A Superlative Puzzle for Bošković’s NP/DP Parameter*

Dustin Chaçon dchacon@umd.edu
Alexis Wellwood wellwood@umd.edu
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1 Introduction

• Bošković (2008) observed a large number of correlations existing between the absence of articles (equivalent to a or the in English) and various effects.

• He uses these facts to argue for a parameter that determines whether or not a language projects a DP-layer. In particular, languages that allow for left branch extraction out of the nominal, free scrambling, no neg raising, etc, do not project DP.

• If this conclusion is correct, any proposed analysis of a paradigm that relies critically on the presence of a DP-layer in the nominal should not apply to languages without an overt article.

• Our goals are as follows:

  a. To explain a surprising effect of prenominal possessors on the relative interpretation of superlative adjectives.

  b. To provide evidence for a Spec, DP position in languages without articles and a fortiori the existence of a DP projection in these languages.

  c. To offer an interpretation of Bošković’s generalization in which the only parameter is whether D⁰ is overtly or covertly realized.

2 Puzzle: superlatives & possessives

• Superlatives like tallest in (1) have been noted to give rise to two truth-conditionally distinct readings, ABSOLUTE and RELATIVE.

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(1) Ty climbed the tallest mountains.

• In (1) *tallest mountains* may describe the mountains that are tallest of all relevant mountains, equivalent to (2).

(2) Ty climbed the tallest (mountains) of all the mountains.  \((\text{Absolute})\)
\[
\text{Of the mountains, the ones Ty climbed were the tallest of all.}
\]

• Or it may describe the mountains that are taller than any mountains climbed by any relevant climber, equivalent to the reading of (3).

(3) Ty climbed the tallest mountains of all the mountaineers.  \((\text{Relative})\)
\[
\text{Of any mountaineer who climbed a mountain of some height, Ty’s mountains were taller than those.}
\]

• Thus, in the following situation, (2) is true but (3) is false, if the name below the mountains climbed those mountains.

• The two readings are brought out clearly by the inclusion of an overt *of*-phrase, but notice that such phrases do not appear in equivalent structural positions.

(4) Of all the mountains, Ty climbed the tallest *(mountains).

(5) Of all the mountaineers, Ty climbed the tallest *(mountains).

• *most*, the superlative form of *many* (Bresnan, 1973; Hackl, 2009),\(^1\) as in (6), behaves differently.

(6) Ty climbed the most mountains.

• *most* has a relative reading, paraphrased as in (7), but no absolute reading, as would be paraphrased as in (8).\(^2\)

(7) Ty climbed the most mountains of all the mountaineers.  \((\text{Relative})\)

(8) *Ty climbed the most (mountains) of all the mountains.  \((\text{*Absolute})\)

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\(^1\) We assume this for ease of exposition, though we believe a strong case has been made for supposing it is the superlative of *more* Stateva (2003); Bobaljik (2007); ?.

\(^2\) Hackl (2009) considers the absolute reading of *most* to be its proportional meaning, as when it is pronounced *Ty climbed most of the mountains* in English.
• Our critical observation is that possessors in certain structural positions influence the availability and grammaticality of such readings.

• Our first observation is that postposed possessors with *tastiest* support both readings, as in (9) and (10).

(9) Ty chose the tastiest cookies of Sue’s (of all the cookies).

(10) Ty chose the tastiest cookies of Sue’s (of all the party guests).

• In contrast, a prenominal possessor only gives rise to the absolute reading.

(11) Ty chose Sue’s tastiest cookies (of all the cookies).

(12) Ty chose Sue’s tastiest cookies (# of all the party guests).

• Thus, (10) is true in the situation below, and (9) is false, if darkness indexes tastiness.

• Our second observation concerns *most*: postposed possessors give rise to the relative reading, as in (13):

(13) Ty ate the most cookies of Sue’s (of all the party guests).

• While *most* with preposed possessors are ungrammatical:

(14) *Ty ate Sue’s most cookies.

• This pattern makes sense, if the effect of the possessor is to limit the interpretation of superlatives to the absolute reading, which *most* lacks.

• In the next section, we consider an analysis that makes sense of the asymmetry between pre- and postposed possessors that crucially makes use of the D projection.

