

## Focus Association and the Scope of Superlative *-est*

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**Abstract.** We offer evidence from Bulgarian that when the superlative quantifier *-est* undergoes QR from a DP into the clause, it obligatorily associates with focus, whereas when *-est* QRs internally to the superlative DP, it may but does not have to associate with focus.

**Keywords:** superlatives, relative readings, QR of *-est*, focus association, clitics

### 1. Introduction

Superlative expressions are known to give rise to ambiguities. In (1a-b), from Ross (1964: 36), *the biggest house* is interpreted relative to two different comparison sets, as specified in the *of*-PPs. These different interpretations of superlatives have come to be known as ABSOLUTE and RELATIVE: for the former, the comparison set is determined just on the basis of the DP containing the superlative expression; for the latter, expressions external to the superlative DP are taken into consideration (here *John* – called THE ASSOCIATE – and the property of owning a house).

- (1) John has the biggest house ...
  - a. ... of all those in this area.
  - b. ... of all my friends from school.

How the absolute and relative readings come about has been a matter of some debate. Two factors have been identified as relevant – the LF scope of the superlative degree quantifier and focus – although their exact role remains unresolved.

#### 1.1 Scope

Heim (1985) and Szabolcsi (1986), a.o., have argued that the ambiguity is structural: the absolute reading results when the degree quantifier (for convenience, *-est*<sup>1</sup>) takes scope within the superlative DP, as in (2a), and the relative reading obtains when the degree quantifier moves out of the superlative DP into the clause, as in (2b). In the latter case, the superlative DP is posited to

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<sup>1</sup> For Szabolcsi (1986), the degree quantifier is *the-est*. See also Krasikova (2012). We can also think of the superlative quantifier itself as non-overt, with the morpheme *-est* marking the type of Deg head introducing the quantifier.

be semantically indefinite. A further step of QR of the associate (here *John*) is required, so that the degree quantifier *-est* can have the same lexical semantics in the two structures.

- (2) a. John has [DP the *-est*<sub>1</sub> [NP *d*<sub>1</sub>-big house]]  
 b. [TP John<sub>2</sub> *-est*<sub>1</sub> [TP *t*<sub>2</sub> has [DP a [NP *d*<sub>1</sub>-big house]]]]

The comparison set is determined based on the denotation of the constituent to which *-est* adjoins as it QRs, and is then further contextually restricted. Formally, this is encoded through a domain argument of the degree quantifier, a null predicate variable, *C*, whose value is restricted based on the context (as is the case with quantifiers in general) and in accordance with the presuppositions in (3) (Heim 1999).

- (3)  $\llbracket -est \rrbracket = \lambda C_{\langle e,t \rangle}. \lambda D_{\langle d,et \rangle}. \lambda x_e. \exists d [D(d)(x) \wedge \forall y \in C [y \neq x \rightarrow \neg(D(d)(y))]]$   
*-est* (*C*)(*D*)(*x*) is defined iff (i)  $x \in C$ , and (ii)  $\forall y [y \in C \rightarrow \exists d [D(d)(y)]]$

In the case of (2a), the comparison set consists of contextually relevant houses with the gradable property of size, as in (4a); the absolute reading of the superlative sentence is that the biggest of those houses is the one John owns. In the case of (2b), the comparison set consists of contextually relevant people who have houses with the gradable property of size, as (4b); the relative reading of the superlative sentence is that among these people the person who owns the biggest house is John.

- (4) a. John has [DP the [*-est C*]<sub>1</sub> [NP *d*<sub>1</sub>-big house]]  
 $C \subseteq \{x: x \text{ is a house of some size}\}$   
 b. [TP John<sub>2</sub> [*-est C*]<sub>1</sub> [TP *t*<sub>2</sub> has [DP a [NP *d*<sub>1</sub>-big house]]]]  
 $C \subseteq \{x: x \text{ is person who has a house of some size}\}$

In contrast, Farkas and Kiss (2000), Sharvit and Stateva (2002), Coppock and Beaver (2014), a.o., have proposed that the absolute and relative readings obtain from the same structure, with the degree quantifier taking DP-internal scope as in (2a)/(4a), and contextual restriction alone determining the comparison set for the two readings. On both the absolute and relative interpretation the comparison set is the contextually relevant set of houses (with the gradable property of size), as in (4a), in conformity with the LF structure and the presuppositions of *-est*; context alone plays a disambiguating role.

