

Most vs. the most in languages where *the more* means *most*

Elizabeth Coppock and Linnea Strand

December 19, 2017

Abstract

This paper focuses on languages in which a superlative interpretation is typically indicated merely by a combination of a definiteness marker with a comparative marker, including French, Spanish, Italian, Romanian, and Greek (‘DEF+CMP languages’). Despite ostensibly using definiteness markers to form the superlative, superlatives are not always definite-marked in these languages, and the distribution of definiteness-marking varies from language to language. To account for the cross-linguistic variation, we identify conflicting pressures that all of the languages in consideration may be subject to, and suggest that different languages prioritize differently in the resolution of these conflicts. What these languages have in common, we suggest, is a mechanism of Definite Null Instantiation for the degree-type standard argument of the comparative. Among the parameters along which languages are proposed to differ is the relative importance of marking uniqueness vs. avoiding determiners with predicates of entities that are not individuals.

1 Introduction

In French, placing a definite article before a comparative adjective suffices to produce a superlative interpretation:

- (1) Elle est **la plus grande**.
she is the CMP tall
‘She is **the tallest**.’

French is not alone; other Romance languages, as well as Modern Greek, Maltese and others, make do with the same limited resources. Some examples are given in Table 1.¹ This paper

¹Besides Romance languages, languages reported to use this strategy include Modern Standard Arabic, Assyrian Neo-Aramaic, Middle Armenian, Modern Greek, Biblical Hebrew, Livonian, Maltese, Chalcatongo Mixtec, Papiamentu, Vlach Romani, Russian, and Tamashek (Bobaljik, 2012; Gorshenin, 2012). Note however that Gorshenin has rather liberal criteria for a given construction being of this type; for Russian, the example given is *Etot žurnal sam-yj interesn-yj* ‘This magazine is the most interesting (one)’. Gorshenin describes *sam-yj* as an “emphatic pronoun” and reasons that “this pronoun indicates uniqueness, particularity of the referent in some respect, and therefore it can be regarded as a functional equivalent of a determiner in the corresponding superlative construction” (p. 129).

Table 1: The comparative and superlative degree of ‘tall’ in some DEF+CMP languages

LANGUAGE	POS	CMP	SPRL
English	tall	taller	tallest
French	grande	plus grande	la plus grande
Spanish	alto	más alto	el más alto
Romanian	inalt	mai inalt	cea mai inalt
Italian	alto	più alto	il più alto
Greek	psilós	pio psilós	o pio psilós
Greek (alt 2)	psilós	psilóteros	o psilóteros

considers such languages, which we call DEF+CMP languages, against the background of a growing literature on cross-linguistic variation with respect to the relationship between definiteness-marking and the interpretation of superlatives.

There is particularly great cross-linguistic variation when it comes to the superlatives of quantity words, like English *much*, *many*, *little* and *few*. Quantity words are a bit like adjectives, and a bit like quantifiers. Like adjectives, for example, they have comparative and superlative forms (e.g. *more* and *most*). This is sufficient for Jespersen (1914/1970) and Kayne (2005a) to classify them as adjectives. But like quantifiers, they can take partitive phrases (e.g. *many/more/most of the students*), can stand on their own in e.g. *few are intelligent* (Svenonius, 1992), and can’t follow numerals (e.g. *two red/*many balls*). Perhaps as a consequence of the tension between these two identities, there is a great deal of variability across languages with respect to the patterns of definiteness-marking associated with the superlative forms of quantity words. As Hackl (2009) shows, German *die meisten*, lit. ‘the most’, can be translated into English either as *most* or *the most*. Even more dramatically, English and Swedish are near-opposites with respect to the impact of definiteness-marking on interpretation (Coppock & Josefson, 2015); compare the following Swedish examples to their English glosses:

- (2) Gloria har besökt **de flest-a kontinent-er-na**.
 Gloria has visited the.PL many.SPRL-WK continent-PL-PL.DEF
 ‘Gloria has visited **most of the continents**.’
- (3) Gloria har besökt **flest kontinent-er** (av alla).
 Gloria has visited many.SPRL continent-PL of all.PL
 ‘Gloria has visited **the most continents** (of everyone).’

Example (2) has what is called a ‘proportional’ reading, specifying that a high proportion of the relevant class of entity (roughly more than half of the continents, in this case), has the relevant property (being visited by Gloria in this case). Example (3) has what is known as a ‘relative’ reading, specifying that the focussed element (Gloria) stands in the relevant relation to more elements of the class in question than any alternative. In English, there is definiteness-marking preceding the superlative *most* on the relative reading but not the proportional reading, whereas in Swedish, the pattern is reversed.

Quality superlatives are also ambiguous between two readings, and English and Swedish

differ with respect to how these are marked as well. Consider the following examples.

- (4) a. Gloria sålde **god-ast** **glass**.
Gloria sold delicious-SPRL ice cream
'Gloria sold **the most delicious ice cream** (relative only).'
- b. Gloria sålde **den god-ast-e glass-en**.
Gloria sold the delicious-SPRL-WK ice cream-DEF
'Gloria sold **the most delicious ice cream** (relative or absolute).'

As Teleman et al. (1999) discuss, (4-a) means that Gloria sold more delicious ice cream than anyone else. It would not suffice for (4-a) to be true that there be a salient set of ice creams of which Gloria sold the most delicious. If someone else sold that ice cream as well, then (4-a) would be false. In contrast, the English gloss and the definite-marked example (4-b) could be true if both Gloria and someone else sold the ice cream that was more delicious than all other ice creams that are salient in the context. All that is required for that sentence to be true is that Gloria stands in the 'sold' relation to the ice cream satisfying that description. Here again, we see that definiteness-marking has divergent interpretive effects in English and Swedish.

In Heim's (1999) terms, (4-a) has a *relative reading* (originally called a *comparative reading* by Szabolcsi (1986)), and (4-b), along with the English gloss, is ambiguous between a relative reading and an *absolute reading*. Relative readings are typically focus-sensitive, implying a comparison between the focus (e.g. Gloria) and the focus-alternatives, and on such readings the superlative noun phrase behaves like an indefinite despite the frequent presence of a definite determiner (Szabolcsi, 1986; Coppock & Beaver, 2014). On an absolute reading, comparisons are made only among elements satisfying the descriptive content of the modified noun, and the definite behaves as a definite. The contrast between absolute and relative readings was discussed early on by Szabolcsi (1986) with reference to Hungarian, and has been taken up in a fair amount of recent cross-linguistic research, mainly focussed on English (Gawron, 1995; Heim, 1999; Hackl, 2000; Sharvit & Stateva, 2002; Hackl, 2009; Teodorescu, 2009; Krasikova, 2012; Szabolcsi, 2012; Bumford, 2016; Wilson, 2016), but also with reference to German (Hackl, 2009), Swedish (Coppock & Josefson, 2015), other Germanic languages (Coppock, to appear), Hungarian (Farkas & É. Kiss, 2000), Romanian (Teodorescu, 2007), Spanish (Rohena-Madrado, 2007), Arabic (Hallman, 2016), and Slavic languages including Macedonian, Czech, Serbian/Croatian and Slovenian (Pancheva & Tomaszewicz, 2012).

We might expect the landscape of variation with respect to the definiteness-marking of superlatives to be rather dull and flat within the realm of DEF+CMP languages. If superlatives are formed with definiteness-markers, then definiteness-markers should always appear, regardless of what reading is involved. But this is not what we find.

We find in fact several departures from the dull and flat picture one might expect. First, as Dobrovie-Sorin & Giurgea (2015) discuss, French is one of the many languages of the world where quantity superlatives do not have a proportional interpretation.

- (5) De tout les enfants de mon école, je suis celui qui joue **le plus**
of all the kids of my school, I am the.one who plays DEF CMP
d'instruments.
of.instruments

‘Of all the kids in my school, I’m the one who plays the most instruments.’

- (6) ***Le plus de cygnes** sont blancs.
the more of swans are white

Example (5) shows that the quantity superlative *le plus* can be used with a relative interpretation (comparing the speaker to other kids in the school); (6) shows that it does not have a proportional interpretation; this example does not mean ‘most swans are white’. Such languages are surprising from the perspective of Hackl (2000, 2009), according to which the proportional readings of quantity superlatives are parallel to absolute readings of quality superlatives. Romanian and Greek are more well-behaved from that perspective; there, the superlative of ‘many’ (literally ‘the more many’) can have a proportional interpretation. For example, the following Greek sentence is ambiguous as indicated:

- (7) Éfaga **ta perissotera biskóta**.
ate.1SG the much.CMP cookies
‘I ate **the most cookies**’ or ‘I ate **most of the cookies**.’

This is one point of variation.

Another point of variation is which types of superlatives are accompanied by definiteness-marking. We can distinguish between the following types:

- Quality superlatives
 - Adjectival quality superlatives
 - * Predicative, as in *She is (the) tallest*
 - * Adnominal; absolute reading, as in *The tallest girl left*
 - * Adnominal; relative reading, e.g. *I’m not the one with the thinnest waist*
 - Adverbial quality superlatives, as in *She runs the fastest*
- Quantity superlatives
 - Adnominal quantity superlatives
 - * Relative reading, as in *I ate the most cookies*
 - * Proportional reading, as in *I ate most of the cookies*
 - Adverbial quantity superlatives, as in *She talks the most*

In French and Romanian, definiteness-marking appears on superlatives of all of these types. The same is not the case for Italian, Spanish and Portuguese. Despite forming quality superlatives through the combination of a definiteness-marker with a comparative form, these languages do not use definiteness-marking for adverbial superlatives or quantity superlatives on relative readings (and they do not allow proportional readings for quantity superlatives at all). Here is an example from Italian (cf. de Boer 1986, Dobrovie-Sorin & Giurgea 2015, i.a.):

- (8) Probabilmente è Hans che ha bevuto **più caffè**.
Probably it.is Hans who has drunk CMP coffee
‘It is probably Hans who has drunk **the most coffee**.’

(A comparative interpretation, ‘It is probably Hans who has drunk more coffee’, is also available here, although the cleft construction strongly biases toward a superlative interpretation.) The same happens in Spanish and Portuguese.

In Greek, as illustrated below, there is a split between quantity and quantity adverbials (‘talk the most’ vs. ‘talk the fastest’): Quantity adverbials are obligatorily definite-marked and quantity adverbials obligatorily lack definiteness-marking. All other superlatives have a definiteness marker, relative and proportional readings of quantity superlatives included.

So, in all of the languages under consideration, superlatives are generally formed by combining a definiteness-marker with a comparative, yet in some of these languages, superlatives may lack a definiteness-marker. This is certainly surprising if the superlative interpretation is supposed to rest fully in the hands of the definite determiner.

Generally, there are several analytical options we could consider for DEF+CMP superlatives. The one we have just ruled out (at least for Italian, Spanish, and Portuguese) is that the definite article itself is the marker of the superlative. Another is that the comparative is lexically ambiguous between a comparative and a superlative. Another would build on the stance argued for by Bobaljik (2012), where superlatives are composed of comparatives and a bit that means ‘of all’. This latter bit could be taken to be silent in DEF+CMP languages; see Szabolcsi 2012 for a formal analysis of *the more* in English along these lines. A fourth possibility is that a superlative interpretation arises more or less directly from the composition of a comparative meaning and the meaning of the definite article.

We pursue a moderate instantiation of the last-mentioned strategy here, one which also applies to cases in English like *the more qualified candidate (of the two)*. The basic idea is that the standard argument of the comparative may be saturated by a degree-type pronoun. So *the more qualified candidate*, for example, denotes the candidate in the contextually-given comparison class **C** that is more qualified than contextually-given **d**, for appropriately chosen value of **d**. This is hypothesized to be possible in all of the languages under consideration (and even English, manifest in expressions like *the taller one of the two*).

This is the common core. But there are conflicting pressures that lead to variation with respect to whether definiteness-marking occurs. On the one hand, there is pressure to mark uniqueness on phrases where uniqueness can be marked, and on the other hand, there is pressure to avoid definiteness marking on descriptions of entities other than individuals. Different languages prioritize differently when it comes to resolving these conflicts. We suggest furthermore that proportional readings arise through grammaticalization, but via different routes for different languages.

The following sections will present data from Greek, Romanian, French, and Ibero-Romance, in that order. These sections will lay out the basic facts concerning the morphosyntax of superlatives in these languages. After a summary in §6, compositional treatments of the various varieties will be sketched in §7.

Table 2: Synthetic and periphrastic forms of *psilós* ‘tall’ in Greek

	POSITIVE	COMPARATIVE	SUPERLATIVE
Synthetic:	<i>psilós</i>	<i>psilóteros</i>	<i>o psilóteros</i>
Periphrastic:	<i>psilós</i>	<i>pio psilós</i>	<i>o pio psilós</i>

2 Greek

2.1 Quality superlatives

We begin with Greek, where a definite article may combine with either a synthetic or periphrastic comparative to form the superlative. The synthetic and periphrastic variants are in free variation. For example, the comparative and superlative forms of *psilós* ‘tall’ have two varieties, as illustrated in Table 2. These two variants appear to be freely interchangeable, although the synthetic one may be slightly more commonplace. For all of the types of examples we elicited, many of which are presented below, both variants were judged to be acceptable.

