* that require further investigation. These findings contribute to our understanding of the variability in the use of quantifiers across languages and highlight the importance of examining subtle differences in meaning when studying vague quantifiers.

Keywords: *Cross-linguistic Differences, Pragmatics, Quantification, Semantics, Vague Quantifiers*

Introduction

Natural languages possess a wide set of expressions for referring to quantities. Such expressions can sometimes be very precise, like in (1) or (2), but they can also be vague, like in (3) or (4).

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- (1) *No* students attended my class.
- (2) *Both* students attended my class.
- (3) *Some* students attended my class.
- (4) *Many* students attended my class.

Interestingly, vague expressions, such as *some*, *many* or *few*, can be felicitously used to answer a question like “How many students attended your class?”, even if the answer will not give a precise idea regarding the number of students who actually sat in the class. Despite this lack of definiteness, these quantifiers are pervasive in our everyday communication (Israel 1999). Even though all languages should have a set of quantifiers available and the meanings of cross-linguistic counterparts are not expected to diverge (Barwise and Cooper 1981; von Stechow and Matthewson 2008), we have to recognize how variability in language use is the norm (Yildirim *et al.* 2016) and recent works present a different and intriguing pattern of cross-linguistic data (Katsos *et al.* 2016; Stateva *et al.* 2019), even within a bilinguals perspective (Dupuy *et al.* 2019; Khorsheed *et al.* 2022; Mazzaggio, Panizza, Surian 2021). This work aims at analyzing Italian translational-equivalents words for *many* (henceforth, *m*-words), within a cross-linguistic perspective, moving from a recent analysis by Stateva and Stepanov (2017) on two *m*-words in Slovenian.

According to the formal semantic perspective of the Generalized Quantifier Theory, quantificational determiners are defined as non-referential, since they do not denote objects but relations between sets of individuals (Barwise and Cooper 1981). This means that, for instance, the sentence in (3) is true just in a context in which the intersection between the set of students and the set of people that attended the class is not empty, as formally expressed in (5a), and that the meaning of *some* corresponds to the existential determiner (‘ \exists ’). For what concerns *many*, the interpretation is ambiguous between its proportional (6a) and its cardinal (6b) reading, due to the choice of the comparison class. If we consider again the sentence in (4), on one hand, its cardinal reading conveys that the number of students that attended the class is understood to be a large number; the proportional reading, on the other hand, expresses the idea that the in-class students’ proportion is understood to be large relative to all students that might have attended the class. Interestingly, there are languages, like Russian, which have two different lexical entries for the two cardinal – and proportional – *many* (Babko-Malaya 1998; Krasikova 2011), while others, like Slovenian and Italian, do not. We will return to this.

- (5) a. $\llbracket \text{some} \rrbracket_c = \lambda A. \lambda B. |A \cap B| \neq \emptyset$
- (6) a. $\llbracket \text{many} \rrbracket_c = \lambda A. \lambda B. |A \cap B| / |A| > nc$ for some large nc
- b. $\llbracket \text{many} \rrbracket_c = \lambda A. \lambda B. > nc$ for some large nc

Under a different approach, quantifiers such as *many* are considered to be extensively affected by the linguistic context in which they are used and it has been proposed that they have a non-extensional nature (Keenan and Stavi 1986; for a recent diverse analysis, see Greer 2014). In order to evaluate the truth-value of two sentences like (7a) and (7b), even under the assumption that linguists and biologists attending the respective conferences are equal in number, there is a clear intuition that we must consider the number of linguists and biologists who used to attend these conferences in the past. For example, in a situation in which a) the

conference is attended by 100 linguists and 100 biologists, b) thousands of linguists usually attend the conference and, c) a dozen of biologists usually attend the conference, (7b) can be easily interpreted as true while (7a) will certainly be interpreted as false (Pezzelle *et al.* 2018).

- (7) a. Many linguists attended the conference this year
 b. Many biologists attended the conference this year

In the semantic literature, different approaches departed from the classical one, mainly defining quantifiers in terms of probability distributions over scales (Moxey and Sanford 1993; Pezzelle *et al.* 2018; Yildirim *et al.* 2016) or proposing a degree-based analysis. A recent analysis has been proposed by Stateva and Stepanov (2017); in extending Krifka’s (2007) analysis of negated antonyms (e.g., *happy*, *not happy*, *unhappy*, *not unhappy*) to the domain of the two Slovenian *m*-words (*precej* and *veliko*), authors propose that these are two semantically equivalent degree quantifiers that are pragmatically differentiated through an M-implicature and an R/I-implicature enrichment. The ultimate goal of this paper is to apply this analysis to a different language, namely Italian, whose *m*-words (*molto* and *tanto*) apparently pattern similarly with respect to both English and Slovenian. In the next paragraphs, we will first introduce data from Slovenian, explaining how Stateva and Stepanov (2017) analyzed those. We will then describe the properties of Italian *m*-words and, finally, our experimental question will be introduced.

1.2 Two “many”-words in Slovenian and the pragmatic strengthening

As previously mentioned, *many* can have both a proportional and a cardinal reading and there are languages, such as Russian, which lexically distinguish the two readings (Babko-Malaya 1998). Considering examples in Krasikova (2011: 94), the proportional reading in (8) is covered by *mnogie*, which agrees with the noun in the Noun Phrase (NP) in case and, thus, it looks like an attributive adjective, while the cardinal reading in (9) is covered by the adverbial *mnogo*, as reflected in the lack of NP-agreement and its adverbial morphology.