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3This is more puzzling given Hackl (2009)’s semantic analysis of *most*: if anything, such an account should predict that the preposed possessor gives rise only to the proportional meaning.
3 The analysis

- We saw an asymmetry in the possible interpretations of a superlative adjective with a prenominal possessor.

- We argue that the relative reading is derived via movement of some syntactic object base generated in the DP, which moves to the left edge for focus interpretation.

- This reading is ruled out with a prenominal possessor as movement of the possessor to Spec,DP gives rise to a Relativized Minimality violation.

- First, we establish that there is a movement relation supporting the relative interpretation. Like Sharvit and Stateva (2002), we assume that this is a focus interpretation requiring access to the left edge of the matrix clause.

- Under our account, however, access to this position is fixed by movement. Thus, whenever movement is barred, the relative reading should also be barred.

- This predicts that we should see a restriction to the absolute reading when the superlative phrase is contained in an island context, which seems to be borne out.

- We find an ambiguity in (15):

  (15) Sylvester wondered [about the sincerest candidates] (Absolute, Relative)

- (15) can mean either that, out of the running candidates, there is some subset that are the sincerest, and Sylvester wonders about those candidates; Absolute).

- Alternatively, there is the reading where something like out of everyone who is voting this election, the candidates that Sylvester wonders about are more sincere than any other candidates; (Relative).

- This ambiguity disappears in an island context. In (16), we cannot be comparing candidates indexed to wonderers, but rather only candidates simpliciter.

  (16) Sylvester wondered [who voted for the sincerest candidates.] (Absolute, *Relative)

- This asymmetry is predicted if the relative reading requires a syntactic relation between the left edge of the clause and the superlative.

- For concreteness, we assume that all superlatives contain a syntactic representation of a variable over a comparison set, C. When this object moves to the left edge, it allows comparison among subsets of its associated NP indexed by a focus set.
• *In-situ*, it permits only comparison among subsets of the entities denoted by NP.\(^4\)

\[
(17) \quad \begin{array}{c}
\text{DP} \\
\begin{array}{c}
\text{D} \\
\begin{array}{c}
\text{CompP} \\
\begin{array}{c}
\text{C} \\
\text{Comp}'
\end{array}
\end{array}
\end{array}
\end{array}
\begin{array}{c}
tall+est \\
\text{NP}
\end{array}
\]

• With this structure in hand, we can explain the asymmetry observed regarding the positioning of a possessor.

• First, we assume that possessors start in a post-nominal position, somewhere in the lexical domain of the noun (for concreteness, Spec,NP).

• We argue that prenominal possessors are *raised* to Spec,DP (Larson, 1991), and that remaining *in-situ* may trigger some variety of a Last Resort of-insertion, à la Chomsky (1971). See also Longobardi (2003).

• We also assume that DP is a phase, and that all movement out of this phase must proceed via Spec, DP (Rappaport, 2001). Lastly, we assume that there is only one Spec position per phase head.

• We thus explain the asymmetry contributed by the prenominal possessor in this way: a possessor in Spec, DP prevents movement of \(C\) to the left edge of the clause, schematized below.

\(^4\)Matushansky (2008) proposes that NP plays the role that we here give to \(C\). This makes sense of the absolute reading, but something else must be said about the relative reading. One option would be to say that \(C\) is only present for the relative reading. However, that would make a uniform semantics for *-est* unlikely.
However, with a post-nominal possessor, this movement is allowed, as $C$ may first move to Spec,DP.\(^5\)

We claim that the overt *of*-phrase in examples (4) and (5) is likely an overt realization of $C$, at least for relative cases (*of the mountaineers*). For absolute cases, it must be a partitive *of*-phrase (*of the mountains*).

Semantically, we assume that *-est* combines with a measuring expression like *tall* or *many*, and compares some measure of the restrictor NP to the max degree in $C$ (20).

\(^5\)Note that this account differs from others which move *-est* itself.
\[
[-\text{est}] = \lambda G \lambda C \lambda \alpha [\exists d [G(\alpha) = d \land d > \text{max}(C_G)]]
\]

- Consider (21), repeated from (1).