Table 3: Declension of the definite article in Greek

SINGULAR			
	MASCULINE	NEUTER	FEMININE
N.,	<i>o</i>	<i>to</i>	<i>i</i>
G.,	<i>tou</i>	<i>tou</i>	<i>tis</i>
A.,	<i>to(n)</i>	<i>to</i>	<i>ti(n)</i>
PLURAL			
	MASCULINE	NEUTER	FEMININE
N.,	<i>oi</i>	<i>ta</i>	<i>oi</i>
G.,	<i>ton</i>	<i>ton</i>	<i>ton</i>
A.,	<i>tous</i>	<i>ta</i>	<i>tis</i>

In adnominal superlatives, there is always a definite article, which agrees in gender and number with the modified noun.² The definite article is present regardless of whether an absolute or relative interpretation is intended. Hence, the following example is ambiguous:³

- (9) O Stellios odigei **to pio grigoro** aftokinito.
the Stellios drives DEF CMP fast car
‘Stellios drives **the fastest car.**’

²For reference, the inflectional paradigm for the definite article is as in Table 3. We suppress the agreement features in our glosses for the sake of readability.

³Thanks to Haris Themistocleous and Stergios Chatzikyriakidis for judgments and discussion.

Here is an example that strongly favors a relative interpretation; definiteness-marking is obligatory here as well.

- (10) Den eimai ego afti me **ti leptoteri mesi** stin oikogeneia.
 not I self she with DEF thin.CMP middle in family
 ‘I’m not the one with **the thinnest waist** in the family.’

Note that the periphrastic variety *ti pio lepsi mesi* ‘the thinnest waist’, lit. ‘the more thin waist’, is equally acceptable here according to our consultants.

With adverbial quality superlatives, in contrast, there is no definite article:

- (11) I aderfi mou trechei **pio grigora**.
 the sister my runs CMP fast
 ‘My sister runs **the fastest**.’
- (12) Pios tragoudái **pio kalá?**
 who sings more good
 ‘Who sings the best?’
 (Dobrovie-Sorin & Giurgea, 2015, 16, ex. (71))

Inserting a definite article before *pio* is not possible in this sentence, e.g. **I aderfi mou trechei to pio grigora*. As Dobrovie-Sorin & Giurgea (2015) point out, this shows that the definite article is not an integral part of superlative-marking in Greek.

Absolute and relative readings of adnominal superlatives are similar to each other and to ordinary adjectives with respect to syntactic behavior as well. As has been much discussed, Greek has a construction in which the order of the adjective and the noun can be reversed, called ‘determiner spreading’; see Alexiadou (2014, 19) for an extensive list of references. The interpretive effect of determiner spreading is similar to that of placing an adjective postnominally in Romance: generally, it is restricted to restrictive modifiers (Alexiadou & Wilder, 1998). But unlike in Romance, this construction involves an extra definite determiner:

- (13) a. to kokino to podilato
 the red the bicycle
 ‘the red bicycle’
 b. to podilato to kokino
 the bicycle the red
 ‘the red bicycle’

Determiner spreading can involve superlatives; Alexiadou (2014) discuss the following example, which has an absolute reading, referring to a particular cat:

- (14) Spania haidevo **tin mikroteri ti gata**.
 seldom pet the smallest the cat
 ‘I seldom pet **the smallest cat**.’

Intuitions appear to be somewhat murky when it comes to determiner spreading with relative readings, but the following variant of (10) was judged as acceptable by our consultants:

- (15) Den eimai ego afti me **ti leptoteri ti mesi** stin oikogeneia.
 not be.1SG I she with the thin.CMP the waist in family
 ‘I’m not the one with **the thinnest waist** in the family.’

This suggests that the comparative adjective in an adnominal superlative is structurally analogous to an ordinary adjective in a determiner-adjective-noun sequences, and that the article is a real article, in its ordinary position.

2.2 Quantity superlatives

Like quality superlatives, quantity superlatives are formed through the combination of a definite article with a comparative form, which may be either periphrastic, as in (16), or synthetic, as in (17). Here are some examples with relative readings, one count and one mass:

- (16) Apó óla ta paidiá sto scholeío, egó paízo **ta pio pollá órgana**.
 of all the kids at school, I play DEF CMP many instruments
 ‘Of all the kids in my school, I’m the one who plays **the most instruments**.’
- (17) Eimai aftos pou pinei **ton ligotero kafe**.
 I he who drinks DEF little.CMP coffee
 ‘I am the one who drinks **the least coffee**.’

Definiteness-marking is not optional here. Note that the word for ‘many’ is transparently contained within the superlative phrase in its periphrastic form.

Definite-marked quantity superlatives are also regularly used for expressing a proportional interpretation. Here are some examples from our data:

- (18) **S-ta perissótera paidiá** sto scholeío mou arései na paízoun mousikí.
 DAT-DEF many.CMP kids at school mine like to play music
 ‘Most of the kids in my school like to play music.’
- (19) I mamá éftiaxe biskóta chthes kai éfaga **ta perissótera**.
 the mom made cookies yesterday and ate DEF many.CMP
 ‘Mom baked cookies yesterday and I ate **most of them**.’
- (20) Ípia epísis **to perissótero gála**.
 drank also DEF much.CMP milk
 ‘I drank **most of the milk**, too.’

Definiteness-marking is not optional here either.

Interestingly, there is a contrast between quality and quantity in the adverbial domain. Adverbial quantity superlatives appear to require a definite article:⁴

- (21) O Pavlos milaei **to ligotero**.
 the Paul talks the little.CMP
 ‘Paul talks the least’

⁴Thanks to a reviewer for pointing this out, and to Stavroula Alexandropoulou for discussion.

Removing the definite article in (21) yields a comparative interpretation, ‘Paul talks less’. Notice that *talk* is intransitive, so it is unlikely that *to ligotero* is serving as the object of the verb. Further evidence that the construction in question is really adverbial comes from the fact that definite-marked quantity superlatives can be coordinated with non-definite-marked adverbial quality superlatives:

- (22) O Pavlos milaei [pio grigora apo olus ke to perisotero].
 the Paul talks [CMP fast of all.ACC and the much.CMP]
 ‘Paul talks the fastest of all and the most’

Thus adverbial quantity superlatives pattern with adnominal quantity superlatives and quality superlatives, and differently from adverbial quality superlatives.

Although quantity superlatives look morphologically very much like quality superlatives, there is a slight difference in their syntactic behavior. Definiteness spreading appears to be somewhat less acceptable with quantity superlatives than with quality superlatives. None of our consultants were entirely comfortable with the following examples (although they were characterized as ‘syntactically perfect’), and some rejected them:

- (23) a. ??Éfaga ta perissotera ta biskóta.
 ate.1SG the much.CMP the cookies
 Intended: ‘I ate **the most cookies**’ or ‘I ate **most of the cookies.**’
 b. ??Éfaga ta biskóta ta perissotera.
 ate.1SG the cookies the much.CMP
 Intended: ‘I ate **the most cookies**’ or ‘I ate **most of the cookies.**’
- (24) a. ??Eimai aftos pou pinei ton ligotero ton kafe.
 be.1SG him who drinks the little.CMP the coffee
 ‘I’m the one who drinks **the least coffee.**’
 b. ??Eimai aftos pou pinei ton kafe ton ligotero.
 be.1SG him who drinks the coffee the little.CMP
 ‘I’m the one who drinks **the least coffee.**’

So definiteness-spreading appears to be somewhat more restricted in the quantity domain.

However, Giannakidou (2004) gives examples such as the following:

- (25) i perissoteri oi fitites efygan noris
 the most the students left early
 ‘Most of the students left early.’

It is unclear to us whether this should be seen as an instance of determiner-spreading or a construction in which *oi fitites* serves as the restrictor for the quantifier *i perissoteri*. Further research is needed to determine this and to clarify the extent to which definiteness-spreading with quantity superlatives is possible. In any case, there does appear to be some asymmetry between quality and quantity superlatives at least in object position, so they are not entirely parallel.

To summarize the situation for Greek: Definiteness-marking appears with every type of superlative except adverbial quality superlatives, including adnominal quality superlatives on both relative and proportional readings, and both adnominal and adverbial quantity superla-

tives. Relative and proportional readings are available for adnominal quantity superlatives modifying both mass nouns and coun nouns. There is also full agreement with the noun in all cases where there is a noun to agree with, so quantity superlatives are morphologically very similar to quality superlatives overall. However, they differ to some extent with respect to definiteness-spreading, suggesting that they may not be entirely parallel.

3 Romanian

We turn now to Romanian, which is like Greek in some respects, but not in others. It uses DEF+CMF for both relative and proportional readings, but there is evidence that the definite article is more tightly knit with the comparative here than it is in Greek.

3.1 Quality superlatives

Example (33-c) shows a predicative use of a superlative in Romanian, (33-b) an attributive use, and (28) an adverbial use.

- (26) Pentru că eram **cea mai entuziasmată**.
 for that I.was DEF CMP enthusiastic
 ‘Because I (fem.) was **the most enthusiastic**.’
- (27) A scris **cea mai frumoasă compunere**.
 has written DEF CMP beautiful composition.ACC
 ‘She wrote **the most beautiful composition**.’
- (28) Sora mea poate alerga **cel mai repede**.
 sister my can run DEF CMP fast
 ‘My sister can run **the fastest**.’

In (33-c) and (33-b), *cea* is a feminine singular form of *cel*. In (28), we have the invariant, default form.⁵ We will not gloss the agreement features, but simply refer the reader to the inflectional paradigm for the demonstrative in Table 4, taken from Cojocaru (2003, 53). Note also that the adjective *frumosă* ‘beautiful’ shows feminine singular agreement with the noun *compunere* ‘composition’.

We gloss *cel* here as DEF, in order to bring out the parallels with other DEF+CMF languages, but it should be kept in mind that this element is not the most direct correlate of English *the* in the language. *Cel* is not found in ordinary, simple definites; instead a suffix is used. For example, in (29-a), we have feminine singular definite ending *-a*, modified from the stem-inherent *-ă*. We gloss this ending here as ‘the’.⁶

- (29) a. Carte-a e pe mas-a mare.
 map-the is on table-the big
 ‘The map is on the big table.’

⁵Dindelgan (2013, 315) points out that adverbial *cel* can receive dative case marking, so it is not entirely invariable.

⁶The full inflectional paradigm for the definite suffix is given in Table 5.

Table 4: *Inflectional paradigm for cel in Romanian (Cojocaru, 2003, 53).*

SINGULAR		
	MASCULINE, NEUTER	FEMININE
N., A.	cel	cea
G., D.	celui	celei
PLURAL		
	MASCULINE	FEMININE, NEUTER
N., A.	cei	cele
G., D.	celor	celor

Table 5: *Inflectional paradigm for definite suffixes in Romanian (Cojocaru, 2003).*

SINGULAR			
	MASCULINE	NEUTER	FEMININE
N., A.	pom ul	scaun ul	cas a ; floare a ; cafe a
G., D.	pom ului	scaun ului	casei; flori i ; cafele i
PLURAL			
N., A.	pom ii	scaune le	case le , flori le ; cafele le
G., D.	pomil or	scaunel or	casel or , flori lor ; cafele lor

- b. Carte-a e pe o masă mare.
 map-the is on a table big
 ‘The map is on a big table.’

In traditional grammar (e.g. Cojocaru 2003), *cel* is classified as a demonstrative, though it has additional functions as well. For instance, it can double a definite suffix (Alexiadou, 2014):

- (30) Legile (cele) importante n’au fost votate
 laws-the (DEF) important have not _been voted
 ‘The laws which were important have not been passed.’

See Alexiadou (2014, 53-62) for a recent discussion of this phenomenon and its relation to Greek determiner spreading.

As (30) shows, Romanian has two word order options for adjectives, including superlatives. This choice bears on the presence or absence of a definite suffix on the noun. If the adjective precedes the modified noun as in (33-b), repeated in (31-a), this noun remains uninflected. If the noun precedes the adjective, as in (30) and (33-a), the noun receives definiteness marking (Cojocaru, 2003, 53).

- (31) a. A scris **cea mai frumoasă compunere**.
 has written DEF CMP beautiful composition.ACC
 ‘She wrote **the most beautiful composition**.’
 b. A scris **compunere-a cea mai frumoasă**.
 has written composition-the DEF CMP beautiful
 ‘She wrote **the most beautiful composition**.’