A hybrid account is proposed in Pancheva and Tomaszewicz (2012) and Tomaszewicz (2015a,b): in English, the definite-marked superlative DP precludes QR of *-est*, and so both the absolute and

relative readings are derived through DP-internal scope for *-est*, as in (2a)/(4a), whereas in Slavic, indefinite-marked superlatives allow QR of *-est* into the clause, and so can derive relative readings, as in (2b)/(4b). As argued in Tomaszewicz (2015a), the reason English superlatives block QR of the superlative quantifier *-est* into the clause is that they are necessarily interpreted as semantically definite (see also Coppock and Beaver 2014). We will assume that the hybrid account is correct, and will not repeat the key empirical facts that motivate it, or the details of the formal analysis. We are interested here in differences between relative readings obtained when *-est* has DP-internal vs. DP-external scope. Specifically, we address the question of the role of focus, and its interaction with scope, in deriving relative readings.

## 1.2 Focus

Prosodic focus is known to have a disambiguating effect on relative readings (Ross 1964, Jackendoff 1972, Szabolcsi 1986, Heim 1999, Farkas and É. Kiss 2000, Sharvit and Stateva 2002, a.o.). In (5) and (6) the available relative reading is determined by prosodic prominence (compare (5b) and (6b)), but the absolute reading is not affected ((5a) and (6a) are the same).

- (5) [JOHN]<sub>F</sub> bought the biggest house in January.  
a. In January, John bought a house that is bigger than any other relevant house.  
b. In January, John bought a bigger house than any other relevant person did.
- (6) John bought the biggest house in [JAnuary]<sub>F</sub>.  
a. In January, John bought a house that is bigger than any other relevant house.  
b. In January, John bought a bigger house than he did at any other relevant time.

The facts in (5) and (6) suggest that F-marking on the associate plays a role in the derivation of relative readings, however, the data in (7) complicate the picture. Elements that are not prosodically prominent, *who* or its trace in (7a) (from Szabolcsi 1986) and the null subject in (7b) (from Heim 1999), are relevant for the determination of the comparison set and the available relative reading, and moreover, this happens in the presence of prosodic prominence on other constituents in the sentence. The lack of correspondence between prosodic focus and putative F-marking leads Szabolcsi (1986) and Heim (1999) to conclude that focus is not needed for the derivation of relative readings.

- (7) a. We should console the girl who got the fewest [LEtters]<sub>F</sub>.  
b. How does one win this contest? - By putting the tallest [PLANT]<sub>F</sub> on the table.

What seems to be relevant in (5)-(6) vs. (7) is the position of the F-marked constituent: when it is external to the superlative DP, as in (5) and (6), it has an effect on the determination of the comparison set and thus on the available relative reading, but when it is internal to the superlative DP, as in (7), it does not. In other words, prosodic focus on a constituent external to the superlative DP is not compatible with a different constituent being the associate, but given that DP-internal constituents cannot be associates in definite superlatives (Pancheva and Tomaszewicz 2012), prosodic focus DP-internally cannot determine relative readings.

### 1.3 Goals of this paper

We provide evidence from Bulgarian that when the superlative morpheme *-est* scopes out of superlative DPs, it necessarily associates with focus. When *-est* scopes within the superlative DP, in the presence of the definite determiner, *-est* may but need not associate with focus. This accounts for the two facts from English presented above: (i) focus insensitivity of absolute readings of superlatives, (ii) the optionality of focus with relative readings in English. Since both absolute and relative readings in English are derived with DP-internal QR of *-est*, the lack of obligatory focus association for *-est* in this language follows. The facts are also compatible with claims in Tomaszewicz (2013, 2015a,b) that in Polish, when *-est* takes scope in the clause, it obligatorily associates with focus.