- (8) Mnogie deti bolejut gripom
 many.NOM children.NOM be.ill flu
 ‘A big proportion of children have the flu.’

- (9) Mnogo detej boleet gripom
 many children.GEN be.illflu
 ‘A big number of children have the flu.’

Similarly to Russian, other languages, like the ones considered in this work (i.e., Slovenian and Italian) feature more than one *m*-words that can be considered translational counterparts of the English *many*. However, as demonstrated in Stateva and Stepanov (2017), Slovenian counterparts of *many* (*precej* and *veliko*) express the same range of cardinal and proportional meanings and are semantically encoded in the same way, but they differ with respect to the possibilities for their semantic meaning to be pragmatically enriched. Consequently, under appropriate contextual conditions, *precej* and *veliko* can be distinguished because their enriched meaning is associated with different numerical ranges (on the scale of degrees). Thus, Stateva and Stepanov’s findings support the generalization of Clark (1980, 1983) known as the Principle of Contrast which suggests that trivial synonymy is unavailable within a language.

Throughout three experiments, native speakers of Slovenian evaluated sentences containing *veliko* and *precej*, in the absence (Experiments 1 and 2) vs. presence (Experiment 3) of the other alternative. The design consisted of blocks of thirty dots that could be either red or blue and for each visual stimuli participants had to evaluate a block of sentences of the form “QUANTIFICATIONAL DETERMINER dots are red” using a Likert scale; while in Experiments 1 and 2 only one of the m-words, *veliko* or *precej*, as part of the respective blocks of verbal stimuli, in the third experiment participants gave their evaluation on *precej*-sentences in the presence of a viable alternative, namely, *veliko*-sentences. Results demonstrated a significant difference in acceptability scores between, on one hand, Experiments 1 and 2 in which no differences between the evaluation of *veliko* and *precej* have been detected, and, on the other hand, Experiment 3 in which *precej* is evaluated as related to relatively smaller amounts compared to *veliko*; this suggests that when both quantifiers are considered together, *precej* is associated with lower numerical values, suggesting the addition of a non-stereotypical implicature to its semantic interpretation. On the other hand, *veliko* is linked to higher numerical values, indicating the strengthening of its semantic interpretation with a stereotypical implicature. Thus, data corroborate their “proposal that the meaning of the Slovenian m-words *precej* and *veliko* are pragmatically strengthened in the availability of appropriate contextual conditions” (Stateva and Stepanov 2017: 549). Their analysis is inspired by Krifka (2007) and his interpretation of negated antonymic adjectives, like the ones in (10).

- (10) a. *happy, not happy, unhappy, not unhappy*
 b. *likely, not likely, unlikely, not unlikely*
 c. *many, not many, few, not few*

Antonyms pairs, such as happy and unhappy, are “are typically conceived as contraries that apply to the more extreme ends of a scale and leave a zone of indifference” (Krifka 2007: 4). According to Horn (1989), expressions like ‘Bill is not unhappy’ can be replaced by ‘Bill is quite happy’ without a drastic change in meaning but, under specific conditions, an utterance like ‘Bill is not happy’, can be used to implicate that Bill is rather unhappy. This led Krifka to define such antonym pairs as contradictories, rather than contraries; under this assumption, they exhaust the whole range of the scale, which in turn, allows for defining two pairs of synonyms (in the positive and the negative extension of the scale, respectively) in line with the predictions of the meaning of negative elements. The fine-grained differences within a pair of synonyms were attributed to pragmatic strengthening governed by the R/I or M-principles. Stateva and Stepanov (2017) apply this analysis to the interpretation of the Slovenian quadruplet: <*veliko* ‘many’, *nekaj* ‘not many’, *malo* ‘few’, *precej/nemalo* ‘not few’> arguing for a degree-based semantics of that set of quantifiers. Considering that *veliko*, on one hand, almost exclusively selects NPs – with a higher frequency of occurrence in contexts where it modifies NPs – and, on the other hand, *precej* has a much wider categorial distribution, authors suggest that both m-words are used with a strengthened pragmatic meaning: an R-I implicature (11-12) is associated with the former, while an M-implicature (13) with the latter.

- (11) *R-principle:*

Make your contribution necessary, say no more than you must. (Horn 1984: 13)

(12) *I-Principle:*

- (i) *Speaker’s Maxim: the Maxim of Minimization*
 ‘Say as little as necessary’, i.e., produce the minimal linguistic information sufficient to achieve your communicational ends (bearing the Q-principle in mind).
- (ii) *Recipient’s Corollary: the Enrichment Rule*
 Amplify the informational content of the speaker’s utterance, by finding the most SPECIFIC interpretation, up to what you judge to be the speaker’s m-intended point.
 (Levinson 1987: 402)

(13) *M-Principle:*

Speaker’s Maxim: Indicate an abnormal, non-stereotypical situation by using marked expressions that contrast with those you would use to describe the corresponding normal stereotypical situation.

Recipient’s Corollary: What is said in an abnormal way indicates an abnormal situation, or marked messages indicate marked situations. [...]