According to Teodorescu (2007), the prenominal variant (31-a) and the postnominal variant (33-a) have the same interpretive options. The following is an example favoring a relative interpretation; both orders are reportedly fine, although all four of the Romanian speakers we consulted spontaneously translated the sentence indicated in the English gloss using the prenominal variant (32-a).⁷

- (32) a. Eu nu sunt cea din familie cu **cel mai subțire talie**.
 I not be.1SG DEF from family.ACC with DEF CMP thin waist
 ‘I am not the one in my family with **the thinnest waist**.’
 b. Eu nu sunt cea din familie cu **tali-a cea mai subțire**.
 I not be.1SG DEF from family.ACC with waist-the DEF CMP thin
 ‘I am not the one in my family with **the thinnest waist**.’

Note that postnominal adjectives typically receive an intersective interpretation (Cornilescu, 1992; Teodorescu, 2007; Marchis & Alexiadou, 2009):

- (33) a. o poveste advărată
 a story true
 ‘a story that is true’ (not ‘quite a story’)
 b. o advărată poveste
 a true story
 ‘a story that is true’ or ‘quite a story’
 c. Această poveste este advărată
 this story is true
 ‘This story is true.’

The postnominal adjective in (33-a) has only the interpretation that the adjective in (33-c) has, while the prenominal adjective can also have a non-intersective interpretation. If this applies to superlatives, then the fact that both relative and absolute readings of superlatives are possible in post-nominal position suggests that both relative and absolute readings are, or can be, restrictive readings.

Dobrovie-Sorin & Giurgea (2015) give a number of arguments that *cel mai* + AP form a constituent that sits in the specifier of DP. One is the striking fact that *cel* can be preceded by an indefinite article (Dobrovie-Sorin & Giurgea, 2015, 15, ex. (64)):⁸

- (34) Există întotdeauna **un cel mai mic divizor comun** a două elemente
 exists always a DEF CMP small divisor common of two elements
 ‘There always exists **a smallest common factor** of two elements.’

⁷Thanks to Gianina Iordachioaia for help and discussion.

⁸Source: ro.wikipedia.org/wiki/Algoritmul_lui_Euclid

The second argument they make is that *cel* is always present in superlatives, both when the superlative is post-nominal as in (33-a), and when it is adverbial as in (35).

- (35) Vi fi premiat cel care va scrie #(cel) **mai clar**.
 will be awarded-prize DEF which will write DEF more clearly
 ‘The one who writes **the most clearly** will be awarded a prize.’
 (Dobrovie-Sorin & Giurgea, 2015, 15, ex. (66))

Their third argument is that definite comparatives involve the suffix (which appears on the adjective preceding the head noun) rather than *cel*:

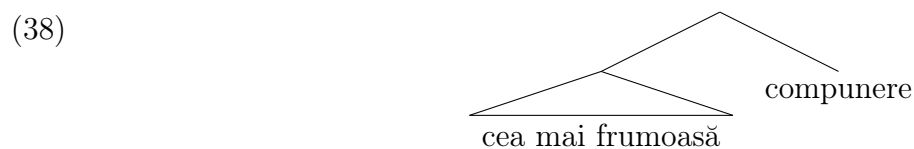
- (36) ... dar cu **mult mai dificil-ul obiectiv** al ...
 ... but with much more difficult-the goal of ...
 ‘... but with **the much more difficult goal** of ...’

So *cel* must have some meaning or function distinct from the suffix.

They also observe that the unmarked position of comparatives is postnominal, whereas the unmarked position for superlatives is prenominal, and note that *cel* cannot be separated from a prenominal comparative by numerals (though numerals can normally follow *cel*):

- (37) a. *cei doi mai înalți munți
 these two more high mountains
 b. cei mai înalți doi munți
 these more high two mountains
 ‘the two highest mountains’

These arguments have us convinced that *cel* in superlatives is not a direct dependent of the modified noun, but rather forms a phrase with the comparative marker and the adjective to the exclusion of the noun. So the structure of *cea mai frumoasă compunere* ‘the most beautiful composition’ appears to be:



3.2 Quantity superlatives

Now let us turn to quantity superlatives in Romanian. As with quality superlatives, definiteness-marking is ubiquitous, even with adverbials:

- (39) Personajele de care se râdea **cel mai mult** erau Leana și nea Nicu.
 characters of which they laughed DEF CMP much were Leana and uncle Nicu
 ‘The characters they laughed at the most were Leana and uncle Nicu.’

And the DEF+CMP construction can have both proportional and relative readings in Romanian. Here are cases with relative readings (the latter from Teodorescu (2007, 11)).

- (40) Eu sunt cel care cânta la **cele mai multe instrumente**.
 I am the which plays to DEF CMP much instruments
 ‘I am the one who plays **the most instruments**.’
- (41) Dan a băut **cea mai multă bere**.
 Dan has drunk the CMP much beer
 ‘Dan drank **the most beer**.’

Here is a case with a proportional reading, using the partitive preposition *dintre*:⁹

- (42) **Cele mai multe dintre copiii** care merge la scoala mea place să se joace
 DEF CMP much of kids.DEF who go at school mine like to REFL play
 muzica.
 music
 ‘**Most of the kids** who go to my school like to play music.’

We also find non-partitive uses:

- (43) **Cei mai mulți elevi** din clasa mea au plecat devreme
 the more many students from class.the my have left early
 ‘**Most of the students** in my class have left early.’
- (44) **Cele mai multe lebede** sunt albe
 the more many swans are white
 ‘**Most swans** are white.’

But the syntactic position of the superlative phrase may not be the same as with quality superlatives: In contrast to quality superlatives, quantity superlatives are normally only permitted prenominally (Teodorescu, 2007, 11).

- (45) *Dan a băut bere-a **cea mai multă**.
 Dan has drunk beer-DEF DEF CMP much
 Intended: ‘Dan drank **the most beer**.’

Dobrovie-Sorin (2015) does give the example of a postnominal *cel mai mult*-construction in (46-b), but says that it does not give rise to a relative *or* proportional reading, but “comparison between predefined groups”, where the noun phrase refers to one of these groups.

- (46) a. **Cele mai multe lebede** sunt albe
 DEF CMP many swans are white
 ‘**Most swans** are white.’
- b. ?**Lebedele cele mai multe** sunt albe
 swans.the DEF CMP many are white
 ‘**The more/most numerous (group of) swans** are white.’

⁹The preposition *dintre* (*din* with singular complements) is used in Romanian to introduce an explicit comparison class in superlative constructions, e.g. *El scrie cel mai bine dintre toți*, ‘He writes the best of all’, lit. ‘He writes the more good among all’ (Cojocaru, 2003, 169). *Dintre* is also used in quantificational partitive constructions, e.g. *Unul dintre ei prezintă proiectul* ‘One of them is presenting the project’.

This reading is referential, and distinct from the proportional reading that arises in prenominal position, rather than quantificational.

Interestingly, (41) above does not have a proportional interpretation. According to Dobrovie-Sorin (2015), this is tied to the fact that a mass noun is involved. Indeed, in our data, a proportional interpretation, in the case of mass quantification, typically involves a ‘majority’ or ‘part’ noun instead, just as in other Romance languages:

- (47) Am baut **majoritatea laptelui**.
 have drunk majority milk
 ‘I drank **most of the milk**.’
- (48) Am baut **mai mare parte a laptelui**.
 have drunk CMP big part GEN milk
 ‘I drank **most of the milk**.’

Dobrovie-Sorin argues that *cel mai mult* functions as a complex proportional quantifier, one that expects a count down denotation as an argument. Providing further evidence for this view, she claims that a proportional reading is not always available for count nouns, either, pointing to a contrast in acceptability between (49) and (50):

- (49) **Cei mai mulți elevi** din clasa mea au plecat devreme.
 DEF CMP many students.DEF of class.DEF my have left early.
 ‘**Most students** in my class left early.’ (Dobrovie-Sorin, 2015, 395)
- (50) ***Cei mai mulți băieți** s-au adunat în sala asta.
 DEF CMP many boys REFL-have gathered in room.DEF this.
 ‘**Most of the boys** have gathered in this room.’ (Dobrovie-Sorin, 2015, 395)

She ascribes these differences to whether or not the nuclear scope is filled with a distributive predicate. The unacceptability of (50) is explained under the assumption that the subject noun phrase is quantificational rather than referential. This adds to the evidence in favor of Dobrovie-Sorin’s (2015)’s idea that *cel mai mult* has grammaticalized as a proportional determiner.

To summarize: Superlatives are always definite in Romanian. Evidence involving quality superlatives suggests that the definite element is integrated more closely with the comparative element than with the modified noun, i.e., lower down in the structure, not signalling definiteness at the level of the full nominal. Both relative and proportional readings are available for adnominal quantity superlatives, although the proportional readings are limited to count nouns. The existence of proportional readings only with count nouns as well as the unacceptability of collective predicates suggests that *cel mai mult* has grammaticalized into a proportional determiner (Dobrovie-Sorin, 2015).

4 French

4.1 Quality superlatives

Let us now turn to French. With predicative superlatives, a definite article precedes a comparative, and agrees with the subject:

- (51) a. Mais elle est **la meilleure**.
But she is DEF good.CMP
'But she is **the best**.'
b. Parce-que j'étais **le meilleur**.
Because I.was DEF good.CMP
'Because I was **the best**.' (masc.)

With adnominal quality superlatives as well, French uses a definite article, regardless of whether the interpretation is absolute or relative. Here is an example with a relative interpretation, in two variants, one prenominal and one postnominal:¹⁰

- (52) a. Je ne suis pas celui de la famille avec **la plus petite taille**.
I NEG am NEG the-one of the family with DEF CMP small waist
'I'm not the one in the family with **the thinnest waist**.'
b. Je ne suis pas celui de la famille avec **la taille la plus petite**.
I NEG am NEG the-one of the family with the waist DEF CMP small
'I'm not the one in the family with **the thinnest waist**.'

In the postnominal case, both definiteness markers agree in gender and number with the relevant noun; for example:

- (53) Ma mère cuisine **les cookies les plus délicieux** du monde.
my mother bakes DEF cookies DEF CMP tasty of.the world
'But it's hard since mom bakes **the yummiest cookies** in the whole world.'

Other Romance languages in which postnominal superlatives are accompanied by a definite article include Rumantsch and certain "local and historical" varieties of Italian; Plank 2003. As we will see below, the definite article does not accompany post-nominal superlatives in Italian, Spanish, and other Ibero-Romance languages.

Adverbial superlatives also come with a definite article, which shows default agreement:

- (54) C'est lui qui court **le plus lentement**.
it:is him who runs DEF CMP slowly
'It is he who runs the slowest.'

So French looks very much like Romanian so far.

However, unlike in Romanian, it is possible to separate the definite article from the comparative with a numeral in French, as we see in the following famous quote:

¹⁰Cinque (2010) reports that the relative reading is not available with prenominal syntax in Italian; example (52-a) shows that relative readings can arise with prenominal superlatives in French, so it is not a general Romance phenomenon as Alexiadou (2014, 72) suggests.

- (55) **Les deux plus belles conquêtes** que l’homme ait faites sur lui-meme, c’est
 the two more beautiful conquests that the’man has made on him-self, it’is
 le saut périlleux et la philosophie.
 the jump perilous and the philosophy
 ‘**The two most beautiful conquests** that man has made over himself are the
 acrobatic flip and philosophy.’

This suggests that the definite article should be analyzed as being in its ordinary position, as in Greek, at least in this case.

In the literature that we have been able to find on the syntax of French superlatives (Barbaud, 1976; Plank, 2003; Kayne, 2004; Matushansky, 2008a; Alexiadou, 2014), several approaches can be distinguished. Both Barbaud (1976) and Plank (2003, 360-363) imply that prenominal superlatives like *la plus belle femme* are underlyingly of the form *la [la plus belle] femme*, and that the inner *la* is suppressed through haplology. Plank notes that this idea is supported by the fact that prenominal superlatives are ambiguous between superlatives and definite comparatives; *le plus jeune homme* can mean either ‘the youngest man’ or ‘the younger man’; the superlative interpretation is thought to arise when there is an underlying article. The hypothesized article is not suppressed in postnominal superlatives, which, as he points out, are likely to be base-generated in the postnominal position rather than being shifted from a prenominal position, given the differences in meaning that adjectives have depending on whether they are pre- or postnominal.

Plank also considers arguments for and against the possibility that the inner *la* is in fact a superlative element rather than a determiner. Coordination provides an argument in favor. As he puts it, “the definite article is omissible under identity from the second conjunct in adjectival coordination in French [cf. *le grand et le beau homme*] but the superlative marker is not [cf. *l’homme le plus grand et *(le) plus fort*]” (p. 362-3). On the other hand, he points out that haplology would not be expected to target the sequence of determiners if they have different meanings. This latter side of the debate is supported by the fact that superlatives in French do not always contain the definite article, for example with possessives (cf. Matushansky’s (2008a, 29) discussion of this point in relation to other languages):

- (56) *ma plus belle* histoire d’amour
 my CMP beautiful story of’love
 ‘my most beautiful story of love’

If the article were a superlative marker, then there would be no obvious reason for it to be obviated in the presence of a possessive.