## 2. Bulgarian superlatives

Bulgarian has both definite- and indefinite-marked superlatives, as in (8) and (9). Absolute readings obtain only with definite-marked superlatives, as in (8a) – the comparison set in (8a) is the set of contextually relevant houses without consideration of who, if anyone, bought them. Certain relative readings are possible with both types of superlatives, as in (8b) and (9b) – here the contextually relevant individuals who bought houses are taken into consideration for the determination of the comparison set. The kind of relative readings available with the two types of superlatives vary: only constituents external to the superlative DP can determine the comparison set with definite-marked superlatives (thus only (8b), set with respect to the associate *Ivan*, is an available relative reading), whereas both DP-external and DP-internal constituents can determine the relative reading with indefinite-marked superlatives (as in (9b)-(9c)). The relative reading in (9c), set with respect to the DP-internal constituent *house*, relies on a comparison set including relevant objects bought by Ivan. This relative reading is absent not just in Bulgarian definite-marked superlatives but from English superlatives as well (Pancheva and Tomaszewicz 2012). On the hybrid account, this reading can only obtain if *-est* QRs into the clause, but such an LF is blocked with definite superlatives for semantic reasons (Tomaszewicz 2015a).

- (8) Ivan kupi *naj-goljama-ta*                      kăšta.  
 Ivan bought est-big.FEM.SG-the.FEM.SG house.FEM.SG  
 ‘Ivan bought the biggest house.’
- a. Ivan bought a house that is bigger than any other relevant house.  
 b. Ivan bought a bigger house than any other relevant person did.  
 c. *not available*: Ivan bought a bigger house than any other relevant thing he bought.
- (9) Ivan kupi *naj-goljama*                      kăšta.  
 Ivan bought est-big.FEM.SG house.FEM.SG  
 ‘Ivan bought the biggest house.’
- a. *not available*: Ivan bought a house that is bigger than any other relevant house.  
 b. Ivan bought a bigger house than any other relevant person did.  
 c. Ivan bought a bigger house than any other relevant thing he bought.

The similarities in available readings between Bulgarian and English definite-marked superlatives suggest that the two should be given the same analysis. And given that Bulgarian has both definite- and indefinite-marked superlatives, an analysis where on relative readings the definite determiner is not interpreted with its usual semantics, but is instead indefinite, is particularly unlikely – the language has a superlative structure with an indefinite determiner. Finally, the fact that the absolute reading obtains only with the definite-marked superlative in Bulgarian, (compare (8a) and (9a)), also suggests that the definite and null indefinite determiners in Bulgarian superlatives are semantically contentful.

The Bulgarian facts thus strengthen the claims of the hybrid account that in English, superlatives are always interpreted as definite, and both absolute and relative readings obtain from an LF where *-est* scopes within the superlative DP.

## 2.1 Clitic pronouns and focus

Bulgarian has full and clitic object pronouns. The full pronouns are necessarily interpreted as focused: they are prosodically prominent, they are felicitous as the new information in answers to *wh*-questions, and they can be associates to focus-sensitive adverbs like *only* and *even*.<sup>2</sup> The

<sup>2</sup> In sentences like (10) the full pronoun must be the associate of *only/even*. In sentences where no clitic pronoun may appear, e.g., in PPs, the full pronoun may but does not need to be the associate of the focus-sensitive adverbs.

- (i) a. Ivan samo/daže govori s [NEja]<sub>F</sub> v kinoto  
 Ivan only/even spoke with her-FULL.PRON.ACC in cinema.the  
 ‘Ivan only/even spoke to HER at the movies.’
- b. Ivan samo/daže [goVOr]<sub>F</sub> s [NEja]<sub>F</sub> v kinoto  
 Ivan only/even spoke with her-FULL.PRON.ACC in cinema.the  
 ‘Ivan only/even SPOKE to her at the movies.’
- c. Ivan samo/daže govori s [NEja]<sub>F</sub> v [KInoto]<sub>F</sub>  
 Ivan only/even spoke with her-FULL.PRON.ACC in cinema.the

clitic pronouns cannot be stressed, cannot be the new information in answers to *wh*-questions, and they also cannot be associates to *only* and *even*.