(Levinson 2000: 136)

In other words,

veliko triggers an R/I-implicature and is related to a stereotypical interpretation, thus reserving an interval on the relevant scale of degrees which is sufficiently higher than the potential cut-off point between *veliko* and *malo* (*few*) on the proportion scale, while *precej* triggers an M-implicature and is related to a non-stereotypical interpretation which results in picking the elsewhere interval, i.e., the one which is closer to the standard. (Stateva and Stepanov 2017: 449)

To sum up, *veliko* being more frequent with NPs and thus specialized as an NP modifier, speakers would use it on all stereotypical occasions, respecting the maxims according to which one should say no more than necessary (R-implicature), in order to produce linguistic information that is sufficient for the purposes of the communication (I-principle); if a speaker decides to use *precej* with NPs, she would be using a marked expression and the listener might interpret this choice as related to a specific purpose (M-implicature), thus communicating a quantity that is moderately smaller than the one communicated by *veliko*. It is important to keep in mind that this happens only in contexts in which the two *m*-words are in direct competition.

Now, likewise Slovenian, the two Italian counterparts of *many* (*molto* and *tanto*) express the same range of cardinal and proportional meanings and share the same semantic features. Our goal is to replicate the experiment by Stateva and Stepanov (2017), which we introduced earlier, to assess the applicability of the same pragmatic analysis to the Italian pair of *m*-words. We should mention another work on Italian which previously studied how *molto* and *tanto* are perceived: Montalto *et al.* (2010). Authors report a metalinguistic judgment of the participants according to which *molto* and *tanto* are associated with different amounts. However, in the environment of a controlled experiment, participants fail to assess which *m*-word is associated with a larger amount. Specifically, in Montalto *et al.* (2010) the goal was to assess how and if Italian speakers distinguish low-magnitude quantifiers (*alcuni*, *pochi*, *qualche*) from high-magnitude quantifiers (*molti*, *parecchi*, *tanti*), and whether they can order them on a scale. In Experiment

1 which involved 96 adult participants six different pairs of quantifier contrasts were tested; among those pairs there was *tanti* vs. *molti*. The experiment was designed in a way in which participants were presented with two boxes (“1” and “2”), together with a description of the content of the boxes, like: “Box 1 contains [*tanti*] noun and box 2 contains [*molti*] noun”. Then participants had to answer to a question: “Do the two boxes contain the same quantity?”. If participants answered negatively, they were further asked: “Which box contains the larger quantity?”. A multiple-choice answer was offered: (a) “Box 1”, (b) “Box 2” or (c) “The two boxes contain different quantities, but I am not able to say for sure which one of the two boxes contains the larger quantity”. The majority of participants answered “No” to the first question (86%) but participants were not in agreement about the larger amount of the two (83.8% of “not sure” answer). Authors concluded that this “is unexpected with a linear scale, but can be explained with an interval scale. If the intervals denoted by the two quantifiers are not identical (thus ruling out perfect synonymy) but only partially overlap, it is impossible to determine an order between the two quantifiers” (Montalto *et al.* 2010: 10). However, in their experiment they also had fillers in which the same quantifiers *molti-molti* and *tanti-tanti* were presented (e.g., “Box 1 contains [*molti*] noun and box 2 contains [*molti*] noun”) and participants answered “No” even when the same quantifiers were contrasted.

In their study, the researchers also assessed 5-year-old children (Experiment 2) using an adapted method. Children watched a cartoon featuring a mouse and were asked to help the mouse find the boxes containing a larger quantity of various foods. In the case of *molti* and *tanti*, for example, children were presented with the sentence “Nella scatola a pallini ci sono *tante* mele. Nella scatola a strisce ci sono *molte* mele.” (“In the box with dots there are [*many_1*] apples. In the box with stripes there are [*many_2*] apples”). They were then asked if the two boxes contained the same quantity. In this case, 97.9% of children answered “Yes.” When asked which box contained the larger quantity, the children’s performance as a group was at chance level, and the difference was not significant (*molti* = 43.8%; *tanti* = 56.3%). The study concludes that there are no significant differences in the interpretation of “*molti*” and “*tanti*” between adults and children.

While Montalto *et al.*’s (2010) study provided valuable insights, it is important to note that their analysis encompassed multiple quantifiers and, as they state in the paper, their “experiment was not designed to establish the extent of quantifier overlap” (Montalto *et al.* 2010: 17). In our project, we will focus on *molto* and *tanto*, trying to replicate the experimental methodology by Stateva and Stepanov (2017) which we introduced earlier and that led to interesting results in another language. The suggested analysis of the observed differences in the interpretation of m-words in terms of pragmatic strengthening can be seen as an instantiation of the idea that scale partitioning into intervals (by a closed class of quantificational determiners) can involve overlaps as long as these intervals reflect lexical semantic meanings. In contrast, if semantic meanings are pragmatically enriched, the corresponding scale intervals are easily differentiated. One can argue that participants in the Montalto *et al.* (2010) work failed to identify the m-word linked to greater amount either because i) the Italian m-words are genuine synonyms, or ii) because the experimental protocol was not sufficiently sensitive to record pragmatic differences in interpretation since the discussed amounts were not visually represented in the experiment. Following the methodology of Stateva and Stepanov, we aim to evaluate the applicability of their pragmatic analysis to Italian m-words.

Before delving into the experimental part, it is necessary to conduct the initial probing phase, similar to what was done with *precej* and *veliko* in the original study. This initial probing will serve another purpose: to propose a formal description and comparison of these two quantifiers, which, to the best of our knowledge, have not been comprehensively examined before.

1.3 “Molto” and “Tanto” in Italian: initial probing

Italian features two main counterparts of the English many: *Molto* and *Tanto*.¹ Their frequency vary based on their syntactic role: adjective, adverb, and pronoun. As reported in Table 1, *molto* is overall more frequent, particularly as an adverb, while *tanto* is more frequent as an adjective (De Mauro et al. 1993). It is worth considering that in a corpus on child production (Cardinaletti and Giusti 2011) only *tanto* appears and it is indicated as the most frequent form of the colloquial register.