(21) Ty climbed the tallest mountains.

- Our claim is that (21) is structurally ambiguous: on the absolute reading, the null argument to -est doesn’t move from its base generated position:

(22) Ty climbed \([DP \text{ the } [\text{CompP } C \text{ tallest mountains}]]\) (\text{ABSOLUTE})

- We propose that in such cases, C contains the degrees of heights for mountains that are non-identical to the ones Ty climbed (suppose these are x). This is given schematically in (23).

(23) \(C = \{d : \exists y \text{[MOUNTAIN}(y) \land y \neq x \land \text{TALL}(y) = d]\}\) (\text{ABSOLUTE})

- In this case, (21) will be true just in case Ty climbed the tallest of any other mountains in the context, deriving the absolute reading.

- On the relative reading, however, C moves out of the DP.\(^6\)

(24) \(C_i \text{ Ty climbed } [\text{DP } C_i \text{ the } [\text{CompP } t_i \text{ tallest mountains}]] ([C_i] = \text{ of the mountaineers, RELATIVE})\)

- In such cases, we assume that C still denotes a set of degrees, but if e.g. the subject Ty is focused, the set of degrees is effectively derived by measuring pluralities of pluralities of mountains ‘indexed’ to alternatives to Ty:

(25) \(C = \{d : \forall y \in \text{ALT}(\text{Ty})[\exists e'[\text{Ag}(e', y) \land \text{CLIMB}(e', \iota z [\text{Mtn}(z) \land \text{TALL}(z) = d])]\}\}\) (\text{RELATIVE})

- We claim, finally, that this account is cross-linguistically viable, as the same asymmetry between pre- and postposed possessors obtains in Spanish.

- With the equivalent to tallest (las más altas), a postposed possessor gives rise to both the absolute and relative readings as in (26).

\(^6\)We observe that there seems to be an apparent counterexample to this claim if we take of-phrases to be the overt realization of C. On our analysis, on the relative reading the contrast set must move out of the DP to the left periphery. Thus, we predict sentences like Of the mountaineers, Ty climbed the most mountains, but not Ty climbed the most mountains of the mountaineers. However, note that it is not clear that of the mountaineers is a modifier of the nominal, given that it does not move with the nominal in A-movement: ?Most mountains were climbed by Ty of the mountaineers, ??Most mountains of the mountaineers were climbed by Ty.

7
(26) Juan conoce las amigas más altas de ella
   John knows the more tall friends of her
   ‘John knows the tallest friends of hers’ (Absolute, Relative)

• Just as with English, however, preposing the possessor excludes the relative reading.

(27) Juan conoce sus amigas más altas
   John knows her more tall friends
   ‘John knows her tallest friends’ (Absolute, *Relative)

• We also observe that this is true for cases with a de-phrase.

(28) Juan conoce las amigas más altas de María
   John knows the more tall friends of Mary
   ‘John knows the tallest friends of Mary’s’ (Absolute, Relative)

• We have shown that there is a (crosslinguistic) asymmetry between prenominal and
  postnominal possessors with regard to possible readings of superlatives: prenominal
  possessors disallow a relative reading, whereas postnominal possessors by allow it.

• We explained this asymmetry as the result of prenominal possessors blocking movement
  of an optionally null contrast set to the left edge of the clause.

• Of course, both English and Spanish have articles, falling into Bošković’s DP languages.
  In the next section, we consider the data on superlatives in NP languages.

4 Languages without articles

• Bošković’s statement of the NP/DP Parameter asserts that languages without articles
  lack a D projection. Thus, if our D-dependent analysis for the asymmetries in the inter-
  pretation of superlatives correct, we should not be able to replicate these asymmetries
  in such languages.