Kayne (2004) analyses post-nominal superlatives in French as resulting from a reduced relative clause structure involving movement both of *plus court* and of a small clause consisting of *le livre* and the trace of *plus court*. The extra article is inserted above the landing site of *plus court*. Kayne assumes that the movement of *plus court* involves a kind of pied-piping of *court* with *plus*; hence the restriction to superlatives. However, the imagined kind of predicate preposing is not independently attested in the language, (e.g. **plus court le livre* is not a valid French sentence), nor is there independent evidence that a small clause whose only overt material is the subject can be preposed. Alexiadou (2014) also makes the observation (credited to Jonathan Bobaljik) that “when two singular DPs are co-ordinated, the modifier

in the superlative as well as the determiner that precedes it are in the plural, e.g. [*l’histoire et l’article*] *les plus intéressantes* ‘the history and the article the-PL more interesting-PL,’ which is not expected under Kayne’s analysis.

Matushansky (2008a) argues for an analysis where in French postnominal superlatives, there is a silent noun following the superlative. This approach is also adopted by Alexiadou (2014). This view would explain the presence of the ‘extra’ definite determiner, and is supported by the fact that superlatives generally license nominal ellipsis.¹¹

Several of these analyses are compatible in principle with the idea that a superlative interpretation of a comparative arises through Definite Null Instantiation of a degree parameter. Constructions involving two determiners are easier to analyze using Coppock & Beaver’s (2015) proposal that definite articles are essentially predicative; then *la plus petite* (or *la plus petite* \emptyset) can denote a predicate that can combine intersectively with the (overt) noun. If Plank is right and prenominal superlatives have an extra definite article, then the same elements will combine, only in the opposite linear order. Illustrative derivations are spelled out in §7.

4.2 Quantity superlatives

French quantity superlatives do not transparently include a word for ‘many’. The closest counterpart to positive *many*, namely *beaucoup*, is not found in either the comparative *plus* (so there is no **plus beaucoup*), or in the superlative, *le plus*:

- (57) Mon frère Hans joue **beaucoup d’instruments**, mais pas **plus**
 My brother Hans plays much.POS of.instruments but NEG CMP
 (***beaucoup**) que moi.
 much.POS than me.
 ‘My brother Hans plays **many instruments**, but not **more** than me.’
- (58) Je ne suis pas celui de la famille avec **le plus** (***beaucoup**) d’argent.
 I NEG am NEG the-one of the family with DEF CMP much.POS of.money

¹¹More generally, Matushansky claims that superlatives are universally attributive, even when there is no overt noun; in such cases, there is nominal ellipsis. As she points out, a potential objection to the general claim comes from the fact that the article also appears in constructions where no overt noun can appear, such as adverbial superlatives and reflexive PP superlatives:

- (i) John ran the most slowly (**pace*).
 (ii) Alice found herself at her loneliest (*??state*).

Somewhat paradoxically, however, she marshals these PP superlatives in favor of the view that superlatives always modify a noun, pointing out that definite articles and possessives are not compatible with bare adjectives but rather require an overt noun: The ungrammaticality of **at her lonely* is taken to show that *at her loneliest* contains a noun. But other explanations are possible; another possibility is that superlatives and nouns share some semantic or syntactic feature that allows them to serve as the complement of a preposition. In any case, the impossibility of overt nouns in adverbials would appear to remain a problem, both for English and for French. Moreover, as we will see below and as Matushansky herself discusses, there are a number of cases in Italian where an article would be expected to appear with a superlative and fails to, suggesting that there is in fact no noun in these cases. So we are not convinced of the universality of Matushansky’s claim, though nominal ellipsis may be at work in many cases.

‘I’m not the one in the family with the most money.’

As discussed by Doetjes (1997) and Kayne (2005b), *beaucoup* is unlike ‘many’ in a number of respects. For example, one cannot say **trop beaucoup*; cf. *too many*. Doetjes (1997, 101) categorizes *beaucoup*, historically literally ‘good strike’, as a classifier like ‘a bunch’ in ‘a bunch of flowers’. Similarly, Kayne (2005b) draws a parallel between *beaucoup* and ‘a good deal’. We might also say that *beaucoup* is a positive form, whereas *many* is a neutral form (see Roelandt 2016 on the positive/neutral distinction).

Note also that *plus* in (the acceptable variants of) (57) and (58) is pronounced with a final ‘s’, whereas when it precedes an adjective or an adverb, the final ‘s’ is not pronounced. This suggests that (57) and (58) do not involve the *plus* that appears in *(la) plus belle* (whose final ‘s’ is silent).

When DEF+CMP is used in French quantity superlatives, it is obligatorily accompanied by a pseudopartitive, *de NP*, and has only a relative reading.

- (59) Je suis celui qui joue **le plus d’instruments**.
I am the-one who plays DEF CMP of-instruments
‘I am the one who plays **the most instruments**.’

French is generally enthusiastic about *de* after quantity words, as Kayne (2002, 2005b) discusses; where English has *too few tables/sugar*, French has *trop peu de tables/sucre*; where English has *so few tables* or *so little sugar*, French has *si peu de tables/sucre*, and where English has *too many (*of) tables* and *too much (*of) sugar*, French has *trop *(de) tables/sucre*. This is specific for French; Italian is like English, with *poche (*di) tavole* and *poco (*di) zucchero*. Kayne (2002) suggests that the presence or absence of *de* is related to the Case Filter (Chomsky 1981, attributed to Jean-Roger Vergnaud) as interpreted by Emonds (2000), requiring that every noun receive Case. We suggest that quantity words (*plus* with pronounced final ‘s’ and *moins*) in French are nominal and hence absorb Case.

In *le plus d’instruments*, it is clear that *le* is not a dependent of the substance noun, as there is no agreement and the two are separated by pseudopartitive *de*. Several scholars assume that *le plus* forms a constituent, including Bouchard (2012) and Dobrovie-Sorin & Giurgea (2015); the latter label it a measure phrase (cf. Jackendoff 1977). Such an analysis is consonant with the fact that *le plus* can appear on its own, in adverbial quantity superlatives (e.g. *dormir le plus* ‘sleep the most’). Hence, with quantity superlatives, it appears that we have definiteness at the level of the degree predicate, as we posited for Romanian.

The proportional reading of DEF+CMP in French is illicit across the board, irrespectively of the quantified noun being mass or count, e.g.:

- (60) ***Le plus d’enfants** aiment jouer de la musique.
DEF CMP of’kids like to.play of the music
*‘**Most of the kids** like to play music.’

The proportional reading requires an overt ‘majority/part’ noun; *la plupart* (possibly a grammaticalized proportional quantifier, consisting of *plus + part*) or *la majorité* (the majority):

- (61) **La plupart des enfants** qui vont à mon école aiment jouer de la
DEF majority of.the kids who go to my school like playing of the

musique.

music

‘**Most of the kids** who go to my school like to play music.’

So, although French is similar to Romanian in having definite articles across the board, it differs in at least two respects: the definite article is less tightly integrated with the comparative morpheme, at least with quality superlatives, and proportional readings are not allowed for quantity superlatives.

5 Italian and Ibero-Romance

5.1 Quality superlatives

Predicative adjectival superlatives in Italian (62) and Spanish (63) normally involve a definite article (examples from de Boer 1986, 53 and Rohena-Madrado 2007, 1 respectively):

(62) Carla è **la più intelligente** di tutte queste studentesse.
Carla is the CMP intelligent of all these students.
‘Carla is **the most intelligent** of all these students.’

(63) Ese carro es **el mejor**.
that car is the better
‘That car is **the best**.’

although de Boer (1986, 53) notes the following predicative example without definiteness-marking, which has the flavor of a relative reading:

(64) il giorno in cui il nostro lavoro era **più faticoso**
the day in which DEF our work was CMP tiresome
‘the day on which our work was **most tiresome**’

Here, even though the example is grammatically predicative, one has the sense that it is days that are being compared rather than alternatives to the subject of the sentence *il nostro lavoro* ‘our work’. The same example in French involves a definite article (Alexandre Cremers, p.c.):

(65) le jour où notre travail était **le plus fatiguant**
the day when our work was DEF CMP tiresome
‘the day on which our work was **most tiresome**’

But Matushansky (2008a, 75) reports on a similar phenomenon in Spanish:

(66) la que es **más alta**
DEF who is CMP tall
‘the one who is **tallest**’

(67) la que está **más enojada**
DEF who is CMP annoyed
‘the one who is **most annoyed**’

In both these examples and in the Italian example (64), uniqueness is indicated with the help of a relative clause. So, predicative superlatives are usually, but not always, accompanied by definiteness-marking.

As in French, adnominal superlatives can appear both pre- and post-nominally in Italian:

- (68) a. La mamma prepara **i biscotti più buoni** del mondo.
 DEF mom makes DEF cookies CMP tasty of.the world
 ‘But it’s hard since mom bakes **the yummiest cookies** in the whole world.’
 b. La mamma fa **i più buoni biscotti** di tutto il mondo.
 DEF mom makes DEF CMP tasty cookies of.DEF whole world
 ‘But it’s hard since mom bakes the yummiest cookies in the whole world.’

And normally, there is no definite article on a postnominal superlative, although Plank (2003) reports that both of the following variants are acceptable, the latter “putting greater emphasis on the adjective”:

- (69) a. l’uomo **più forte**
 the man more strong
 ‘the **stronger / strongest** man’
 b. l’uomo **il più forte**
 the man the more strong
 ‘the **strongest** man’

Here is an example with a relative reading; here again there is no definite article:¹²

- (70) a. Non sono quello con **il girovita più sottile** in famiglia.
 not am the.one with DEF waist CMP thin in family
 ‘I’m not the one with **the thinnest waist** in the family.’
 b. #Non sono quello con **il più sottile girovita** in famiglia.
 not am the.one with DEF CMP thin waist in family

Adverbial quality superlatives systematically lack definiteness-marking, as shown in the following example from de Boer (1986, 53):

- (71) Di tutte queste ragazze, Marisa lavora **più diligentemente**.
 of all these kids Marisa works CMP diligently
 ‘Of all these kids, Marisa works **the most diligently**.’

The same holds in Spanish (Rohena-Madrado, 2007, 1-2):

¹²According to Cinque (2010, 11-12), only the postnominal syntax is possible on relative readings. Here is a speculation as to how one might explain this in semantic/pragmatic terms: The prenominal position is normally hostile to non-restrictive modifiers in Italian (e.g. **la presenza mera* vs. *la mera presenza* ‘the mere presence’). Matushansky (2008b) proposes that the modified noun saturates the comparison class argument of a superlative, so that a superlative modifier combines with the noun via Functional Application rather than Predicate Modification. This kind of analysis would yield an absolute reading; suppose this is how absolute readings arise. Then absolute readings would be non-restrictive and relative readings would be restrictive. Placing a superlative postnominally could then serve as an indication that an absolute reading is not intended.

- (72) Juan es el que corre **más rápido**.
 Juan is DEF who runs CMP fast
 ‘Joan is the one who runs **the fastest**.’

As Rohena-Madrado (2007) notes, the relative clause in (72) is necessary in order for a superlative interpretation to arise. The following example has only a comparative interpretation:

- (73) Juan corre **más rápido**.
 Juan runs CMP fast
 ‘Joan runs **faster**.’

Thus a superlative interpretation does not freely arise on its own here; uniqueness must somehow be signaled in the absence of a determiner.

Quantity adverbial superlatives work the same way:¹³

- (74) Dora es la que trabaja **más** (de todas las colegas).
 Dora is the.one who works CMP (of all the.PL colleagues)
 ‘Dora is the one who works the most (of all her colleagues).’

This evidence clearly shows that the definite article is not an inherent part of the superlative, and should rather be analyzed as being in its ordinary position, as a dependent of the noun.

5.2 Quantity superlatives

Naturally, we expect the definite article to mark the superlative degree with quantity superlatives as it does with quality superlatives. However, the definite article is sometimes absent even in superlative constructions. de Boer (1986, 53) gives the example in (75); our informants consistently gave us translations like that in (76) and (117) for sentences involving relative readings:

- (75) Dei nostri amici Luigi è quello che ha **più soldi**.
 of.DEF our friends Luigi is the.one who has CMP money
 ‘Of our friends, Luigi is the one who has **the most money**.’
- (76) Ma probabilmente è Hans che ha bevuto **più caffè**.
 But probably it.is Hans who has drunk CMP coffee
 ‘But it is probably Hans who has drunk the most coffee.’
- (77) Di tutti i ragazzi della mia scuola io sono quello che suona **più strumenti**.
 of all the kids in.the my school I am the.one that plays CMP instruments
 ‘Of all the kids in my school, I’m the one who plays the most instruments.’

Hence there is no overt morphological distinction between ‘more coffee’ and ‘most coffee’.