In Italian, nouns are inflected for gender (masculine and feminine) and number (singular and plural); adjectives and most determiners and quantifiers agree in gender and number with the modified noun (Crisma 2012: 467).

	<i>Molto</i>	<i>Tanto</i>
Adjective	915	1.190
Adverb	4.272	735
Pronoun	135	240

Table 1. Frequency of the use of *Molto* and *Tanto* in their functions as adjective, adverb and pronoun. Search on the *Lessico di Frequenza dell’Italiano Parlato* (LIP) corpus (De Mauro et al. 1993; date of inquiry: 1 April 2022).

Similarly to English and Slovenian *m*-words, both *molto* and *tanto* form a constituent with an NP and they can modify a countable noun, as in (14a), or a mass noun, as in (14b).

- (14) a. Alla festa sono venuti molti/tanti amici
to party are come m-molto_{M-PL}/m-tanto_{M-PL} friends_{M-PL}
‘Many people came to the party.’
- b. C’è molta/tanta acqua nel lago
there is m-molto_{F-SG}/m-tanto_{F-SG} in the lake
‘There is much water in the lake.’

Molto and *tanto* can be used predicatively as in (15a). Both words are also similar in their ability to modify a VP (pre- and post-verbal position) and a participle phrase (PartP), or a comparative operator, as illustrated in (15b–d):

- (15) a. I visitatori sono stati molti/tanti
the visitors_{M-PL} are been m-molto_{M-PL}/m-tanto_{M-PL}
‘There have been a lot of visitors.’
- b. Mangio molto/tanto
eat m-molto/m-tanto
‘I eat a lot.’
- c. Questo vestito è molto/tanto rovinato
this dress is m-molto_{M-SG}/m-tanto_{M-SG} ruined
‘This dress is very ruined.’

¹ There is also *Parecchio* that we are not going to consider, being it less frequent. A search on the LIP corpus (De Mauro et al. 1993) for “parecchio” scored 33 for adjectival use, 6 for pronominal use and 3 for adverbial use.

- d. In parlamento lavorano molti/tanti più uomini che donne.
 in parliament work m-molto_{M-PL}/m-tanto_{M-PL} more males than females
 ‘Much more men than women work at the parliament.’

In contrast to Slovenian, in which just *precej* but not *veliko* is truly cross-categorial, both *molto* and *tanto* can combine with APs, AdvPs and PPs (16a-c).

- (16) a. Il libro è molto/tanto interessante.
 the book is m-molto_{M-SG}/m-tanto_{M-SG} interesting
 ‘The book is very interesting.’
 b. Lei lavora molto/tanto duramente.
 she work m-molto_{M-SG}/m-tanto_{M-SG} hardly
 ‘She works really hard.’
 c. Oggi la temperatura è molto/tanto sopra i 7 gradi.
 today the temperature is m-molto_{M-SG}/m-tanto_{M-SG} above the 7 degree.
 ‘Today the temperature is much above 7 degrees.’

Other characteristics of both *molto* and *tanto* are that a) they can substitute the noun (17a), b) they can occur after a definite determiner; “in the unmarked order, the quantifier not only follows the determiner but also the possessive adjective; the position preceding the possessive is not excluded, but marked” (17b-c; Cardinaletti and Giusti 2011: 5; Cardinaletti and Giusti 2006), c) admit some form of modification, like being intensified with the suffix *-issimo*, used to form superlative adjectives (17d; Crisma 2012: 485).

- (17) a. Molti/Tanti credono in lei
 m-molto_{M-PL}/m-tanto_{M-PL} believe in her
 ‘Many people believe in her.’
 b. Le sue molte/tante amiche
 the her m-molto_{F-PL}/m-tanto_{F-PL} friends
 ‘The many friends of hers.’
 c. Le ‘molte’/‘tante’ sue amiche
 the m-molto_{F-PL}/m-tanto_{F-PL} her friends
 ‘The many friends of hers.’
 d. Moltissimi/Tantissimi amici
 m-molto_{M-PL}/m-tanto_{M-PL}-very friends
 ‘A lot of friends.’

Now, similarly to Stateva and Stepanov (2017), we want to rule out the possibility of attributing to *molto* and *tanto* meaning disparities along the dimension of a difference between cardinal and proportional readings. Following Milsark (1977) and Partee (1989), we make the assumption that the acceptance of a Det-NP phrase in existential constructions, the ability to construct partitive phrases, and the ability to combine Det-NP phrases with individual-level predicates can distinguish between the strong (proportional) and weak (cardinal) properties of *molto* and *tanto*. Both terms may be employed, as shown in (18), to create the subjects of individual-level predicates, much like other strong determiners:

- (18) Molte/tante donne sono generose
 m-molto_{F-PL}/m-tanto_{F-PL} women are generous
 ‘Many women are generous.’

On the other hand, both *m*-words can occur in an existential construction, analogous to weak determiners, as in (19) to represent the cardinal reading:

- (19) Ci sono molti/tanti libri sul tavolo
 there are m-molto_{M-PL}/m-tanto_{M-PL} books on the table
 ‘There are many books on the table.’

Both *molto* and *tanto*, finally, are used in partitive constructions, in a context supporting a proportional meaning. This is shown in (20):

- (20) Molti/Tanti degli studenti del corso di matematica hanno scelto anche logica
 m-molto_{M-PL}/m-tanto_{M-PL} of the students of the course of math have chosen also logic
 ‘Many of the students in the math course also chose logic.’

