

Exclamatives and Negation¹

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Abstract

In this paper it is argued that the highly restricted distribution of standard negation within exclamative sentences receives a principled explanation from the interaction of the basic semantic properties of the exclamative sentence-type –factivity and extreme degree quantification– with those of the negative operator. Particularly, the negative operator is shown to contradict in most cases the existential presupposition associated with the inherent factivity of exclamatives and/or the requirement that the exclamative degree operator quantify over a well-defined set of individuals. Moreover, it is argued that the only apparent counterexamples to this strong generalization receive a proper explanation once the crucial role of discourse salience is taken into account. Finally, it is shown that this approach can be extended with much profit to a large and unattested pattern of interactions and restrictions concerning quantification within exclamative sentences, with interesting theoretical consequences for the interval-based approach to the semantics of degree quantification.

Contents

1	Exclamatives and negation: setting up the scene	2
1.1	Expletive negation	2
1.2	Standard negation	3
2	The semantics of exclamatives	4
2.1	Factivity	5
2.2	Extreme degree quantification	5
3	Exclamative sentences and negation	6
3.1	Wide scope negation	6
3.2	Narrow scope negation	8
3.2.1	Adjective wh-exclamatives	9
3.2.2	Nominal wh-exclamatives	10
3.3	Interim conclusions	11
4	Exclamatives and quantifiers	11
4.1	Universal quantifiers	12
4.2	Non-universal quantifiers	12
4.3	Excess quantifiers	13
4.4	Distributivity	13
4.4.1	Distributive universal quantifiers	13
4.4.2	Scales vs. intervals	14
5	Conclusions	15

The interplay between the exclamative sentence-type and negation has raised some attention in the latter years, as can be acknowledged from works such as Espinal (1997), Portner and Zanuttini (2000), or Zanuttini and Portner (2003). Many empirical results have been obtained, and a better understanding of the role of negation in natural language as well. Yet, the main concern of this effort has been directed to establishing the exact mechanism whereby the negative character of negation seems somewhat altered or suspended. This fairly well described phenomenon is commonly labelled *expletive negation*. Consider a typical example borrowed from Otto Jespersen's *Philosophy of Grammar* (p. 322):

- (1) How often have I (not) watched him!

In this paper, however, the focus will be placed on a different set of sentences, which have gone unnoticed in the literature, where the exclamative sentence contains a clear instance of *standard* negation (through the text I will mainly concentrate on Spanish, but equivalent examples are found in Catalan):

- (2) a. ¡Cuántos libros no pudiste leer jamás!
how.many books not could.2 read never
'How many books you could never read!'
- b. ¡Caramba, la de cosas que no compró nadie!
boy the.FEM of things that not bought nobody
'Boy, the things that nobody bought!'

Here, the sentences involve a clear instance of negation, as the presence of the negative polarity items *jamás* 'never' and *nadie* 'nobody' shows.

Yet, rather than just offering a technical solution to the interaction between the exclamative sentence-type and negation, I will concentrate on a more abstract level and try to ascertain which general semantic and pragmatic properties of exclamatives must be considered to entertain a principled account of such interactions. More specifically, it will be shown that such a strategy provides us with a deeper insight and a sharper formulation of the empirical and theoretical problems, which will pave the way to more elaborated and comprehensive hypotheses.

The contents of this article are as follows. In the first section, the complete paradigm will be briefly described of cases where negation occurs within exclamative sentences. In the second section, the main semantic and pragmatic properties of exclamatives will be considered. In the third section, the results in the preceding sections will be put together to build up a new approach to the interaction between negation and exclamative sentences. Section four will be devoted to show how the approach developed for negation extends naturally to the intricate and mainly undescribed pattern of interactions between the exclamative sentence-type and quantification. Finally, section five will address the main results and consequences of the paper.

1 Exclamatives and negation: setting up the scene

The goal of this section will be strictly instrumental, namely it will briefly set the basic patterns of negation under exclamative sentences, making a crucial distinction between instances of *expletive negation*, which will not concern us here, and cases of *standard negation*, which, to the best of my knowledge, have received no attention in the literature.

1.1 Expletive negation

Generally, when exclamatives permit the presence of negation, its value turns out to be expletive:

- (3) a. How often have I (not) watched him!
 b. ¡La de tonterías que no habrá dicho! (Spanish)
 the.FEM of nonsenses that not would.have said
 'The nonsense that (s)he would have said!'
 c. Quines bogeries no devia dir! (Catalan)
 which crazinesses not have.must say
 'Which nonsense (s)he must have said!'
 d. No ga-lo magnà tuto! (Paduan; Zanuttini and Portner 2003, ex.28)
 NEG has-S.CL eaten everything
 'He ate everything!'