(10) a. Ivan pokani [NEja]<sub>F</sub> na kino.  
Ivan invited her-FULL.PRON.ACC to cinema  
'Ivan invited HER to the movies'  
(also felicitous as an answer to *Who did Ivan invite to the movies?*)

b. Ivan samo/daže pokani [NEja]<sub>F</sub> na kino.  
Ivan only/even invited her-FULL.PRON.ACC to cinema  
'Ivan only/even invited HER to the movies'

(11) a. Ivan ja pokani na kino.  
Ivan her-CLITIC.ACC invited to cinema  
'Ivan invited her to the movies'  
(not felicitous as an answer to *Who did Ivan invite to the movies?*)

b. Ivan samo/daže ja pokani na kino.  
Ivan only/even her-CLITIC.ACC invited to cinema  
*not available*: 'Ivan only/even invited HER to the movies'  
'Ivan only inVIted her to the movies', or  
'Ivan only invited her to the MOVies' (depending on which constituent is prominent)

The same facts obtain with full and clitic pronouns in indirect object position, and as possessives. We next ask whether clitics can be associates in relative readings of superlatives in Bulgarian.

## 2.2 DP-internal associates

The hybrid account derives the relative reading in (9c) – where the comparison set is determined relative to a DP-internal associate – through QR of *-est* into the clause. The reading is not available in (8), or in English, because the definite determiner leads to a semantic problem, as discussed in Tomaszewicz (2015). With that in mind, let us consider (12).

(12) Scenario: Ivan is developing methods to restore a canvas, a sculpture, and a tapestry. He has very little money and so he has to prioritize which of these to restore first.

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'Ivan only/even spoke to her at the MOVies.'

Šte započne sās skulpturata.  
 will begin-3sg with sculpture-the  
 ‘He will begin with the sculpture.’

a. Razraboti naj-evtin metod za *nejnata* restavracija.  
 developed-3sg -*est*-cheap method for her-FULL.PRON.POSS-the restoration  
 ‘He developed the cheapest method for its restoration.’

b. # Razraboti naj-evtin metod za restavracijata *i*.  
 developed-3sg -*est*-cheap method for restoration-the her-CLITIC.POSS  
 ‘He developed the cheapest method for its restoration.’

c. # Razraboti naj-evtin-ija metod za *nejnata* restavracija.  
 developed-3sg -*est*-cheap-*the* method for her-FULL.PRON.POSS-the restoration  
 ‘He developed the cheapest method for its restoration.’

d. # Razraboti naj-evtin-ija metod za restavracijata *i*.  
 developed-3sg -*est*-cheap-*the* method for restoration-the her-CLITIC.POSS  
 ‘He developed the cheapest method for its restoration.’

Examples (12a-b) involve an indefinite superlative, and (12c-d) a definite one. Of all these examples, only one, (12a), is felicitous in the given context, as it is the only one that can express the relative reading *Ivan developed a cheaper method for its restoration than any other method he developed for the restoration of the remaining objects*. This is a relative reading with the possessive pronoun as the associate. Because the pronoun is internal to the superlative DP, only an indefinite superlative can give rise to this reading, in line with the hybrid approach. This rules out (12c) and (12d). The only difference between the indefinite superlatives in (12a) and (12b) is the form of the pronoun – a full pronoun can function as the associate for the relevant relative reading, but a clitic pronoun cannot.

The LF behind the relative reading set with respect to the DP-internal associate is as in (13). The degree quantifier QRs into the clause and tucks in below the moved associate.

(13) [TP its<sub>2</sub> [-*est* C]<sub>1</sub> [TP he developed [DP a [NP *d*<sub>1</sub>-cheap method for *t*<sub>2</sub> restoration]]]]  
 $C \subseteq \{x: \text{he developed a method of some cost for the restoration of } x\}$

A possible reason for why (12a) can give rise to the LF in (13) but (12b) cannot, is the (im)movability of clitic pronouns. Perhaps clitics cannot undergo QR and so they cannot become the third argument of -*est*. This, however, is unlikely. First, it has been argued that Bulgarian clitics, possessive clitics among them, agree in case and phi-features with possibly non-overt arguments (Pancheva 2004, Harizanov 2014, a.o.). Thus, while we do not expect the clitic itself

to undergo QR, the null pronominal which it doubles, and which is the real (possessive) argument, must be able to undergo QR. Second, examples like (14a) can have the LF in (14b), i.e, the null pronominal argument being doubled by the clitic must be able to raise at LF to become the third argument of *-est*. (14a) can also have the LF in (14c), with the null subject being the third argument of *-est*, confirming that null pronominals can be associates in relative readings of superlatives.