• Bangla has no articles (see Appendix A), yet we see a similar pattern to English with
  tallest. Without possessors, both readings are possible:

(29) Fahim jābce bamba bondhu-ke cene
    Fahim most tall friend-ACC knows
    ‘Fahim knows the tallest friends’ (Absolute, Relative)

• And similarly for the article-less Japanese:
(30) Taisuke-wa ichiban oishii kukkii-o tabeta
    Taisuke-TOP most tasty cookie-Acc ate
    ‘Taisuke ate the tastiest cookies’ (Absolute, Relative)

• However, in both languages, the relative reading is ruled out in structures with pos-
sessor phrases:

(31) Fahim Aniqua-r jôbcee lomba bondhu-ke cene
    Fahim Aniqua-GEN most tall friend-ACC knows
    ‘Fahim knows Aniqua’s tallest friend’ (Absolute, *Relative)

(32) Taisuke-wa Sayaka-no ichiban oishii kukkii-o tabeta
    Taisuke-TOP Sayaka-GEN most tasty cookie-Acc ate
    ‘Taisuke ate Sayaka’s tastiest cookies’ (Absolute, *Relative)

• A complicating factor with these examples might be that Bangla and Japanese pos-
sessors do not alternate in their syntax of possessors, so they do not provide a perfect
comparison to the English and Spanish cases.

• Luckily Russian, a language that Bošković cites as a paradigmatic example of a lan-
guage without articles, does have different ways of pronouncing possessor DPs, one
pre- and one postposed.

• Interestingly, the same pattern obtains here with tallest. With postposed possessors,
both readings are available:

(33) John znajet samyh vysokih druzej Mary
    John knows most tall friends Mary
    ‘John knows the tallest friends of Mary’s’ (Absolute, Relative)

• However, with preposed possessors, the by-now familiar pattern obtains: only the
absolute reading of tallest is possible.

(34) John znajet Marynyh samyh vysokih druzej
    John knows Mary.GEN most tall friends
    ‘John knows Mary’s tallest friends’ (Absolute, *Relative)

• And again, the same pattern obtains with most: with postposed possessors, both
readings are available.7

7Note that bol’she is equivalent to more in Russian, however in these cases it behaves like English adjectival
most: it permits comparisons between more than two alternatives (cf. Of the three boys, John is the *taller/tallest).
But with presposed possessors, *most is ungrammatical.

(36) * John zna\_jet Marynyh bol\_she druzej
       John knows Mary.GEN more friends
       ‘John knows Mary’s most friends’

We can see, then, that the pattern we observed in English holds in languages both with and without articles.

Thus, we take the structure of the DP in these languages to be as follows:

(37) \[
\begin{array}{c}
\text{DP} \\
\text{Possessor} \quad \text{D'} \\
\emptyset \quad \text{CompP} \\
C \quad C' \\
A+\text{sup} \quad \text{NP}
\end{array}
\]

Bošković’s statement of the NP/DP parameter states that the presence/absence of articles correlates perfectly with the presence/absence of a D projection.

If this is true, what accounts for the crosslinguistic pattern with the interpretation of superlatives?

Note that it does not seem viable to say that the possessor phrase and the (covert) of-phrase compete for an adjunct position, as adjuncts are classically unlimited and unordered.

If a syntactic analysis is to be general enough to account for patterns across languages, we think the best theory is one where these two nominals compete for the Spec, DP position. Bošković’s generalizations then must be derived via some other mechanism.

5 Conclusions and speculations

Given that the patterns we see with superlatives cross both so-called NP and DP languages, we question Bošković’s conclusion that some languages don’t have D.
• This is not consistent with analysis of the data we’ve presented.

• Such a conclusion is odd in general if we consider the role played by D theoretically: phase-head, turning a predicate into an argument, serving as the locus of referentiality and definiteness features, and hosting possessors (Chierchia, 1998; Abney, 1987).

• There are several ways of altering Bošković’s analysis so as to capture these facts.

• For instance, the one Bošković himself offers: Bošković (2011, 2012) argues that NP is a phase in languages without articles. Possessors could block movement of an adjective out of the NP given that movement to Spec,NP would violate antilocality, and movement over Spec,NP would violate the PIC:

\[
\begin{align*}
(38) & \quad * A \ [_{NP} \not\in \ [_{NP} \not\in \ [_{NP} \not\in \ N]] \text{ (Antilocality)} \\
(39) & \quad * A \ [_{NP} \not\in \ [_{NP} \not\in \ [_{NP} \not\in \ N]] \text{ (PIC)}
\end{align*}
\]

• We think, however, that there may be a contradiction for this theory and the one advocated for in Bošković and Gajewski (2009), in which what we call the “relative” interpretation of *most* is derived via movement of -est internal to the NP.