In Espinal (1997) it is shown that in Spanish and Catalan the expletive character of negation becomes syntactically apparent when trying to license a negative polarity item (in italics in the examples; (4a) corresponds to Espinal 1997, 6c):

- (4) a. *¡Qué barbaridades no cometería *nadie* así! (Spanish)
 what atrocities not comit+COND nobody like
 b. *Quines bestieses no devia dir *mai*! (Catalan)
 which nonsenses not must.PAST say never

Moreover, expletive negation, in clear contrast with standard negation, allows positive polarity items under its scope (in italics in the examples; (5a) corresponds to Espinal 1997, 6a):

- (5) a. ¡Qué barbaridades no cometería *alguien* así! (Spanish)
 what atrocities not comit+COND somebody like
 b. Quines bestieses no devia dir *algú* *com ell*! (Catalan)
 which nonsenses not must.PAST say somebody like him

This phenomenon will not be considered here, and the reader is referred to Espinal (1997) and Portner and Zanuttini (2000) for two different proposals.

1.2 Standard negation

Together with the cases considered so far, it is easy to find examples of exclamative sentences where standard negation is allowed, which, as far as I can tell, haven't received attention in the literature:

- (6) a. ¡Cuántos libros no quiso leer! Tiene un montón que llega al techo.
 'How many books (s)he didn't wanted to read! There is a pile up to the ceiling.'
 b. Pobrecillo. ¡La de experiencias que ya no vivirá!
 'Poor boy. How many experiences he won't live anymore!'

In these cases no ambiguity arises with an expletive reading, as demonstrated by the licensing of negative polarity items and the ill-formedness of positive polarity items:

- (7) a. ¡Cuántos libros no quiso leer nunca!
 how.many books not wanted read ever
- b. *Pobrecillo. ¡La de experiencias que ya no vivirá alguien así! (Spanish)
 poor.boy the of experiences that already not will.live someone like this

Interestingly, the possibility of standard negation is severely limited in exclamatives. It is impossible altogether with adjective wh-exclamatives (8), and generally strange with nominal wh-exclamatives (9) (cf. (6a)):

- (8) a. *¡Qué alto (que) no es!
 how tall that not is
- b. *¡Qué barato (que) no es este libro!
 how cheap that not is this book
- (9) a. *¡Qué casa (que) no tiene!
 what house that not has
- b. *¡Qué coche (que) no se compró!
 what car that not self bought

Moreover, within non-wh-exclamatives the presence of standard negation is highly restricted as well. Consider, for instance, nominal exclamatives (10) (cf. (6b)) and hidden exclamatives (11) (on nominal exclamatives see Portner and Zanuttini 2000; Spanish hidden exclamatives are studied in Masullo 1999):

- (10) a. *¡La casa que no se ha comprado!
 the house that not self has bought
- b. *¡Menudo genio (que) no demuestra!
 which temper that not shows
- (11) a. ¡Este chico (*no) tiene un genio!
 this boy not has a temper
- b. ¡María (*no) es de fuerte!
 María not is of strong

In section 3, it will be argued that this somewhat chaotic paradigm is instead the logical consequence of the interplay between the semantic properties of negation and those of exclamatives.

2 The semantics of exclamatives

In order to have a better understanding of the interaction between exclamatives and negation in the cases presented in subsection 1.2, it is unavoidable to set perspicuously the semantic properties of the exclamative sentence-type. This section will be devoted to fulfill this task, and will be heavily grounded on the classical literature on the subject in general, and on Portner and Zanuttini (2000); Zanuttini and Portner (2003) in particular.

2.1 Factivity

Elliott (1974) observed that exclamative clauses can only be selected by factive predicates (see also Grimshaw 1979), so that the following contrast arises:

- (12) a. It's amazing how very expensive this wine is.
b. *I asked how very expensive this wine was.

In (12b), a clash results from the combination of an exclamative construction, which presupposes the truth of the proposition it denotes, with the predicate *ask*, which presupposes ignorance concerning the validity of the proposition denoted by its complement.

A connected observation by (Grimshaw, 1979, 321-322) is the fact that exclamatives cannot serve as answers to questions (her ex. 150; the # mark is added):

- (13) Q: How tall is John?
A: #How tall John is!