We proved that in Italian, *molto* and *tanto* are not distinct lexicalizations of proportional and cardinal forms of quantity words. Considering data presented until now, *tanto* might simply appear as a lower-register and more frequent variant of *molto* (Cardinaletti and Giusti 2011). However, there are some differences between the two.

1.4 Differences between “Molto” and “Tanto”

A first difference between the two *m*-words is that *tanto*, but not *molto*, can be used alongside *quanto* ‘as many’ to create an equative construction (21); *tanto quanto* may be separated by some material or it can be adjacent, like for other correlative elements (Bianchi and Zamparelli 2004). It has to be noticed that in these cases there are no references to big quantities.

- (21) Ho mangiato tanto/*molto quanto ieri
 have eat m-tanto_{M-SG}/*m-molto_{M-SG} as yesterday
 ‘I eat as much as yesterday.’

Moreover, if in “English the singular/plural pair *q*-words *much* / *many* and *little* / *few* can be modified by the degree quantifiers (intensifiers) *very*/*so*/*how*/*too*/etc. [...] this is not true for the pair *tanto* / *tanti*. Here we find that *tanto* / *tanti* can only be modified by *così* ‘so’” (Krapova and Cinque 2020: 165).

If we agree with Krapova and Cinque (2020) on the fact that *tanto*, but not *molto*, can be modified by *così*, we also have to add that it can actually be modified by expressions like *3 volte* ‘three times’ or *proprio* and *davvero* ‘very’ (22-23a-b).

- (22) Ho mangiato tre volte tanto/*molto ieri
 have eat three times m-tanto_{M-SG}/*m-molto_{M-SG} yesterday
 ‘I eat three times more than yesterday’
- (23) a. Ho mangiato proprio tanto/*molto
 Have eat really m-tanto/*m-molto
 ‘I really eat a lot’

- b. Ho mangiato davvero tanto/molto
 have eat really m-tanto_{M-SG}/m-molto_{M-SG}
 ‘I really eat a lot’

There are other cases in which only *tanto* is acceptable: 1) when *tanto* is used at the plural form (or in the collective singular) to mean ‘so numerous’, referring to things, people or animals (24); 2) when *tanto* is used in correlation with a consecutive proposition introduced by *che* or *da* (25). It has to be noticed, however, that in these cases you can add *così* ‘that’/‘as’/‘so’ to *tanto* without any change in the meaning of the sentence.

- (24) Perché (così) tanta/*molta gente oggi al cinema?
 why (so) m-tanto_F/*m-molto_F people today at cinema
 ‘Why there are so many people at the cinema today?’
- (25) Ho (così) tanto/*molto lavoro da impazzire.
 have (that) m-tanto_{M-SG}/*m-molto_{M-SG} work to go crazy
 ‘I have so much work that I get mad’

There are also cases in which *così* can be used without *tanto* but the meaning of *tanto* is implied, like in (26) which is felicitously uttered together with a (measure) gesture. This seems to go in the direction of Bresnan’s (1973: 278) *Much Deletion Rule* (27). The rule states that “much” can be deleted if it occurs in certain positions in a sentence. Specifically, according to Bresnan, “much” can be deleted if it occurs before an adjective, an adverb, or a past participle. For instance, in the sentence “He is much taller than I am”, “much” can be deleted and the sentence would still be grammatically correct: “He is taller than I am.”

- (26) Quanto mi vuoi bene? (tanto/*molto) Così.
 how much to me want love? (m-tanto_{M-SG}/*m-molto_{M-SG}) that
 ‘How much do you love me? That much.’
- (27) *Much Deletion*
 much → ϕ [... _____A]_{AP}
 where A(P) = Adjective or Adverb (Phrase)

Furthermore, *tanto*, but not *molto*, can be used in very high structural positions (above the subject or between the subject and the inflected verb (28). This is a very peculiar case and it has nothing to do with quantities, the meaning is rather “anyway”.

- (28) Perché lo giustifico? Tanto/*molto non apprezza.
 why him-CLIT justify? m-tanto_{M-SG}/*m-molto_{M-SG} not appreciate
 ‘Why am I justifying him? He doesn’t appreciate it anyway.’

Finally, there are cases in which “*molto* + adverb” is acceptable but “*tanto* + adverb” is not (29).

- (29) A: Come stai? B: ?Tanto bene /Molto bene./Non tanto/molto bene.
 how be ?m-tanto_{M-SG} well/m-molto_{M-SG} well/ not m-tanto/m-molto well
 ‘A: How are you? B: ?Very well/Not very well’

Considering the analysis on *molto* and *tanto* sketched above, and considering Stateva and Stepanov (2017) proposal, together with data on Slovenian, we can wonder whether we can apply the pragmatic analysis proposed for *veliko* and *precej* to the Italian *m*-words, that is, whether one of the two *m*-words can be used to relate to a (moderately) bigger quantity compared to the other under appropriate contextual conditions. If this is the case, the question is: among *molto* and *tanto*, which is our *veliko*, that is, which is our extreme member on the scale? When intuitively asked to a speaker, you might find people answering that there is no difference at all, but other speakers seem to find a subtle difference. For example, running a google search you can come up with the idea that “while ‘*molto*’ simply means ‘in great quantity’, ‘*tanto*’ can be paraphrased with ‘in *so* great quantity” and that *tanto* “may have a tinge of “excess” (there was too much time) that does not have the sentence with *molto*” (translations are mine).