- (14) a. Običam    *ja*                            *naj*-mnogo.  
           loves-3sg   her-CLITIC.ACC    *-est*-much  
           ‘I love her the most.’
- b. [TP her<sub>2</sub> *-est*<sub>1</sub> [TP I [VP love t<sub>2</sub> [AdvP *d*<sub>1</sub>-much]]]]  
       c. [TP *pro*<sub>2</sub> *-est*<sub>1</sub> [TP t<sub>2</sub> [VP love her [AdvP *d*<sub>1</sub>-much]]]]

If the clitic, or rather its associated null pronoun, can move and become an argument to *-est*, the fact that the LF in (13) is not available for (12b) suggests that another factor is at play. We would like to suggest that this factor is focus. Specifically, the *-est* that moves out of indefinite superlative DPs must associate with focus, and the focused constituent needs to be the associate (the third argument of *-est*). This claim needs to be restricted to *-est* in long-QR configurations, as in (13), given that in (14) *-est* has sentential scope, yet the associate is a clitic.

### 2.3 DP-external associates

Let us now consider (15).

- (15) Scenario: Mary is a first-grader. The teachers are giving out chocolate bars to the students, as awards for performance in various tasks, and Mary receives the biggest chocolate bar of all the kids. She is happy about this, although she also notices that the biggest chocolate bar of all is not awarded to anyone. It was to be given to the kid who did the extra math problems, and none of the kids completed these.

Maria    *se*    *radva*,                    *zaštoto* ...  
 Maria    refl.   be-happy-3sg   because  
 ‘Maria is happy because ...’

- a. ... *dadoha*    *naj*-goljam    šokolad    na *neja*  
           gave-3pl    *-est*-big            chocolate    to her-FULL.PRON.ACC  
           ‘They gave her the biggest chocolate bar’



- b. # ... *i*                      dadoha    *naj-goljam*    šokolad  
    her-CLITIC.DAT    gave-3pl    -*est*-big    chocolate  
    ‘They gave her the biggest chocolate bar’
- c. ... dadoha    *naj-golem-ija*    šokolad    na neja  
    gave-3pl    -*est*-big-*the*    chocolate    to her-FULL.PRON.ACC  
    ‘They gave her the biggest chocolate bar’
- d. ... *i*                      dadoha    *naj-golem-ija*    šokolad  
    her-CLITIC.DAT    gave-3pl    -*est*-big-*the*    chocolate  
    ‘They gave her the biggest chocolate bar’

Here too we are comparing indefinite and definite superlatives, with full and clitic pronouns as the potential associates. The reading that will be appropriate given the scenario in (15) is *They gave her a bigger chocolate than they did to any other kid*.

The judgments concerning (15b) are subtle, but this example is less felicitous in the given context than the remaining three examples in (15).<sup>3</sup> Perhaps the subtlety of judgment indicates that there are two LFs associated with (15b) – one with a DP-external *-est*, which requires focus on the associate, and another one with a DP-internal *-est*, which does not. The hybrid account does not state that relative readings with associates that are external to the superlative DP *must* obtain with DP-external scope for *-est* in indefinite superlatives, it only states that they *can*. And, for instance, Tomaszewicz (2015b) argues that certain relative readings in Polish, a language without a definite determiner, arise through DP-internal scope for the superlative quantifier *-est*.

There are considerations, however, that point to a different conclusion for Bulgarian, namely that in indefinite superlatives of the kind discussed here *-est* takes scope in the clause. A requirement to maximize presuppositions would call for the definite determiner to be used when *-est* remains DP-internal, unless we are dealing with cases like (16), discussed in Herdan and Sharvit (2006).

(16) Every library has a/(#the) most expensive book.