Her explanation resorts to a general conversational rule that forbids using as a response to a question an utterance that presupposes the answer to that question, which is at stake in the following dialogue as well (the # mark is added):

- (14) Q: Did Bill leave?
A: #It's odd that he did.
A': #I'd forgotten that he did.

This shows clearly that factivity is a major semantic property of exclamatives.¹

2.2 Extreme degree quantification

It is a well-attested fact that exclamatives involve somehow the placement of an individual on a scale, and particularly on the extreme of such a scale, as the following example and the two paraphrases show:

- (15) How expensive this wine is!

¹Interestingly, if the propositional content of the exclamative is presupposed, Portner and Zanuttini (2000) argue, no difference in terms of truth-conditions should follow from adding negation, just as happens with factive predicates:

- (i) a. I regret that I bought this book.
b. I don't regret that I bought this book.
c. I bought this book

Both (ia) and (ib) presuppose (ic). Note that this amounts to saying that whenever negation is embedded in an exclamative sentence, it *must* be expletive, which cannot be correct under the light of the empirical data discussed in this paper.

- a. 'This wine is extremely expensive'
- b. 'This wine is expensive to a extreme degree'

Yet, this cannot be the whole picture, for the exclamative sentence necessarily involves a meaning of unexpectedness, which an assertion containing an elative doesn't:

- (16) a. How expensive this wine is!, # which doesn't surprise me at all, because it's kosher.
 b. This wine is extremely expensive, which doesn't surprise me at all, because it's kosher.

It seems more accurate, thus, to follow Zanuttini and Portner (2003), who argue that exclamatives involve *the widening of a scale*, so that the individual is placed in the *extended* interval built over the previous standard scale (similar intuitions are found in Gutiérrez-Rexach 1996, Obenauer 1994).² Take for instance, a situation in which my budget for a romantic dinner with my wife is 90 dollars. Then when I have a look at the wine menu, a Californian Pinot Noir catches my eye, and I realize that it's priced 200 dollars. In such a situation, *my* scale of expensiveness becomes dramatically extended far beyond my expectations, allowing me to exclaimate: *How expensive this wine is!* As a consequence, the contribution of the exclamative sentence is widen the expected scale, which generally conveys a meaning of surprise (see Zanuttini and Portner 2003, 54-56 for discussion).

3 Exclamative sentences and negation

Now we are in condition to attack the behavior of standard negation under exclamative sentences. The gist of the solution, I will argue, lies in the interaction between the negative operator and the interpretive properties of the exclamative sentence-type discussed in section 2, namely factivity and the extreme degree quantification. Let us consider the issue in some detail.

3.1 Wide scope negation

As a rule, adjective wh-exclamatives reject standard negation altogether:

²The mechanism of widening is defined by (Zanuttini and Portner, 2003, 52) as follows:

widening: For any clause S containing R_{widening} , widen the initial domain of quantification for R_{widening} , D1, to a new domain, D2, such that

- i) $[[S]]_{w, D2, <} - [[S]]_{w, D1, <} \neq 0$ and
- ii) $\forall x \forall y [(x \in D1 \wedge y \in (D2 - D1)) \rightarrow x < y]$

Condition i) simply states that the operation must be non-null, namely the extended domain D2 must contain at least one new element not present in the original domain D1. Condition ii) imposes that the operation be held at the extremes of the scale, with the consequent highest degree implicature.

- (17) a. ¡Qué fuerte es María!
 'How strong María is!'
 b. *¡Qué fuerte no es María!
 how strong not is María

As a departing point, let us assume that the exclamatives at hand involve a extreme degree operator ranging over degrees, so that a sentence like (17a) would be properly paraphrased as follows:³

- (18) There is (just) one degree *d*, such that *d* is maximal in the scale of strength and such that Maria is strong to degree *d*.

Now the question is how we put negation into the picture. It seems clear on pure logical grounds that negation cannot have scope over the degree operator, for the following readings would arise:

- (19) a. There is no degree *d*, such that *d* is maximal in the scale of strength and such that Maria is strong to degree *d*.
 b. There is not just one degree *d*, such that *d* is maximal in the scale of strength and such that Maria is strong to degree *d*.