Similarly, Montalto *et al.*, propose that “*Tanto* is said to be equivalent to *molto*, but also to express the idea of “a large quantity” with more strength” (2010: 4); however, authors do not give precise references to whom they refer to with “is said”. Despite this, authors propose a linear scale (Figure 1, from Montalto *et al.* 2010: 4) that is based on “the information from grammars and dictionaries”. In the Italian Dictionaries that we checked (Palazzi and Folena 1992; Migliorini and Cappuccini 1973) we found similar information. In Palazzi and Folena (1992), *tanto* is said to be sometimes used with the meaning of *troppo* ‘too much’.

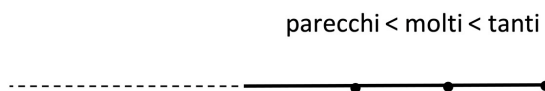


Figure 1. The linear order of the three Italian quantifiers according to Montalto *et al.* (2010: 4).

In our experiment, we will examine the comprehension of the numerical bounds of *molto* and *tanto*: we will use the paradigm that has been proven successful on Slovenian (Stateva and Stepanov 2017) to probe for potential differences (in the context of competition) between the two Italian *m*-words in their function as NP modifiers.

2. Method

2.1 Materials

The experiment is a replication on Italian language of Stateva and Stepanov (2017) and it was designed in the form of a sentence-picture verification tasks in which participants had to evaluate how well a given sentence describes a respective visual context. The visual context consisted in a block of thirty round dots (approx. 1 cm in diameter) that could be either blue or red. The dots were positioned in three rows with 10 dots in each row, on a white background (Figure 2). Participants were presented with twenty-nine contexts; the number of red dots randomly varied from one to twenty-nine, with an increment of one and this provided a variation ranging between roughly 3% and 97% of the total number of dots. Each block of dots was positioned in the center of the computer screen and was accompanied below by a set of four sentences.

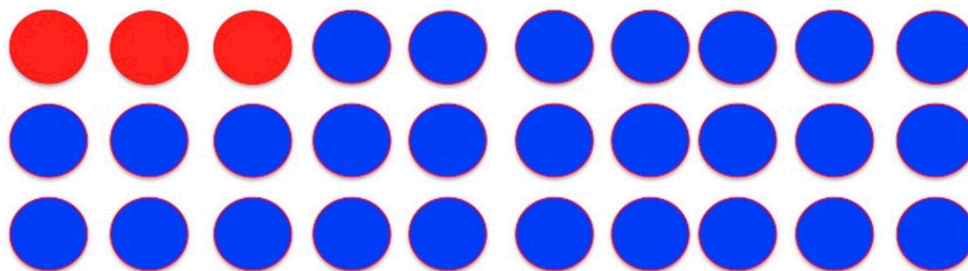


Figure 2. A representative example of an experimental stimulus.
The number of blue and red dots has been manipulated.

Participants could be assigned one out of three versions of the experiment. Version I and II contained one target sentence and 3 fillers. Version 3 contained 2 target sentences and 2 fillers.

In Version I, one of the four sentences was the target sentence with one *m*-word as in (30):

- (30) Molti pallini sono rossi.
 m-molto_{M-PL} dots are red
 ‘Many dots are red.’

In Version II, one of the four sentences was the target sentence with the other *m*-word as in (31):

- (31) Tanti pallini sono rossi.
 m-tanto_{M-PL} dots are red
 ‘Many dots are red.’

Finally, in Version III sentences with both *m*-words were presented.

Filler sentences were also presented to participants (three fillers in Versions I and II, two fillers in Version III). Filler sentences contained *metà* ‘half’ (i.e., *Metà pallini sono rossi*, ‘Half of the dots are red’), *alcuni* ‘some’ (i.e., *Alcuni pallini sono rossi*, ‘Some dots are red’), *almeno* ‘at least *n*’ (i.e., *Almeno N pallini sono rossi*, ‘At least N dots are red’) and *al Massimo* ‘at most *n*’ (i.e., *Al Massimo N pallini sono rossi*, ‘At most N dots are red’; *N* was a natural number that varied from 10 to 27). Overall, participants evaluated 116 sentences indicating, by pressing a radio button, how appropriate each of them is in relation with the context (i.e., the number of dots); appropriateness has been evaluated using a Likert scale from 1 ‘very inappropriate’ to 5 ‘very appropriate’. The stimuli items were created by a native Italian speaker, who is also a linguist, and rechecked by two other Italian native speakers.

2.2 Participants

Eighty-eight Italian monolingual speakers living in Italy voluntarily participated in this experiment ($M_{\text{age}} = 32.4$, $SD = 7.23$). Participants were randomly divided into three groups: 1) thirty-one participants took part in the Version I of the experiment including only the target

multi-sentence ($M_{\text{age}} = 28.87$, $SD = 6.97$); 2) another group of twenty-seven participants took part in Version II of the experiment including only the target *tanti*-sentence ($M_{\text{age}} = 35.78$, $SD = 5.83$); 3) the last group of thirty participants took part in Version III, in which both target sentences were included ($M_{\text{age}} = 31.97$, $SD = 7.45$). All participants were recruited via social networking forums and they reported normal or corrected to normal vision and no history of color-blindness.