Following Bosque & Brucart (1991), Rohena-Madrado (2007) uses comparative and superlative ‘codas’ to distinguish between comparative and superlative interpretations in Span-

¹³Example from a Spanish textbook written in German; the German translation offered is *Dora arbeitet (von allen Kolleginnen) am meisten*.

ish:

- (78) **el niño más rápido** (que todos nosotros)
the boy CMP fast (than all we)
'**the boy faster** (than all of us)'
- (79) **el niño más rápido** (de todos nosotros)
the boy CMP fast (of all we)
'**the fastest boy** (of all of us)'

In the former, the boy is among 'us', but not in the latter. Using this technique, he shows that superlatives in Spanish can be fronted before the verb, but comparatives cannot:

- (80) Juan es el niño que **más libros** leyó (de/*que todos ellos)
John is the boy that CMP books read (of/*than all them)
'Juan is the boy that read **the most books** (of/*than all of them).'

In addition to being interesting in its own right, this shows that the comparative and the superlative interpretations are really distinct.

Similarly, *the most instruments* in 'I'm the one who plays the most instruments' and *the most coffee* in 'Hans has drunk the most coffee' are translated without definiteness-marking in other Ibero-Romance languages:

- (81) Yo soy el que toca **más instrumentos**. (Spanish)
Eu sou o que toca **mais instrumentos**. (Portuguese)
Jo sóc qui toca **més instruments**. (Catalan)
'I am the one who play **the most instruments**.'
- (82) Hans es el que ha bebido **más café**. (Spanish)
Hans quem bebeu **mais café**. (Portuguese)
Hans és probablement qui ha begut **més café**. (Catalan)
'Hans is the one who has drunk **the most coffee**.'

Adverbial quantity superlatives also lack definiteness-marking:

- (83) ... Uno che lavora **più** di tutti e parla **meno** di tutti. (Italian)
... one who works CMP of all and speaks little.CMP of all
'... one who works **most** of all and speaks **least** of all'
- (84) Alberto es el que trabaja **más**. (Spanish)
Alberto is DEF that works CMP
'Alberto is the one who works **the most**.'

Unlike in French and Romanian, a definite article would be ungrammatical preceding the comparative word here. Rather, it follows the pattern of quantity superlatives, as quantity adverbial superlatives do in all of the languages we have covered, in fact.

As in French, proportional readings for DEF+CMP are generally disallowed in Italian. In our data, only an overt 'part' or 'majority' NP makes a proportional reading possible.

- (85) **Alla maggior parte dei bambini** nella mia scuola piace suonare.
of.DEF big.CMP part of.DEF kids in my school like play
‘**Most of the kids** in my school like to play (music).’
- (86) ***Il più (molti) dei bambini...**
DEF CMP many of.DEF kids...

The same holds for the entire Ibero-Romance subfamily, as far as we can see, including Spanish, Portuguese, and Catalan. For example, ‘Most of the kids’ in ‘Most of the kids in my school like to play music’ is translated using a majority noun in these languages:

- (87) **La mayoría de los niños...** (Spanish)
A maioria das crianças... (Portuguese)
La majoria dels nens... (Catalan)
‘**Most of the kids...**’

However, according to Dobrovie-Sorin & Giurgea (2015, ex. (94), p. 20), “Italian allows the article and a proportional meaning in the *partitive* construction”:

- (88) **Il più degli uomini** predicano ciascuno la sua benignità
the more of.DEF men preach each the his kindness
‘Most men preach their own kindness.’

Dobrovie-Sorin & Giurgea (2015, ex. (95), p. 21) also write that this is possible with no overt partitive complement.

- (89) Gli ospiti sono partiti. **I più** erano già stanchi.
DEF guests have left DEF CMP were already tired
‘The guests left. **Most (of them)** were already tired.’

This shows that to the extent that proportional readings for quantity superlatives are allowed in Italian, they are signalled with the definite article. In this respect, Italian is like Swedish: definite for proportional and non-definite for relative. But it remains unclear to what extent this construction is really acceptable, and it is more restricted than Swedish *de flesta* ‘most’ in any case, given that it can only occur with partitive complements.

To summarize: Italian and other Ibero-Romance languages use definiteness-marking for adnominal quality superlatives, and ordinary predicative quality superlatives, but not quantity superlatives, adverbial superlatives, or predicative quality superlatives embedded in phrases uniquely characterizing a given discourse referent. Proportional readings are typically not available for quantity superlatives, but in Italian at least, a proportional reading is available in the context of a partitive construction, accompanied by definiteness-marking.

6 Summary

Table 6 gives a summary of the definiteness-marking patterns we have observed. For a set of languages in which superlatives are formed with the help of a definite article, there is a remarkable diversity of definiteness-marking patterns on superlatives.

Table 6: Distribution of the definite article in superlatives in DEF+CMP languages.

	Greek	Romanian	French	Italian, etc.
Qual./pred.	+	+	+	+
Qual./pred. (rel. clause)	+	+	+	-
Qual./prenom.	+	+	+	+
Qual./postnom.	+	+	+	-
Qual./adv.	-	+	+	-
Quant./prop.	+	+	NA	(+ with partitives)
Quant./rel.	+	+	+	-
Quant./adv.	+	+	+	-

The contrasts raise a number of questions, including:

- Why do quantity superlatives in Ibero-Romance lack definiteness-marking, in contrast to Greek, Romanian, and French?
- Why are adverbial superlatives marked definite in French and Romanian, but not Italian, and why is there a split among adverbial superlatives in Greek?
- Why is definiteness-marking absent on predicative superlatives in relative clauses in Italian, but not in French?
- Why do Greek and Romanian allow proportional readings for DEF+CMP but not Italian (except in partitive environments) or French?

We cannot address all of these issues adequately here. However, we will suggest a certain perspective and make it more precise in the next section.

The perspective is as follows. The variety of different definiteness-marking patterns we see suggests that the grammars of these languages may be pulled between a number of competing pressures. One pressure is to mark uniqueness of a description overtly. Another pressure, we suggest, is to avoid combining a definite determiner with a predicate of entities other than individuals, such as events or degrees. In conjunction with certain additional assumptions regarding the semantics of various types of superlatives, these pressures result in a dispreference for certain patterns. These assumptions are made explicit in the following section.

7 Formal analyses

7.1 Quality superlatives

7.1.1 Prenominal quality superlatives

To derive a superlative meaning for DEF+CMP constructions, let us start with the assumption that the basic meaning for a comparative like Greek *pio* is a function from measure functions

to degrees to individuals to truth values, roughly following Kennedy (2009), Alrenga et al. (2012), and Dunbar & Wellwood (2016), among others.¹⁴

$$(90) \quad \textit{pio} \rightsquigarrow \lambda g \lambda d \lambda x . g(x) > d$$

Here g denotes a measure function, a function that maps individuals to degrees. A gradable adjective like *long* is assumed to denote such a function.¹⁵ Modulo lambda-conversion, this yields the following translation for *pio grigoro*, i.e., CMP *fast*:

$$(91) \quad [\textit{pio grigoro}] \rightsquigarrow \lambda d \lambda x . \text{FAST}(x) > d$$

The next ingredient is a meaning shift that we refer to as Definite Null Instantiation, in homage to Fillmore (1986). It takes any function and saturates its argument with an unbound variable.¹⁶

(92) **Definite Null Instantiation** (Meaning Shift)

If $\alpha \rightsquigarrow \alpha'$, and α' is an expression of type $\langle \sigma, \tau \rangle$, then $\alpha \rightsquigarrow \alpha'(v)$ as well, where v is an otherwise unused variable of type σ .

Applying this gives the following, where \mathbf{d} is an unbound degree-type variable:

$$(93) \quad [\textit{pio grigoro}] \text{ (after DNI)} \rightsquigarrow \lambda x . \text{FAST}(x) > \mathbf{d}$$

We have written \mathbf{d} in bold-face in order to draw attention to the fact that it is unbound.

¹⁴This presentation glosses over the fact that not all comparatives are alike. An illustration of this point of particular relevance to the case at hand are the detailed studies of comparison in Greek by Merchant (2009, 2012), where there are three morphosyntactic strategies for marking the standard: (i) the preposition *apo* ‘from’ introducing a phrasal standard; (ii) a genitive case marker, also introducing a phrasal standard; and (iii) a complex standard marker *ap-oti* ‘from-wh’ which introduces both reduced and unreduced clausal standards. Merchant (2012) concludes that if all of the work is to be done by the comparative, then three different lexical entries for the comparative are needed. But there is hope for a unified analysis; the two phrasal comparatives differ only in the order in which they take their arguments, and Kennedy (2009) shows that one of the phrasal meanings can be derived from the clausal meaning. Moreover, Alrenga et al. (2012) offer a new perspective on the division of labor between the comparative and the standard marker, allowing for a unified view on the comparative morpheme across these constructions, with differences attributed to the standard markers. They use a lexical entry like (90) for the comparative, and clausal and phrasal standard markers that combine appropriately with it. In light of this work, we may continue to operate under the assumption that (90) constitutes a viable candidate for a unified treatment of the comparative morpheme across different types of constructions and across the languages under consideration.

¹⁵The arrow \rightsquigarrow signifies a translation relation from a natural language expression (part of an LF representation) to an expression of a typed extensional language; we thus adopt an ‘indirect interpretation’ framework, in which expressions of natural language are translated to a formal representation language. Within this framework we assume the standard rule of Functional Application:

(i) **Functional Application** (Composition Rule)

If $\alpha \rightsquigarrow \alpha'$ and $\beta \rightsquigarrow \beta'$, and α' is of type $\langle \sigma, \tau \rangle$ and β' is of type σ , and γ is a phrase whose only constituents are α and β , then $\gamma \rightsquigarrow \alpha'(\beta')$.

¹⁶Note that this meaning shift depends on the assumption that the \rightsquigarrow relation is not a function; a given natural language expression can have multiple translations into the formal language and they need not be equivalent. See Partee & Rooth (1983) for precedent for this assumption.

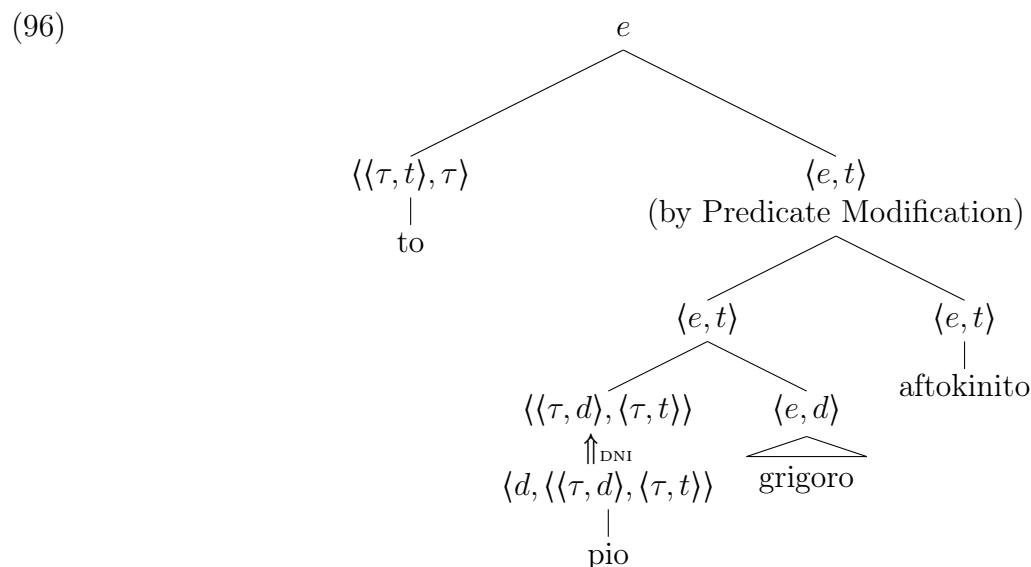
(We could of course have chosen a variable other than \mathbf{d} ; all we needed was a degree variable that is not otherwise used.) This description can combine with a noun like *aftokinito* ‘car’ using Predicate Modification to produce:

$$(94) \quad [\textit{pio grigoro}] \textit{aftokinito} \rightsquigarrow \lambda x . \text{FAST}(x) > \mathbf{d} \wedge \text{CAR}(x)$$

If there is a unique fastest car, then there will be a way of choosing a value for \mathbf{d} in such a way that this description picks it out. Hence, given an appropriate choice of value \mathbf{d} , the definite article should be able to combine with this description to pick out the most qualified candidate. Normally, the range of potential referents will be limited to a class \mathbf{C} , which we may suppose is introduced by the definite determiner.

$$(95) \quad \textit{to} \rightsquigarrow \lambda P_{\langle \tau, t \rangle} . \iota x_{\tau} . P(x) \wedge \mathbf{C}(x)$$

where τ is a variable over types, constrained in specific ways by different languages. Applied to *pio grigoro aftokinito*, this denotes the unique car in \mathbf{C} that is faster than \mathbf{d} . The structure of the derivation is as follows:



This clearly gives an absolute superlative reading. What about relative readings such as (10), with *ti leptoteri mesi* ‘the thinnest waist’? The analytical landscape is quite different under the assumption that there is no superlative morpheme. One influential analysis of the absolute vs. relative distinction, due to Szabolcsi (1986) and developed in Heim (1999) holds that relative readings arise through movement of *-est* at LF to a position adjacent to the constituent of the sentence corresponding to one of the elements being compared, typically the focus. With no *-est* to undergo movement, so this analytical route is not available to us.