Obviously, the reading in (19a) is clearly at odds with the factivity character of exclamative constructions pointed out in subsection 2.1, which presupposes the existence of a certain degree, hence it can be discarded on principled grounds. Consider now the one in (19b). Here the existence of more than one degree is entailed, which conflicts with the highest degree implicature associated with exclamatives: if more than one degree is at stake, they cannot all be maximal in contradiction with the very nature of exclamatives. In other words, (19b) is logically equivalent to the absurd reading:⁴

- (20) There is more than one degree *d*, such that *d* is maximal in the scale of strength and such that Maria is strong to degree *d*.

This line of reasoning extends naturally to nominal wh-exclamatives:

- (21) a. *¡Qué casa que no tienes!
 which house that not have.2

³Even though there is consensus on the basic meaning of wh-exclamatives, different possibilities are found of formalizing it, inspired in the classical analysis of interrogatives by Hamblin (1973) and Karttunen (1977). I will not consider this issue here, for it is not crucial for the purposes of this article, and I will concentrate on the interpretation involved rather than on its formalization. See, however, Gutiérrez-Rexach (1996, 1999, 2001), on the one hand, and Portner and Zanuttini (2000) and Zanuttini and Portner (2003), on the other hand, for two different solutions.

⁴This doesn't mean that exclamatives cannot involve more than one degree in certain circumstances. See subsection 4.4.2.

- b. *¡Qué libro más aburrido que no leí!
 which book so boring that not read.PAST.1

Again, the wide scope reading of negation would create a conflict with the inherent factivity of exclamatives.

Hence, we can conclude that the impossibility for negation to obtain a wide scope reading in exclamatives derives from a semantic clash between the semantic requirements of negation and those of exclamatives.⁵

3.2 Narrow scope negation

It has been showed in subsection 3.1 that the extreme degree quantification involved in exclamatives is incompatible with negation having wide scope. Now, we must consider the possibility of having exclamative sentences where this semantic incompatibility doesn't arise, namely exclamative sentences with *narrow scope negation*. The data are clear-cut: whereas adjective wh-exclamatives never admit negation (22), *some* instances of nominal wh-exclamatives do (23b), as already shown in subsection 1.2:⁶

- (22) a. *¡Qué alto que no es!
 how tall that not is
 b. *¡Qué barato que no es este libro!
 how cheap that not is this book
- (23) a. *¡Qué casa que no tiene!
 what house that not has
 b. ¡Cuántos libros no quiso leer! Tiene un montón que llega al techo.
 'How many books (s)he didn't wanted to read! There is a pile up to the ceiling.'

Let us consider each case in turn.

⁵The same result follows from analyses like Gutiérrez-Rexach (1996, 2001) and Postma (1996), which propose an intensional operator EXCL(AMATIVE) over propositions. Crucially, since the content of this operator is not truth-conditional but illocutionary, it will always have wide scope over any truth-conditional operator, in the case at hand over negation.

⁶The lack of complementizer in the nominal wh-exclamative in (23b) is crucial, for it discards a possible analysis in terms of a nominal exclamative with a relative clause modifying the noun *libros* 'books', as in the ambiguous (i):

- (i) ¡Cuántos libros que no ha leído!
 how.many books that not has read

One may argue that this is an instance of nominal exclamative without predicate, rather than a clear case of sentential exclamative. Schematically:

- (ii) [_{DP} cuántos libros [_{CP} que no ha leído]

Obviously, this analysis cannot extend to the Spanish example in (23b), as the (optional) absence of the complementizer clearly demonstrates. I thank Héctor Campos for pointing out to me the importance of this distinction.

3.2.1 Adjective wh-exclamatives

Under the assumption that negation must have narrow scope with respect to the degree operator, two possible interpretations can in principle be ascribed to a sentence like (22a):

- (24) a. Only one degree *d* exists such that *d* is the maximal degree in the scale of tallness and such that *y* is not tall to degree *d*.
b. Only one degree exists such that *x* is the maximal degree *d* in the scale of non-tallness and such that *y* is non-tall to degree *d*.