2.3 Procedure

We replicated the procedure in Stateva and Stepanov (2017). The experiment was administered online via Ibx farm software (by Alex Drummond, <<https://ibxfarm.ung.si/>>) and participants were recruited via social networks (i.e., Facebook); they volunteered and didn't receive any compensation for their participation. Within each Version of the experiment, participants were presented with items and sentences in a pseudo-randomized order and there were no time limits to evaluate sentences; participants never evaluated, one after the other, two contexts with consecutive number of dots (e.g., 3 and 4).

3. Results

For the purposes of the analysis, we concentrated on the subset of collected datapoints that pertain only to *molto* and *tanto*, similarly to Stateva and Stepanov (2017). In Table 2 and 3 we indicate means and standard deviations (SD) for *molto* and *tanto* in the two experiments (with and without alternatives).

Group	Mean	SD
1	3.181313	1.661649
3	3.295402	1.691746

Table 2. Mean and SD of “Molto”, Experiment 1 (absence of alternative) and Experiment 3 (with alternative)

Group	Mean	SD
2	3.16092	1.668010
3	3.28046	1.675508

Table 3. Mean and SD of “Tanto”, Experiment 1 (absence of alternative) and Experiment 3 (with alternative)

We analyzed data with LMMs (library lme4) (Bates *et al.* 2015) considering the acceptability ratings as our dependent variables and participant as random effect. The model selection was then performed by progressively adding the Number of Dots, the Condition (*multi* vs. *tanti*) and the presence/absence of Alternatives to the simplest model and comparing models via Analysis of Variance (anova() function in R). Among the tested LMMs, the model which included the predictor variable “N_Dots,” exhibited the best fit based on lower AIC and BIC values. The chi-square test confirmed its significance ($\chi^2(28) = 4569.4849$, $p < .0001$)

These results suggest that *molto* and *tanto*, overall, did not receive statistically different evaluations in our experiment, independently of the presence or absence of the alternative. The

evidence supporting this observation is clearly depicted in Figure 3. On the y-axis, the graph represents the presence (Version III) or absence (Version I and II) of the alternative m-word. The mean scores attributed to *molto* (represented by the green bar) and *tanto* (represented by the purple bar) are plotted on the x-axis. The graph reveals that there is no significant difference in the mean scores, indicating similar results. However, the number of dots does have an impact on the scores, as both *molto* and *tanto* receive lower acceptability ratings when used to refer to small numbers.

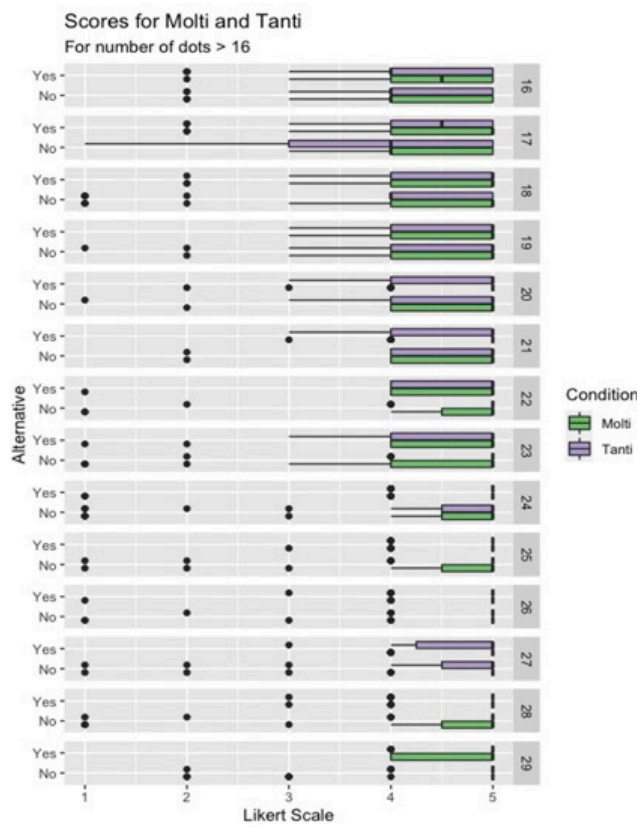


Figure 3. Scores for the condition *Molto* (green) and *Tanti* (purple), considering the presence (Yes, Version III of the Experiment) and the absence of the alternatives (No, Versions I and II of the Experiment). For space reasons, only the last 16 dots-contexts are included.

4. Discussion

Versions I and II of the experiment, in which the two *m*-words *molto* and *tanto* have been tested without having the alternative of the other *m*-word, demonstrated how their distribution overlaps and their meaning can be interpreted as equivalent in contexts in which they modify NPs. These data replicate the results of Stateva and Stepanov's (2017) evaluation of the pair of Slovenian *m*-words in contexts where they are not in direct competition for representing particular scale intervals. However, we did not replicate their results of Version III, that is

obtaining different scores when the two *m*-words *molto* and *tanto* have been tested together, serving as an available linguistic alternative for each other. Interestingly, the inclusion in the model of the alternative did not lead to significant differences in scores between *molto* and *tanto*. Unlike Slovenian speakers, where the presence of the alternative led to a different evaluation of the two *m*-words (with *precej* receiving a non-stereotypical interpretation), Italian participants did not exhibit changes in their acceptability ratings based on the presence of the alternative.

5. Conclusion

Previous work on Slovenian language demonstrated a zero tolerance for equal numerical bounds between the Slovenian *m*-words *precej* and *veliko*, leading to a pragmatic strengthening when appropriate contextual conditions are satisfied (i.e., when they are in competition; Stateva and Stepanov 2017). On one hand, this led to *precej* being associated with lower numerical bounds (which correspond to non-stereotypical instances of large amounts) when both alternatives are made relevant. On the other hand, due to an R/I-implicature, *veliko* is associated with higher numerical bounds and stereotypical interpretations. In this work, we hypothesized that Italian native speakers might replicate Slovenian native speakers' results on the interpretation of the *m*-words.