We are on firmer ground with the definite superlatives in (15c-d). The hybrid account derives the relative reading in definite superlatives through DP-internal scope for *-est*. The acceptability of (15d), a definite superlative with a clitic associate, suggests that focus on the associate is not required when *-est* takes DP-internal scope. This is in contrast with the conclusion we reached with respect to example (12): when *-est* takes DP-external scope, the associate needs to be focused. Thus, in the presence of the definite determiner, Bulgarian is like English, relative

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readings with DP-external (but not DP-internal) associates are available and focus is not obligatory. In the absence of the definite determiner, when *-est* is DP-external, focus is obligatory for relative readings.

### 3. The interaction of *-est* scope and focus

In the presence of an F-marked constituent, the domain argument of *-est*,  $C$ , is constrained by the focus association condition, (17), where  $C'$  is the domain argument of the focus operator  $\sim$  (Rooth 1992, Heim 1999).

(17) Focus association condition:  $C \subseteq C'$  (or  $C \subseteq \cup C'$ ) (Rooth 1992)

The superlative quantifier *-est* can associate with focus on a DP-external associate, both from a DP-external and a DP-internal position. However, *-est* can associate with focus on a DP-internal constituent only from a DP-external position.

#### 3.1 DP-internal *-est*, DP-external associate

Let us consider first the case of DP-internal *-est*, with DP-external associate, as in (15c-d). The relevant relative reading we want to derive relies on a comparison set consisting of the chocolate bars that were given to Maria and the other children in her class. This reading can result from either of the LFs in (18) and (19). In both of them the definite determiner binds the individual argument of *-est*, and  $C$  is established on the basis of the denotation of the superlative DP, in line with the superlative presuppositions in (3). The LF in (18) involves no focus association, and is thus the structure that underlies (15d), where a clitic pronoun is the associate. Here the comparison class is further restricted contextually (the underlined conjunct).

(18) They gave her [DP the [NP2 [-est  $C$ ]<sub>1</sub> [NP1  $d_1$ -big chocolate bar]]]  
 $C \subseteq \{x: \exists d \exists y [x \text{ is a } d\text{-big chocolate bar} \wedge \text{they gave } x \text{ to } y]\}$

The LF in (19) involves focus association, and thus can underlie (15c) only, where the associate is a full pronoun. The focus interpretation operator  $\sim$  attaches at the TP level and the whole superlative DP can QR outside of the scope of  $\sim$  (as in Heim 1999). Given the values of  $C'$  and  $C$ , the focus association condition is met, (19d). Focus association here accomplishes the same task of restricting the comparison set, as the purely pragmatic contextual restriction in (18).

- (19)  $[_{DP} \text{ the } [-est C]_1 [_{d_1}\text{-big chocolate bar}]_2 \text{ } [[\sim C'] [_{TP} \text{ they gave } [her]_F t_2]]]$
- $C' \subseteq \llbracket [TP]^f \rrbracket \subseteq \{P: \exists y [P = \lambda x [\text{they gave } x \text{ to } y]]\}$
  - $\cup \llbracket [TP]^f \rrbracket \subseteq \{x: \exists y [\text{they gave } x \text{ to } y]\}$
  - $C \subseteq \{x: \exists d [x \text{ is a } d\text{-big chocolate bar}]\}$
  - $C \subseteq \cup C'$

### 3.2 DP-internal *-est*, DP-internal associate

If *-est* stays DP-internal, a DP internal constituent cannot be the associate, with or without focus. In (20) the focus association condition cannot be met. In (21) and (22), whether or not the associate moves out of the DP, the comparison set is not the set of alternative artworks that are in need of restoration. (See Tomaszewicz 2015a for further discussion). This is why (12c-d) cannot have the intended relative reading.