Yet, none of them are possible. The reason, I will argue, is once more interpretive. On the one hand, (24a) fails to associate the individual with a particular degree in the scale denoted by the property predicated of that individual. However, this seems to be in blatant contradiction with the very nature of degree quantification in general. Indeed, this problem is not restricted to exclamatives, but it is found in degree wh-interrogatives and comparatives as well:

- (25) a. *¿Cómo no es de alto?
how not is of tall
b. *¿Cuánto no cuesta este libro?
how.much not costs this book
(26) a. *Su casa es más alta que no la nuestra.
his/her house is more tall than not the ours

(24b) seems to be a different case, which demands a pragmatic treatment, along the following lines. On the one hand, it seems that the use of a composed negative property –and the scale it is associated with–, such as 'non-tall' or 'non-expensive' is blocked by the existence of lexically-based antonyms, such as 'short' or 'cheap', for it is a marked a strategy (Horn 1989; Levinson 2000). Yet, this is not an isolated fact, for we don't have anything like the following:

- (27) a. #Juan es bastante no-alto.
Juan is quite not-tall
b. #He leído un libro muy no-divertido.
have read a book very not-funny

On the other hand, it can be argued that the use of negative properties is not generally a good strategy to create a referentially available set. This is exactly what happens in the following classic example by Barbara Partee cited in Heim (1982) (see also Kadmon 2001; Stalnaker 1999):

- (28) a. Exactly one of the balls is not in the bag. It's under the sofa.
b. Exactly nine of the balls are in the bag. #It's under the sofa.

Even though both sentences are truth-conditionally equivalent in a context where only ten balls are at stake, only the former allows the pronoun *it* to denote the ball that is not in the bag.

The basis for explaining this contrast involves discourse salience: only in (28a) is the referent salient enough in the context to be picked up by a pronoun. I would like to suggest that this is exactly what happens in exclamative sentences like the ones in (22). More precisely, the negative property denotes a referentially defective set, which is incompatible with the strong semantic requirement that the degree quantification be ascribed to a well-defined set. As will be discussed at length in subsection 4, this restriction is reproduced systematically in all cases where exclamatives involve some kind of quantification.

3.2.2 Nominal wh-exclamatives

This very same explanation extends to nominal wh-exclamatives like the following:

- (29) *¡Qué casa que no tiene!
what house that not has

Again, the negative property of 'not-having' is at odds with the necessity of quantifying over a well-defined set.

Now, we are left with the only acceptable instances of exclamative sentences with standard negation:

- (30) ¡Cuántos libros no quiso leer! Tiene un montón que llega al techo.
'How many books (s)he didn't wanted to read! There is a pile up to the ceiling.'

Apparently, the analysis proposed so far makes the wrong prediction that this kind of sentences should be ungrammatical, just as (22)-(23a) are. However, an additional factor should be taken into account here: discourse enhancement. Intuitively, for exclamatives like (30) to be felicitous it is required that the set denoted by the negative property be highly accessible in the physical context. One can imagine a situation in which someone is reading a large list or contemplating a big part of John's bookcase containing the books John was supposed to have read during his doctorate, but didn't. In other words, it seems thus that, even though using a negative property to characterize a set is a marked strategy, one such set may be licensed either discursively or, a fortiori, deictically, allowing it to occur in an exclamative sentence. Indeed, this mechanism for assigning discourse salience to a referent is not restricted to the case at hand, but it is more general in nature. Many examples of this strategy can be adduced which are well studied but I will restrict myself to two clear cases for convenience. First of all, consider again the pronominal reference example from Barbara Partee discussed above, and reproduced here again for the sake of clarity:

- (31) a. Exactly one of the balls is not in the bag. It's under the sofa.
b. Exactly nine of the balls are in the bag. #It's under the sofa.

Crucially, the infelicity continuation can be rescued by means of a pointing gesture, which renders the otherwise unhappy referent salient enough to be resumed by the pronoun. Another

instance of the very same strategy is found in right-dislocation structures, where, as a rule, the referent denoted by a right-dislocate must be highly salient in the discourse (see Grosz and Ziv 1998, and Villalba 2000). Consider the following example reported in (Grosz and Ziv, 1998, 7), which I quote in extenso:

[O]ne individual, say Susan, is holding Chomsky's latest book and conversing with another person, say Jon; the book has not been part of the conversation; Jon notices the book and says one of the following,

(14) a. It's very difficult, this book. I started reading it three times and got stuck. [...]

Jon could not have used the non-demonstrative definite description [e.g. the last book by Chomsky] or a pronoun [e.g. it] alone in (14a). Both require mutual belief that Susan is already attending to the book. The only felicitous answer is the use of a proper demonstrative.

This is exactly the kind of situation we are faced with in the case of exclamatives like (30): a referent is made salient by means of an indexical use.