Our data on Italian native speakers, however, show that they did not evaluate differently *molto* and *tanto* when presented as alternatives, leading to different results compared to Slovenian speakers. These results of Italian are corroborated by Montalto *et al.* (2010) who report a metalinguistic judgment of the participants that *molto* and *tanto* are associated with different amounts while failing to assess which amount must be larger.

Overall, research seems to suggest that the Italian *m*-words *molto* and *tanto* have the same numerical bound and that's why they are perceived as interchangeable when acting as amount modifiers. Our tentative analysis is that they don't share the same semantic properties (only *molto* is analyzed as a degree quantifier) and that explains why they behave differently from the Slovenian *precej* and *veliko*. It's important to remember that these share the same semantics and are interchangeable uniquely when they are not presented in the same context as alternatives; asymmetrically compared to the Italian analysis, *veliko* and *precej* do not share the same numerical bound because of pragmatic enrichment when presented as alternatives (Stateva and Stepanov 2017).

Can we conclude that the meanings of *molto* and *tanto* overlap? Our data suggest that when they modify NPs this is probably the case. However, our initial analysis suggests that more work is needed to describe the semantic differences between the two quantity words. In order to do so there is probably a need to consider a diachronic perspective, a cross-linguistic perspective, and an acquisitional perspective. Let's consider again the main differences in the use of *molto* and *tanto*: i) the comparative of equality (*tanto quanto* / **molto quanto*, see the example in (21)); ii) only *tanto* can be modified by *così* 'so' (Krapova and Cinque 2020: 165); and iii) when *tanto* is used in correlation with a consecutive proposition introduced by *che* or *da* (25). If we consider other romance languages that have more than one translation for *many*, like French or Spanish, we will realize that they have the same differences in these structures. For example, in French one equivalent of *many* is “beaucoup” (32a) and in Spanish it is “mucho/a” (32b).

- (32) a. Beaucoup d' amis sont venus à la fête
 many of friends are come to the party
 'Many friends came to the party.'

- b. Muchos amigos vinieron a la fiesta
 many friends came to the party
 ‘Many friends came to the party.’

Curiously, in the same circumstances in which the Italian *tanto* is used and *molto* is ungrammatical, both French and Spanish use different *many* translations. The comparative of equality in French is formed by using the word “tant” followed by the base form of the adjective or pronoun. For example, *Elle est TANT intelligente QUE lui* ‘She is just as smart as he is’. In Spanish, the comparative of equality is formed using the phrase “tan...como”; for example, you can say *Mi amigo es TAN alto COMO fuerte* ‘My friend is as tall as he is strong’. When considering the “così tanto” construction, like in *Ti amo così TANTO DA impazzire* ‘I love you so much that I go crazy’, in French we have *Je t’aime TANT QUE je deviens fou* and in Spanish we have *Tè quiero TANTO QUE me vuelvo loca*. Finally, in the cases in which *tanto* is used in correlation with a consecutive proposition introduced by *che*, like in *Ho letto TANTO CHE mi scoppia la testa* ‘I read so much that my head is bursting’, again in French we have *J’ai lu TANT DE chose que ma tête est en train d’exploser*, and in Spanish we have “tanto”, *He leído TANTO QUE me estalla la cabeza*. This might be traced back to Latin etymology: the Italian words “molto” and “tanto” are derived from the Latin words “multum” and “tantum” respectively. “Multum” is the neuter singular of the adjective “multus”, which means “much” or “many”. “Tantum” is the neuter singular of the adjective “tantus”, meaning “so great”, “so much” or “such an amount” (Dizionario Latino Olivetti).² For example, in the quote from the Roman poet Lucretius’s *De Rerum Natura*, “Tantum religio potuit suadere malorum” is translated as “To such heights of evil has religion been able to drive men”. Thus, the feeling that Italian speakers have of this “extra quantity” related to “tanto” can be recollected to the Latin usage; however, we have to deal with the fact that when tested on *molto* and *tanto* speakers’ scores overlap when the two *m*-words modify NPs.³

Acquisitional data are also interesting in showing that *molto* and *tanto* might differ in some respect. As we have reported in the *Introduction*, in a corpus on child production by Cardinaletti and Giusti (2022) only *tanto* appears and it is indicated as the most frequent form of the colloquial register. When considering the CHILDES corpus (MacWhinney 2000; queried on November 20, 2022) *tanto* appears earlier (18 months) than *molto* (23 months) and has a much higher frequency; indeed, if we consider the age range 0-36 months, we can count only one instance of *molto/aleli* and 182 instances of *tanto/aleli*.

These results set the baseline for several future works in which the semantics of *molto* and *tanto* can be further analyzed and interesting acquisitional work can be done. There are many Italian-Slovenian bilinguals in the cross-border regions of Friuli Venezia Giulia and the Goriška area of Slovenia; there are bilingual schools with numerous second-language learners and heritage speakers. A question that can be asked is whether the different patterns of interpretation of these *m*-words in the two languages may lead to phenomena of negative transfer when these words are acquired.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

² Online at <<https://www.dizionario-latino.com/>> (07/2023).

³ In line with the discussion, the paper by Anne Carlier (2011) is interesting due to considerations of the parallelism between the Latin *multum* and the French *beaucoup*.

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