A prominent class of alternatives to the movement view is that *-est* remains *in situ*, the absolute vs. relative contrast resulting from different settings of the comparison class (Gawron, 1995; Farkas & É. Kiss, 2000; Sharvit & Stateva, 2002; Gutiérrez-Rexach, 2006; Teodorescu, 2009; Pancheva & Tomaszewicz, 2012; Coppock & Beaver, 2014; Coppock & Josefson, 2015). This type of approach is more amenable to the assumptions that we have made here. Although we have no superlative morpheme to provide a comparison class, the

definite article is restricted to a contextually-determined domain \mathbf{C} , and the contrast could concern the value of that contextually-set variable. On an relative reading of *the fastest car*, for example, \mathbf{C} might consist of cars standing in a salient one-to-one correspondence to focus alternatives.

Heim (1999) notes that so-called ‘upstairs *de dicto*’ readings pose a challenge for the *in situ* approach. The problem is that *John wants to climb the highest mountain* can be true in a context where there is no specific mountain that John wants to climb, nor does John’s desire pertain to the relative heights of mountains climbed by various competitors; it just so happens that he wants to climb a 5000 mountain (any such mountain), and the ambitions of the others in the context with respect to the heights of mountains they want to climb are not so great. This reading can be obtained by scoping just *-est* over the intensional verb *want*.

Various responses to that challenge have been offered. Sharvit & Stateva (2002) offer an *in situ* theory designed to handle these readings, albeit one that relies on a non-standard definite determiner, so that solution is not directly compatible with our analysis. Solomon (2011) points out that upstairs *de dicto* readings can be handled if the comparison class is thought to be a set of degrees rather than individuals. This is more amenable to the assumptions we have made, and would only require us to allow for the possibility that the definite article combine directly with a \mathbf{d} -saturated version of CMP that compares degrees rather than individuals and serve to pick out a specific degree.

Other routes may be compatible with the analysis as it stands. Coppock & Beaver (2014) argue that the ‘upstairs *de dicto*’ phenomenon is part of a more general phenomenon that requires an explanation anyway, namely cases like *Adrian wants to buy a jacket like Malte’s*, discussed by Fodor (1970) and in much subsequent literature under the heading of ‘Fodor’s puzzle’. If indeed upstairs *de dicto* readings can be seen as an instance of Fodor’s puzzle, then the problem can be explained away. Another alternative is offered by Bumford (2016), who posits a sort of definiteness that is subordinated to the modal element. Although Bumford’s theory of the definite article is different from the simple one we have sketched here, his suggested approach for dealing with intensional contexts may be viable even in the context of a more standard analysis. In any case, we believe it is an open question whether upstairs *de dicto* readings can indeed be managed in the context of an *in situ* approach, and the success of our analysis in dealing with them depends on a general solution to this problem.

Another fact to be accounted for is the fact that, as Szabolcsi (1986) pointed out, superlatives on relative readings behave like indefinites, suggesting that they are, in Coppock & Beaver’s (2015) terms, *indeterminate*. We refer to Coppock & Beaver (2014) for ideas on how to capture the indeterminacy of relative readings in the context of an *in situ* analysis.

Another question that this proposal raises is how to rule out standard arguments for comparatives that combine with definite articles. These are entirely ungrammatical:

- (97) *Elle est la plus belle que {Marie, j’ai imaginé}.
 she is the CMP beautiful than {Marie, I’ve imagined}

The same is true for definite comparatives in English, as Lerner & Pinkal (1995) observe:

- (98) George owns the faster car (*than Bill)

Lerner & Pinkal (1995) also observe that this is part of a larger pattern, where weak determiners allow overt standard arguments and strong determiners disallow them::

(99) George owns a/some/a few faster car(s) than Bill.

(100) *George owns every/most faster car(s) than Bill.

Beil (1997) offers an explanation of this contrast on the basis of the fact that strong determiners have a domain that has to be presupposed in previous context. Xiang (2005) offers an alternative explanation, on which strong quantifiers induce an LF intervention effect blocking the movement that the *than* phrase needs to undergo. This idea is quite compatible with the present analysis. In a case where Definite Null Instantiation has applied, the target phrase does not need to undergo movement, so no intervention effect is predicted to arise.

7.1.2 Postnominal quality superlatives

In all of the languages we have seen, there are constructions in which the superlative occurs post-nominally; here are some examples repeated from the discussions above.

(101) Spania haidevo **tin mikroteri ti gata**. (Greek)
 seldom pet the smallest the cat
 ‘I seldom pet **the smallest cat**.’

(102) A scris **compunere-a cea mai frumoasă**. (Romanian)
 has written composition-the DEF CMP beautiful
 ‘She wrote **the most beautiful composition**.’

(103) Je ne suis pas celui de la famille avec **la taille la plus fine**. (French)
 I NEG am NEG the-one of the family with the waist DEF CMP fine
 ‘I’m not the one in the family with the thinnest waist.’

(104) La mamma prepara **i biscotti più buoni** del mondo. (Italian)
 DEF mom makes DEF cookies CMP tasty of.the world
 ‘But it’s hard since mom bakes **the yummiest cookies** in the whole world.’

In Greek, Romanian and French, the postnominal superlative is accompanied by a second definiteness-marker. (This is specific to superlatives only in Romanian and French.) For such cases, it is convenient to adopt Coppock & Beaver’s (2015) predicative treatment of the definite article, whereby it denotes a function from predicates to predicates, presupposing uniqueness but not existence. It is also important for our purposes to restrict the domain of a definite determiner to a salient comparison class \mathbf{C} . This gives us the following lexical entry for Romanian *cel*, for example.

(105) $cel_{\mathbf{C}} \rightsquigarrow \lambda P \lambda x . \partial(|P \cap \mathbf{C}| \leq 1) \wedge P(x) \wedge \mathbf{C}(x)$

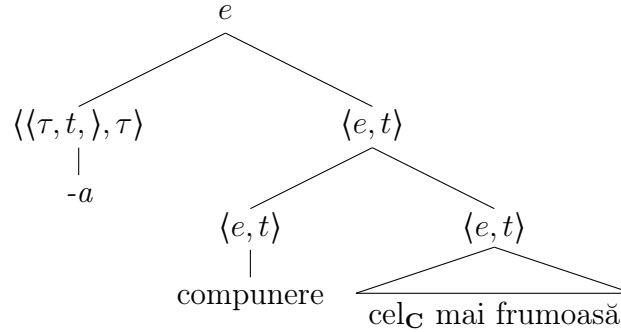
(Here ∂ is the ‘partial’ operator, whose scope is presupposed material. It evaluates to the ‘undefined’ truth value unless its scope is true.) With this, we derive the following the interpretation for the superlative phrase in (102):

(106) $cel_{\mathbf{C}} \text{ mai frumoasă} \rightsquigarrow \lambda x . \partial(|\lambda x' . \text{BEAUTIFUL}(x') > \mathbf{d} \wedge \mathbf{C}(x)| \leq 1) \wedge \text{BEAUTIFUL}(x) >$

$$\mathbf{d} \wedge \mathbf{C}(x)$$

This description characterizes a composition x in \mathbf{C} that is the only one whose beauty exceeds \mathbf{d} . This gives us a derivation of the following form for the the full noun phrase (we assume that the suffix $-a$ in *compunere-a* ‘the composition’ is interpreted in \mathbf{D} , and we represent it as an iota operator for simplicity, although it can also be given a treatment along the lines of (105)):

(107)



7.2 Quantity superlatives

The picture is much richer when it comes to quantity superlatives. In all of the languages we have considered, quantity superlatives differ at least to some extent from quality superlatives, if not with respect to definiteness-marking (as in Italian) then with respect to definiteness-spreading in object position (Greek), use of a pseudopartitive construction (French), or pre- vs. postnominal word order (Romanian). We therefore posit that quantity superlatives are of a different semantic type from quality superlatives (across the board), namely: predicates of degrees, rather than individuals. We have adopted a measure function approach to the semantics of gradable predicates, so that an adjective like *tall* for example is translated as an expression of type $\langle e, d \rangle$, mapping an individual to a degree. The parallel treatment for a quantity word like *much* or *many* would then be $\langle d, d \rangle$; just as *tall* maps an individual to its height, *much* maps a quantity to its magnitude. The magnitude of a quantity might as well be seen as the quantity itself, so we will simply treat quantity words as identity functions on degrees. Thus for Greek, we have:

$$(108) \quad \textit{pollá} \rightsquigarrow \lambda d. d$$

Thus:

$$(109) \quad \textit{pio pollá} \text{ (after DNI)} \rightsquigarrow \lambda d'. d' > \mathbf{d}$$

Now, we cannot use Predicate Modification to combine with the noun. (And this predicts that definiteness spreading should be problematic.) Let us assume that what happens instead is that the degree predicate is linked to the nominal predicate by the same glue that holds a pseudopartitive together. The result is a predicate that holds of some individual x if the nominal predicate holds of x and x has an extensive measure satisfying the degree predicate.

$$(110) \quad \textbf{Measure Identification (Composition Rule)}$$

If γ is a subtree whose only two immediate subtrees are α and β , and $\alpha \rightsquigarrow D$, where D is of type $\langle d, t \rangle$, and $\beta \rightsquigarrow P$, where P is of type $\langle \tau, t \rangle$, where τ is any type, then

$$\gamma \rightsquigarrow \lambda v . D(\mu_i(v)) \wedge P(v)$$

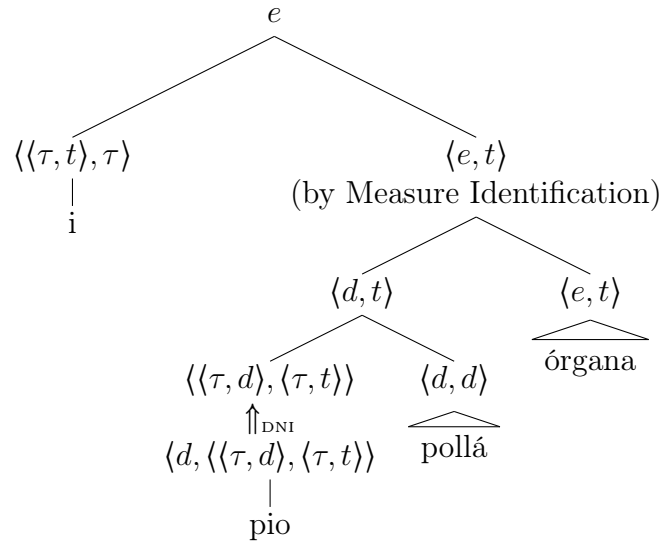
where v is a variable of type τ and μ_i is a free variable over measure functions (type $\langle \tau, d \rangle$).

We use μ_i to denote a contextually-salient measure function along the lines of Wellwood (2014), with i as a free variable index presumed to be constrained by context. So given a predicate of degrees D and a predicate of individuals P , this operation yields $\lambda x . D(\mu_i(x)) \wedge P(x)$. For example (assuming the plural is translated using the cumulativity operator $*$; cf. Link (1983)):

$$(111) \quad \textit{pio poll\acute{a} \acute{o}rgana} \rightsquigarrow \lambda x . \mu_i(x) > \mathbf{d} \wedge * \text{INSTRUMENT}(x)$$

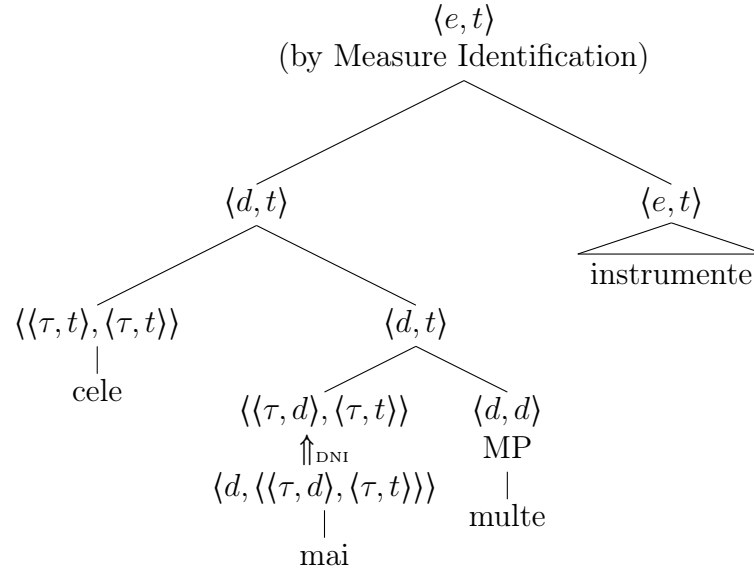
and this is the right sort of thing to combine with a definite article as long as \mathbf{d} is chosen appropriately. The definite article introduces a comparison class \mathbf{C} . So *ta pio pollá órgana* will be predicted to denote the plurality of instruments in \mathbf{C} whose contextually-relevant extensive measure is \mathbf{d} . The structure of the derivation is thus as follows:

(112)



In Romanian, the definite element *cel* forms a constituent with the comparative element and the quantity word to the exclusion of the noun. We therefore posit the following structure for the semantic derivation:

(113)



This describes a plurality of instruments whose measure is greatest among any of the degrees in the context. In the case of a relative reading, the set of degrees that are salient in the context are aligned in a one-to-one relationship with some salient set of individuals, typically those individuals that are alternatives to the focussed constituent.