3.3 Interim conclusions

In this section, it has been shown that the semantic properties of the exclamative sentence-type, namely factivity and extreme degree quantification, are incompatible with those of the negative operator, which explains the almost complete absence of standard negation in exclamative sentences. Moreover, it has been argued that the only apparent counterexamples to this strong generalization receive a proper explanation once the crucial role of discourse salience is taken into account. In the rest of the article, it will be shown that the approach suggested for negation can be extended with much profit to the intricate pattern of interactions between the exclamative sentence-type and quantifiers.

4 Exclamatives and quantifiers

The line of analysis proposed in the previous section for the interaction between exclamatives and negation makes the strong prediction that a number of incompatibilities must arise as well with those quantifiers introducing any kind of non-specificity, for it would enter in contradiction with the requirement that the degree operator quantify over a well-defined set. Here the list is wide, and the prediction is confirmed to a great extent. In this subsection several instances will be considered that show a clear-cut tendency: the more the quantifier allows a referential reading the more it is compatible with the exclamative sentence type. Moreover, besides its

empirical success, it will be argued that the proposal can shed light on theoretical issues as well, like the discussion concerning the necessity of an interval-based semantics for scalar phenomena.

4.1 Universal quantifiers

In the case of universal quantifiers, a clear contrast exists between specific and non-specific ones. So, non-specific *todo* 'every' and *cualquier* 'any' are impossible, whereas specific *todos* 'all' and *ambos* 'both' are fine (on the special behavior of *cada* 'each' see subsection 4.4.1 below):

- (32) a. ¡Qué aburrido que era *todo/*cualquier libro!
 how boring that was every/any book
- b. ¡Qué aburridos que eran {todos los/ambos} libros!
 how boring that were all/both books

If we follow the standard assumption that non-specificity is tied to a structure where the quantifier gets wide scope –via quantifier raising or whatever mechanism one prefers the best–, the contrast in (32) becomes unsurprising: it is simply reproducing the pattern described in subsection 3.1.

4.2 Non-universal quantifiers

When considered under the perspective of the generalized quantifier theory, non-universal quantified phrases in exclamative sentences display a surprisingly regular behavior: monotone increasing quantifiers are fine –with the exception of *un* 'a'–, whereas monotone decreasing and nonmonotone quantifiers yield ungrammatical results. Consider some relevant examples:

- (33) a. ¡Qué aburridos que eran algunos/muchos/varios libros!
 how boring that were certain/many/several books
- b. *¡Qué aburridos que eran apenas cuatro/menos de cuatro/pocos libros!
 how boring that were quite four/less than four/few books
- c. *¡Qué aburridos que eran exactamente cuatro/entre cuatro y seis libros!
 how boring that were exactly four/between four and six books

Interestingly, monotone increasing quantifiers are most easily interpreted partitively:

- (34) a. ¡Qué aburridos que eran algunos/muchos/varios de los libros!
 how boring that were certain/many/several (of the) books
- b. *¡Qué aburridos que eran apenas cuatro/menos de cuatro/pocos de los libros!
 how boring that were quite four/less than four/few of the books
- c. *¡Qué aburridos que eran exactamente cuatro/entre cuatro y seis de los libros!
 how boring that were exactly four/between four and six books

If we tie partitivity to a specific or referential interpretation, we can conclude that the behavior of non-universal quantifiers reproduces that of universal ones quite faithfully.

4.3 Excess quantifiers

As discussed at length in Bosque (1994), excess quantifiers such as *demasiado* 'too many' are inherently non-specific, as shown by their incompatibility with standard marks of specificity (modifiers forcing a particular reading (35) or partitivity (36)):

- (35) a. *demasiados libros en concreto
too.many books in particular
b. *demasiados de los libros
too.many of the books

As expected, exclamatives are incompatible with excess quantifiers:

- (36) *¡Qué altísimo/demasiado alto que es Juan!
how very.tall/too.much tall that is Juan

4.4 Distributivity

4.4.1 Distributive universal quantifiers

Consider again the behavior of universal quantifier *todos* 'all' in some detail:

- (37) ¡Qué caros que son todos los libros!
'How expensive all the books are!'

As expected from the previous discussion, in this sentence the degree operator must have wide scope over the universal quantifier, namely (37) can only be interpreted as (38a), but not as (38b) (see Gutiérrez-Rexach 1996, 2001 for similar examples and remarks):

- (38) a. Only one degree *d* exists such that *d* is the maximal degree in the scale of expensiveness and such that for every *y*, *y*=book, *y* is expensive to degree *d*.
b. For every *y*, *y*=book, only one degree *d* exists such that *d* is the maximal degree in the scale of expensiveness and such that *y* is expensive to degree *d*.