- (20)  $[_{TP} \text{ he developed } [_{DP} \text{ the } [-est C]_1 [_{NP} d_1\text{-cheap method for } [[its]_F [\sim C']] \text{ restoration}]]]$
- $C' \subseteq \llbracket [its]_F \rrbracket \subseteq \{\text{the canvas's, the sculpture's, the tapestry's ...}\}$
  - $C \subseteq \{x: \exists d [x \text{ is a } d\text{-cheap method for the sculpture's restoration}]\}$
  - $C \not\subseteq C'$
- (21)  $[_{TP} \text{ he developed } [_{DP} \text{ the } [-est C]_1 [_{NP} d_1\text{-cheap method for its restoration}]]]$
- $$C \subseteq \{x: \exists d [x \text{ is a } d\text{-cheap method for the sculpture's restoration}]\}$$
- (22)  $[_{TP} its_2 [_{TP} \text{ he developed } [_{DP} \text{ the } [-est C]_1 [_{NP} d_1\text{-cheap method for } t_2 \text{ restoration}]]]]]$
- $\llbracket [NP]^g \rrbracket = \lambda d \lambda x [x \text{ is a } d\text{-cheap method for } g(2)\text{'s restoration}]$
  - $C \subseteq \{x: \exists d [x \text{ is a } d\text{-cheap method for } g(2)\text{'s restoration}]\}$

### 3.3 DP-external *-est*, DP-internal associate

The clear case of DP-external *-est*, (12a), should in principle be derivable from the LF in (13). However, because a clitic is not felicitous as the associate, (12b), we have to augment the LF with focus marking on the associate, as in (23). The associate possessive pronoun is focused, it QRs to the edge of the clause leaving a trace, while *-est* tucks in below it. The focus operator attaches to the associate evoking the alternative set of individuals of which  $C'$  is a subset, (23b). The focus association condition is satisfied, (23c), because there is no clash between the focal presupposition (23a) and the specification of  $C$  resulting from the presuppositions of *-est* (23b).

- (23) [TP [[its]<sub>F</sub> [~ C']] [[-est C]<sub>1</sub> [TP he developed [DP a [NP *d*<sub>1</sub>-cheap method for *t* restoration]]]]
- $C' \subseteq \llbracket \text{its}_F \rrbracket' \subseteq \{\text{the canvas's, the sculpture's, the tapestry's ...}\}$
  - $C \subseteq \{x: \exists d [\text{he developed a } d\text{-cheap method for } x\text{'s restoration}]\}$
  - $C \subseteq C'$

The need for focus on the associate in the case of DP-external *-est* does not seem to follow from any independent constraint.

### 3.4 DP-external *-est*, DP-external associate

Finally, the indefinite superlatives in (15a-b) allow *-est* to take DP external scope, but as we noted earlier, long QR is not in principle *required*. Yet, the fact that the clitic is not fully acceptable as an associate favors an account involving DP-external *-est*, as in (24). If so, just as in (23) above, obligatory focus-sensitivity needs to be attributed to DP-external *-est*.

- (24) [TP [[her]<sub>F</sub> [~ C']] [TP [-est C]<sub>1</sub> [TP they gave *t* a *d*<sub>1</sub>-big chocolate bar]]]
- $C' \subseteq \llbracket \text{her} \rrbracket' \subseteq \{\text{Maria, ...}\}$
  - $C \subseteq \{x: \exists d [\text{they gave } x \text{ a } d\text{-big chocolate bar}]\}$
  - $C \subseteq C'$

## 4. Conclusion

In the last two sections we noted that DP-external scope for *-est* alone can derive relative readings, without F-marking the associate. Yet, the Bulgarian data concerning the availability of clitics as associates in indefinite superlatives suggest that focus is required. The associate must be F-marked, so that its focus alternative value is congruent with the comparison set.

The theory of focus association, according to which focus effects on quantifier domains are the result of the anaphoric dependence on the same background context (i.e. (17) holds when both *C* and *C'* have an antecedent in explicit or implicit discourse), predicts that focus effects are optional. It then follows that phonologically reduced material can still play a role in the specification of the domain of a quantifier. For cases where operators require phonological focus (e.g. *only*), focus association needs to be lexically encoded, otherwise, irrespective of the presence of ~, the domain variable can be contextually resolved (Rooth 1992, Beaver and Clark 2008).

We thus need to treat DP-external *-est* similar to adverbial *only*: they both obligatorily associate with focus. The parallels in fact extend further. DP-internal *-est* and DP-internal *only* optionally associate with focus. An analysis of this observation will have to wait for another occasion.

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