French has yet a different structure, involving a pseudopartitive.

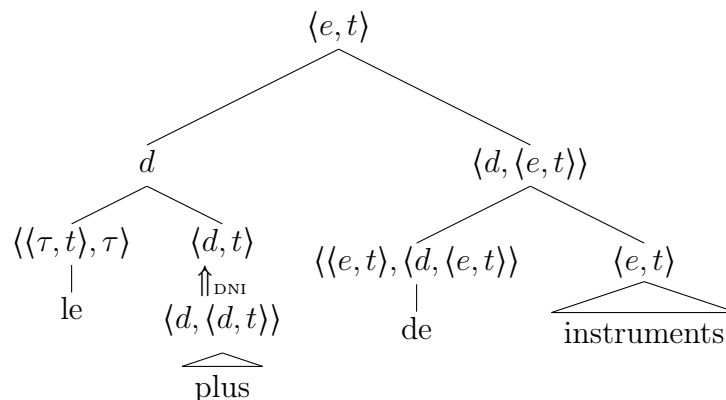
- (114) Je suis celui qui joue **le plus d'instruments**.
 I am the-one who plays DEF CMP of-instruments
 'I am the one who plays **the most instruments**.'

Since French does not use a word for *many* parallel to Greek *pollá* or Romanian *mult*, we might posit either a silent underlying form with the same meaning, or we might imagine that French simply makes do without such an element. In the latter case, it is convenient to treat *plus* using the simplest imaginable lexical entry for comparison (Heim, 2006; Beck, 2012), namely:

- (115) $plus \rightsquigarrow \lambda d . \lambda d' . d' > d$

Given this, we have the following derivation:

(116)

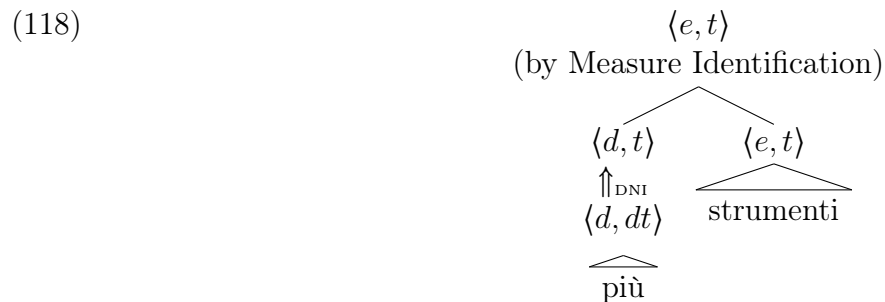


We assume that the Meas head acts as glue, linking the degree denoted by *le plus* with the denotation of the noun phrase such that the noun phrase is constrained to have an extensive measure of that degree. The resulting denotation is just the same as that posited for Romanian.

Finally, we come to Italian, which has the simplest overt form.

- (117) ... che suona **più strumenti**.
 ... that plays CMP instruments
 ‘... who plays the most instruments.’

One possible analysis is as follows, using a lexical entry for *più* like the one given for French *plus* above.

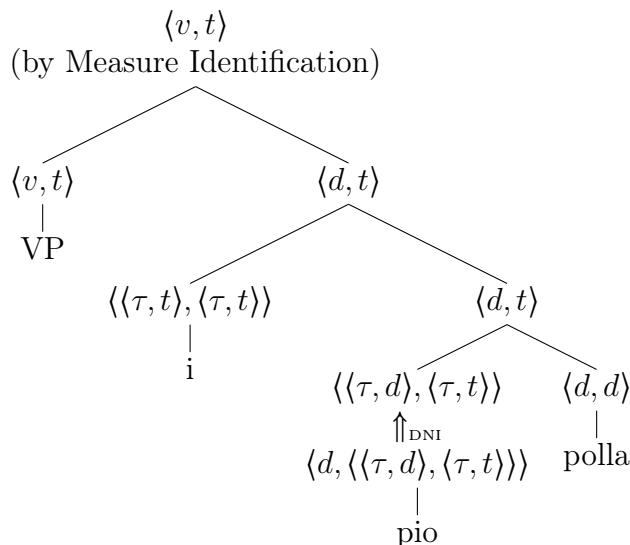


The predicate that this derives holds of any plurality of instruments x whose quantity exceeds d . This of course does not necessitate that there be no larger plurality of instruments in the context, so we have not captured a superlative interpretation. But the phrase is in fact ambiguous between a superlative and a comparative interpretation, so this is actually a welcome prediction.

7.3 Adverbial superlatives

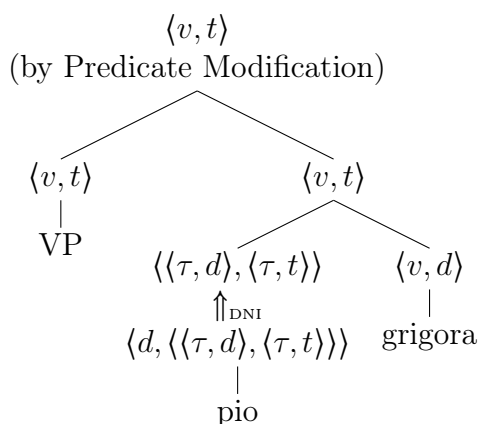
For adverbial quantity superlatives, we start with the assumption that a verb phrase denotes a property of events, translating to an expression of type $\langle v, t \rangle$, and that the DEF+CMP construction combines with it via Measure Identification. For example, in Greek:

(119)



Adverbial quality superlatives, on the other hand, involve gradable predicates that measure events:

(120)



We suggest that this difference in type underlies the contrast between quantity and quality adverbial superlatives in Greek: The Greek definite determiner applies to predicates of type $\langle d, t \rangle$ but not ones of type $\langle v, t \rangle$. In Italian, neither type of adverbial superlative is marked definite; this can be understood as an aversion to definiteness-marking on predicates of both types. In French and Romanian, on the other hand, both types are definite, and this can be understood under the lens of a maximally polymorphic definite determiner.

7.4 Proportional readings

Relative readings for quantity superlatives are not available in French or Italian, but they are available in Greek and Romanian. Dobrovie-Sorin & Giurgea (2015) suggest that this is due to the fact that Greek and Romanian both exhibit full grammatical agreement, which is supposed to be a prerequisite for grammaticalizing into a determiner. They also suggest that the pseudopartitive construction that French uses with relative readings preempts the grammaticalization of a quantity superlative into a determiner. On this perspective, it is a matter of historical accident whether a given language has developed a proportional

determiner from a quantity superlative.

While we do not disagree with this view, we would like to point out that if indeed Greek and Romanian involve different constituency relations when it comes to relative readings, as suggested above, then the putative grammaticalization process must be of a different nature for the two languages. We would like to suggest that in Greek, proportional readings arise through a process like that envisioned by Hoeksema (1983), where the quantity word denotes a gradable predicate of (plural) individuals, and the comparison class for the superlative is constituted by two non-overlapping pluralities, one consisting of atoms that satisfy the predicate in question and one consisting of atoms that do not. Such an analysis is consonant with the idea that the definite determiner is in its ordinary position in Greek, rather than more tightly integrated with the comparative marker. In Romanian, on the other hand, there is a constituent containing the definite article, the comparative marker, and the quantity word, and therefore this phrase could potentially be reanalyzed as a complex determiner.

Why *don't* French and Italian have proportional readings? We suggest that this is because in French and Italian, the comparative element applies to degrees rather than individuals, and heads a phrase denoting a degree that is greatest among some contextually-salient set of degrees. Thus *le plus* in *le plus d'instruments* has a denotation like 'the greatest number' or 'the greatest amount'. The phrase *the greatest number* only has a relative reading. Consider:

(121) Maria has visited the greatest number of continents.

This cannot mean that Maria has visited more than half of the continents. We leave an explanation of this fact to another occasion, but whatever explains this should also be able to explain why *le plus d'instruments* behaves in the same way.

8 Conclusion and outlook

We have suggested that superlative interpretations arise in DEF+CMP languages with the help of an interpretive process called Definite Null Instantiation for the target argument of a comparative. It is reasonable to ask whether this process is restricted to DEF+CMP languages or available more broadly. We suggest that it is available at least somewhat more broadly, and that English is one of the languages that avails itself of it, in constructions like *the taller of the two* (discussed from a formal semantic perspective by Szabolcsi (2012)). Why English doesn't generally form superlatives using this strategy could be explained on the basis of markedness; since there is a dedicated superlative morpheme in English, it should be used whenever the comparison class contains more than two members.

It appears that a number of competing pressures are at play. One pressure is to mark uniqueness of a description overtly. Another pressure is to avoid combining a definite determiner with a predicate of entities other than individuals, such as events or degrees. We have assumed that quality adverbs denote gradable predicates of events, and that quantity words denote predicates of degrees. The pressure to avoid combining definite determiners with predicates of events rules out definiteness-marking on adverbial quality superlatives, and similarly for predicates of degrees and quantity superlatives.

In Optimality Theoretic terms, we might conceive of these forces as constraints that we could label *DEF/*d* ('do not use a definite determiner with a predicate of degrees'), *DEF/*v*

(‘do not use a definite determiner with a predicate of events’) and MARK-UNIQUENESS. Italian ranks the former two over the latter:

$$*_{\text{DEF}/d}, *_{\text{DEF}/v} > \text{MARK-UNIQUENESS}$$

while French ranks the latter over the former two:

$$\text{MARK-UNIQUENESS} > *_{\text{DEF}/d}, *_{\text{DEF}/v}$$

An adverbial superlative like *le moins fort* (French, lit. ‘the less fast’) violates $*_{\text{DEF}/v}$ but not MARK-UNIQUENESS, while one like *más rápido* (Spanish, lit. ‘more fast’) violates MARK-UNIQUENESS but not $*_{\text{DEF}/v}$. Greek draws the line at adverbial quality superlatives, which suggests that it ranks MARK-UNIQUENESS over $*_{\text{DEF}/v}$, but not over $*_{\text{DEF}/d}$:

$$*_{\text{DEF}/d} > \text{MARK-UNIQUENESS} > *_{\text{DEF}/v}$$

Now, in Italian (and Spanish), the definite article is normally used in predicative superlatives, presumably to distinguish between the comparative and the superlative interpretations. But the relative clause construction serves to mark uniqueness in some sense, rendering the definite article unnecessary. This sort of explanation could be made more precise by imagining a version of the MARK-UNIQUENESS constraint in Ibero-Romance that imposes slightly different requirements. Suppose that in Ibero-Romance, the operative MARK-UNIQUENESS constraint may be satisfied in some cases where a candidate phrase with unique descriptive content is not actually marked as unique, as long as it is embedded in a larger phrase with unique descriptive content which *is*. So Ibero-Romance has a ‘once per discourse referent’ rule, while French has a ‘once per phrase’ rule. (Syntactic restrictions would presumably also come into play.)

This hypothesized difference could also apply to bare postnominal superlatives, which are found in Italian but not French. This idea would have to be evaluated in light of previous ideas regarding this contrast. According to Kayne (2004), the reason has to do with the licensing of bare nouns in general. Alexiadou (2014, 74-75) suggests an approach appealing to the richness of agreement features. Matushansky (2008a) argues that superlatives are always attributive modifiers of nouns, so a nominal structure is projected around a superlative in the postnominal case; perhaps Italian does not do that. We leave it to future research to compare among these possible explanations for the difference.

Overall, this investigation has raised more questions than it has answered. There are also a number of other DEF+CMP languages that we have not investigated here. For example, Plank (2003) briefly discusses the very interesting case of Maltese, which makes use of fronting to distinguish the superlative degree (122-c) from the comparative (122-b).

- (122) a. il-belt il-qawwi
 DEF-city DEF-powerful
 ‘the powerful city’
 b. il-belt l-aqwa
 DEF-city DEF-powerful.CMP
 ‘the more powerful city’

- c. l-aqwa belt
DEF-powerful.CMP city
'the most powerful city'.