What is more noteworthy is that the reading in (38b) corresponds to an exclamative sentence with a distributional quantifier like *cada* 'each', which we know that *must* have wide scope over the distributor, regardless of its inherent specific nature. Henceforth, we predict a clear contrast between (37) and (39):

- (39) *¡Qué caro que es cada libro!
how expensive that is each book

The distributive reading imposed by the quantifier *cada* 'each' blocks the consideration of the prices as a group and imposes an evaluation of each price individually, with the corresponding contradictory reading:

- (40) There is more than one degree *d*, such that *d* is maximal in the scale of expensiveness and such that for every *x*, *x* a book, *x* is expensive to degree *d*.

Note that the explanation of this contrast cannot rest on the referential status of the quantifiers involved, for both *cada* 'each' and *todos* 'all' (cf. *todo* 'every') are inherently specific, but on the clash between the semantic requirements of exclamatives and those of the universal distributive quantifier.

4.4.2 Scales vs. intervals

Besides the empirical success in accounting for the contrast between *todos* 'all' (37) and *cada* 'each' (39), a point must be addressed of great theoretical importance concerning the narrow scope reading of the former in exclamatives, namely (38a) (I repeat the example and the paraphrase for the ease of reference):

- (41) (=23) ¡Qué caros que son todos los libros!
'How expensive all the books are!'
- (42) (=24a) Only one degree *d* exists such that *d* is the maximal degree in the scale of expensiveness and such that for every *y*, *y*=book, *y* is expensive to degree *d*.

Note that a sentence like (41) would be appropriate in a situation where several books are evaluated against a scale of expensiveness, and all of them happen to be far beyond our expected or reasonable price for a book. However, it is not necessary for all the books to be equally priced: it makes perfect sense to have, say, five extremely expensive books but with different particular prices. Now, the basic question regards the highest degree implicature, which it has been shown in subsection 2.2 to be the basic ingredient of the semantics of exclamatives together with factivity. Specifically, we must determine how the interpretation that a maximal value is involved, since there are several values considered, which obviously cannot all be maximal. Intuitively, the solution comes from the consideration of the different prices not individually but grouped, namely it is the *interval* containing all the ten prices that is evaluated, and not the position of each of them on the scale. This leads us toward a different consideration of degree quantification not based on points on a scale but on intervals, along the lines suggested independently by Kennedy (2001) and Schwarzschild and Wilkinson (2002) for comparatives.

The appropriateness of such a move is confirmed by the behavior of numerals. Consider:

- (43) a. *¡Las tonterías que dijeron dos niños ayer en clase!
the nonsense that said two kids yesterday in class
- b. *¡Qué mal que se portaron tres niños!
how bad that SE behave three kids

Yet, when a group reading is available, they become possible:⁷

- (44) a. ¡Cuánto ruido pueden llegar a hacer dos niños (juntos)!
how.much noise can arrive to make two kids (together)
- b. ¡Las tonterías que son capaces de decir tres niños (juntos)!
the nonsense that are capable of say three kids (together)

This strongly suggests that the quantification over degrees involved in exclamatives should be based not on points on a scale, but on intervals.

5 Conclusions

From the preceding discussion, a better understanding stems of the role of the two basic semantic ingredients of the exclamative sentence-type, factivity and extreme degree quantification, in the restrictions imposed on negation and quantification, which to a high extent, had gone unnoticed. It has been shown that the highly defective distribution of negation in exclamative sentences receives a principled explanation from the competing semantic conditions imposed by the exclamative sentence-type and those of negation. Moreover, this analysis has proven to be successfully applicable to a wide range of empirical data concerning quantification over individuals, and, due to the resort to fundamental semantic properties rather than to particular syntactic features, has brought new evidence to the fore favoring an interval-based semantics for degree quantification.

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⁷It must be noted that genericity plays a role here. Compare (44) with the following:

- (i) a. ??¡Cuánto ruido hicieron dos niños (juntos)!
how.much noise made two kids (together)
- b. ??¡Las tonterías que dijeron tres niños (juntos)!
the nonsense that said three kids (together)

This behavior seems to be connected to the fact noted in (Krifka et al., 1995, 89-90) that plurals may denote kinds. However, a more profound study is in order, which I have to leave for the future.

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