About this case, Plank writes (pp. 361-362), “Paradoxically, as a result of this fronting, NPs with superlatives thus end up less articulated than NPs with other adjectives in normal postnominal position. Just like *le plus jeune homme* [...] in French, they are in fact under-articulated: there ought to be two definiteness markers on the initial superlative, one by virtue of it being a superlative, another by virtue of it being NP-initial.” We leave it to future work to work out whether and how the approach we have taken here can be fruitfully applied to Maltese, and other DEF+CMP languages.

Abbreviations

POS: positive
CMP: comparative
SPRL: superlative
DEF: definite
PL: plural
WK: weak ending
NEG: negation

Acknowledgements

We are very grateful to our consultants who have been so generous with their time, and to the organizers and participants of the Definiteness Across Languages conference in Mexico City, July 2016. This research was carried out under the auspices of the Swedish Research Council project 2015-01404 entitled *Most and more: Quantity superlatives across languages* awarded to PI Elizabeth Coppock at the University of Gothenburg.

References

- Alexiadou, Artemis. 2014. *Multiple determiners and the structure of DPs*. Amsterdam: John Benjamins.
- Alexiadou, Artemis & Chris Wilder. 1998. Adjectival modification and multiple determiners. In Artemis Alexiadou & Chris Wilder (eds.), *Possessors, predicates and movement in the determiner phrase*, vol. 22 *Linguistik Aktuell/Linguistics Today*, 305–32. John Benjamins.
- Alrenga, Peter, Chris Kennedy & Jason Merchant. 2012. A new standard of comparison. In James McCloskey (ed.), *Proceedings of WCCFL 30*, West Coast Conference on Formal Linguistics.

- Barbaud, Phillippe. 1976. Constructions superlatives et structures apparentées. *Linguistic Analysis* 2.
- Beck, Sigrid. 2012. Quantifiers in *than*-clauses. *Semantics and Pragmatics* 3. 1–72.
- Beil, Franz. 1997. The definiteness effect in attributive comparatives. In *Proceedings of SALT VII*, 37–54. Ithaca: Cornell University.
- Bobaljik, Jonathan David. 2012. *Universals in comparative morphology: Suppletion, superlatives, and the structure of words*. Cambridge, MA: MIT Press.
- Bosque, Ignacio & José María Brucart. 1991. QP Raising in Spanish superlatives. Ms., Universidad Complutense, Madrid.
- Bouchard, David-Étienne. 2012. *Long-distance degree quantification and the grammar of subjectivity*: McGill University dissertation.
- Bumford, Dylan. 2016. Split-scope definites: Relative superlatives and haddock descriptions. Ms., New York University.
- Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- Cinque, Guglielmo. 2010. *The Syntax of Adjectives* (Linguistic Inquiry Monographs 57). Cambridge, MA: MIT Press.
- Cojocaru, Dana. 2003. *Romanian grammar*. Slavic and East European Language Research Center (SEELRC), Duke University.
- Coppock, Elizabeth. to appear. Quantity superlatives in Germanic, or, life on the fault line between adjective and determiner. *Journal of Germanic Linguistics* (to appear).
- Coppock, Elizabeth & David Beaver. 2014. A superlative argument for a minimal theory of definiteness. In Todd Snider (ed.), *Proceedings of SALT 24*, 177–196. Ithaca, NY: CLC Publications.
- Coppock, Elizabeth & David Beaver. 2015. Definiteness and determinacy. *Linguistics and Philosophy* 38(5). 377–435.
- Coppock, Elizabeth & Christian Josefson. 2015. Completely bare Swedish superlatives. In Eva Csipak & Hedde Zeijlstra (eds.), *Proceedings of Sinn und Bedeutung 19*, 179–196. University of Göttingen.
- Cornilescu, Alexandra. 1992. Remarks on the determiner system of Rumanian: the demonstratives *al* and *cel*. *Probus* 4(2). 189–260.
- de Boer, Minne Gerben. 1986. Il superlativo italiano. *Revue romane* 21(1). 53–64.
- Dindelgan, Gabriela Pană (ed.). 2013. *The grammar of romanian*. Oxford: Oxford University Press.

- Dobrovie-Sorin, Carmen. 2015. Two types of *most*. In Sarah D’Antonio, Mary Moroney & Carol Rose Little (eds.), *Proceedings of SALT 25*, 394–412.
- Dobrovie-Sorin, Carmen & Ion Giurgea. 2015. Quantity superlatives vs. proportional quantifiers: A comparative perspective. Abstract for 25th Colloquium on Generative Grammar, Bayonne.
- Doetjes, Jenny Sandra. 1997. *Quantifiers and selection*: Leiden University dissertation.
- Dunbar, Ewan & Alexis Wellwood. 2016. Addressing the ‘two interface’ problem: Comparatives and superlatives. *Glossa* 1(1).
- Emonds, Joseph E. 2000. *Lexicon and grammar: The English syntacticon*. Berlin: Mouton de Gruyter.
- Farkas, Donka & Katalin É. Kiss. 2000. On the comparative and absolute readings of superlatives. *Natural Language and Linguistic Theory* 18. 417–455.
- Fillmore, Charles J. 1986. Pragmatically controlled zero anaphora. In Vassiliki Nikiforidou (ed.), *Proceedings of the 12th annual meeting of the Berkeley Linguistics Society*, 95–107. Berkeley, CA: Berkeley Linguistics Society.
- Fodor, Janet Dean. 1970. *The linguistic description of opaque contexts*: MIT dissertation.
- Gawron, Jean Mark. 1995. Comparatives, superlatives, and resolution. *Linguistics and Philosophy* 18. 333–380.
- Giannakidou, Anastasia. 2004. Domain restriction and the arguments of quantificational determiners. In *Proceedings of SALT 14*, eLanguage.
- Gorshenin, Maksym. 2012. The crosslinguistics of the superlative. In Cornelia Stroh (ed.), *Neues aus der bremer linguistikwerkstatt – aktuelle themen und projekte*, 55–159. Bremen: Brockmeyer.
- Gutiérrez-Rexach, Javier. 2006. Superlative quantifiers and the dynamics of context-dependence. In Klaus von Stechow & Ken Turner (eds.), *Where semantics meets pragmatics*, 237–266. Oxford: Elsevier.
- Hackl, Martin. 2000. *Comparative quantifiers*. Cambridge, Mass.: MIT dissertation.
- Hackl, Martin. 2009. On the grammar and processing of proportional quantifiers: *most* vs. *more than half*. *Natural Language Semantics* 17. 63–98.
- Hallman, Peter. 2016. Superlatives in Syrian Arabic. *Natural Language and Linguistic Theory* 34. 1281–1328.
- Heim, Irene. 1999. Notes on superlatives. Ms., MIT.
- Heim, Irene. 2006. Notes on comparative clauses as generalized quantifiers. Ms. MIT.

- Hoeksema, Jack. 1983. Plurality and conjunction. In *Studies in modeltheoretic semantics*, 63–84. Dordrecht: Foris.
- Jackendoff, Ray. 1977. *X-bar syntax: A study in phrase structure*. Cambridge: MIT Press.
- Jespersen, Otto. 1914/1970. *A Modern English grammar on historical principles. part II: Syntax*. London and Copenhagen: George Allen & Unwin and Ejnar Munksgaard.
- Kayne, Richard S. 2002. On some prepositions that look DP-internal: English *of* and French *de*. *Catalan Journal of Linguistics* 1. 71–115.
- Kayne, Richard S. 2004. Some preliminary comparative remarks on french and italian definite articles. New York University.
- Kayne, Richard S. 2005a. A note on the syntax of quantity in english. In *Movement and silence*, 176–214. Oxford University Press.
- Kayne, Richard S. 2005b. Some notes on comparative syntax, with special reference to English and French. In *Oxford handbook of comparative syntax*, Oxford University Press.
- Kennedy, Christopher. 2009. Modes of comparison. In Malcolm Elliott, James Kirby, Osamu Sawada, Eleni Staraki & Suwon Yoon (eds.), *Papers from the 43rd annual meeting of the Chicago Linguistic Society volume 1: The main session*, 139–163. Chicago, IL: Chicago Linguistic Society.
- Krasikova, Sveta. 2012. Definiteness in superlatives. In Maria Aloni, Vadim Kimmelman, Floris Roelofsen, Galit W. Sassoon, Katrin Schulz & Matthijs Westera (eds.), *Logic, language and meaning*, 411–420. Dordrecht: Springer.
- Lerner, Jan & Manfred Pinkal. 1995. Comparative ellipsis and variable binding. In Mandy Simons & Teresa Galloway (eds.), *Proceedings of SALT 5*, 222–236. Cornell University.
- Link, Godehard. 1983. The logical analysis of plurals and mass terms: A lattice-theoretical approach. In Rainer Bäuerle, Christoph Schwartz & Arnim von Stechow (eds.), *Meaning, use, and the interpretation of language*, 302–323. Berlin: Walter de Gruyter.
- Marchis, Mihaela & Artemis Alexiadou. 2009. On the distribution of adjectives in Romanian: the *cel* construction. In Enoch Aboh, Elisabeth van der Linden, Josep Quer & Petra Sleeman (eds.), *Romance languages and linguistic theory*, 161–178. Amsterdam: John Benjamins.
- Matushansky, Ora. 2008a. On the attributive nature of superlatives. *Syntax* 11. 26–90.
- Matushansky, Ora. 2008b. On the linguistic complexity of proper names. *Linguistics and Philosophy* 21. 573–627.
- Merchant, Jason. 2009. Phrasal and clausal comparatives in Greek and the abstractness of syntax. *Journal of Greek Linguistics* 9. 134–164.
- Merchant, Jason. 2012. The two phrasal comparatives of Greek. Ms., University of Chicago.

- Pancheva, Roumyana & Barbara Tomaszewicz. 2012. Cross-linguistic differences in superlative movement out of nominal phrases. In Nathan Arnett & Ryan Bennett (eds.), *Proceedings of WCCFL 30*, 292–302. Somerville, MA: Cascadilla Press.
- Partee, Barbara H. & Mats Rooth. 1983. Generalized conjunction and type ambiguity. In Rainer Bäuerle, Christoph Schwarze & Arnim von Stechow (eds.), *Meaning, use and interpretation of language*, Berlin: De Gruyter.
- Plank, Frans. 2003. Double articulation. In Frans Plank (ed.), *Noun phrase structure in the languages of Europe*, 337–395. Mouton de Gruyter.
- Roelandt, Koen. 2016. *Most or the art of compositionality*: University of Leuven dissertation.
- Rohena-Madrado, Marcos. 2007. Superlative movement in Puerto Rican Spanish and General Spanish. In *NYU Working Papers in Linguistics, volume 1, spring 2007*, New York: NYU.
- Sharvit, Yael & Penka Stateva. 2002. Superlative expressions, context, and focus. *Linguistics and Philosophy* 25. 453–505.
- Solomon, Mike. 2011. Thoughts on Heim on superlatives. Ms, NYU.
- Svenonius, Peter. 1992. The extended projection of N: Identifying the head of the Noun Phrase. *Working Papers in Scandinavian Syntax* 49. 95–121.
- Szabolcsi, Anna. 1986. Comparative superlatives. In Naoki Fukui, Tova Rapoport & Elizabeth Sagey (eds.), *Papers in theoretical linguistics*, 245–265. Cambridge, MA: MITWPL.
- Szabolcsi, Anna. 2012. Compositionality without word boundaries: *(the) more* and *(the) most*. In Anca Chereches, Neil Ashton & David Lutz (eds.), *Semantics and Linguistic Theory (SALT) 22*, 1–25. Ithaca, NY: CLC Publications. doi:10.3765/salt.v22i0.2629.
- Teleman, Ulf, Staffan Hellberg & Erik Andersson. 1999. *Svenska Akademiens grammatik [The Swedish Academy Grammar]*, vol. 1-4. Stockholm: Svenska Akademien/Norstedts.
- Teodorescu, Alexandra. 2007. Attributive superlatives in Romanian. In L. Avram, G. Alboiu, A. Avram & D. Isac (eds.), *Pitar Mos: A building with a view. Papers in honor of Alexandra Cornilescu*, Bucharest, Romania: Bucharest University Press.
- Teodorescu, Viorica Alexandra. 2009. *Modification in the noun phrase: the syntax, semantics, and pragmatics of adjectives and superlatives*: University of Texas at Austin dissertation.
- Wellwood, Alexis. 2014. *Measuring predicates*. College Park, Maryland: University of Maryland dissertation.
- Wilson, E. Cameron. 2016. Deriving the most internal reading. In *Proceedings of sinn und bedeutung 20*, .
- Xiang, Ming. 2005. The degree argument and the definiteness effect. In *Proceedings of the 35th North Eastern Linguistic Society*, 647–662.