• However, distinguishing this from our hypothesis is very difficult…

• We might propose that D⁰ is sometimes present in articleless languages, but when so, is null. This might add an extra degree of freedom in the acquisition process that we may not want.

• Alternatively, we might propose that in these languages D⁰ is always null, and that the effects are derived via some kind of mechanism. We would want to know then if there is a principled way to derive Bošković’s generalizations in a theory where the only parametric variation regarding D⁰ is the overtness of its exponence.

• On this analysis, we would need another reason apart from the presence or absence of D⁰ to account for Bošković’s correlations. We sketch a speculative account of this below:

• A speculative proposal: Phase heads must be null in order to host something in their left edge, otherwise there is a crash at PF upon attempting to linearize. That is, if SPELLOUT at a phase boundary entails that the complement of a phase head is “invisible”, merging an overtly pronounced item with another creates a classic “first merge” problem. Chomsky (1999, 2000)

1. [D [NP]]
2. Transfer: [D]
3. Merge: [his D]
• If $D^0$ is null, there is no linearization issue. Thus, things may indeed move out of the DP freely in languages “without” articles, but may not with an overt determiner in languages “with” articles.

• Note the obvious parallel to the doubly-filled Comp filter (Chomsky and Lasnik, 1977), and the intuition of Abney (1987) that there must be some reason why possessors may not co-occur with determiners in English. This is parallel to Koopman (1997).

• However, whether this strategy is a viable one crosslinguistically and across all phase heads we leave for further research.

6 Appendix A: Bangla satisfies Bošković’s criteria for an articleless language

• “Only languages without articles may allow LB extraction” (one-way implication; * is irrelevant)

(40) *dami se oi gari-ṭa dekhlo
     expensive he that car-cl saw
     intended: ‘He saw that expensive car’

• Adjunct extraction from traditional NPs – difficult to evaluate. (one-way implication; * is irrelevant)

• “Only languages without articles may allow scrambling”

(41) ami Sita-ke bhablam je dekhlam
     I Sita-ACC thought that saw
     ‘I thought I saw Sita’

• Multiple-wh-fronting languages don’t show superiority effects (doesn’t apply)

• Clitic doubling allowed in languages without articles (doesn’t apply)

• Greatest plurality reading of “most” only for languages without articles, no ”more than half” reading.

(42) John sobche beji pahaʃ-e utheche
     John most many mount-LOC climbed
     ‘John climbed the most mountains (out of all the climbers)’

• A circumlocution is needed to get the ”more than half” reading, such as:
Head-internal relative clauses are island sensitive in languages without, but not in those with articles. (Bangla has correlative clauses, not clear what the comparison is)

Polysynthetic languages do not have articles (irrelevant)

7 Appendix B: Bošković & Gajewski 2009

It is not entirely clear that the analysis given in Bošković and Gajewski (2009) predicts/fails to predict our data.

Their account adopts the theory of Hackl (2009), where the majority reading of most is derived by moving -est from Spec,AP to its containing NP, and the relative reading moves -est from Spec,AP via Spec,DP to adjoin to something like VP (higher than the verb but lower than the subject).

Such an account, along with many of our shared assumptions, predict indeed that most shouldn’t have a relative reading with prenominal possessors.

However, given the equivalence between the derivation of majority most and absolute tallest, the account should either predict (a) that both majority and absolute are acceptable with prenominal possessors, or (b) that both are unacceptable. As we’ve seen, however, neither (a) nor (b) obtain.

Further, the account faces more general problems. In sentences with most, the motivation for -est movement is thought to be a type incompatibility between -est and many:

For Hackl, where a regular adjective like tall is of type \(< d, \langle et \rangle >\), many is of type \(< d, < et, t \rangle >\), and est is of type \(< < d, < et \rangle >, < et \rangle >\), requiring first combination with something like tall.

Thus, with tall, what would motivate movement of -est to derive either reading?

We leave further consideration of Bošković & Gajewski 2009’s account, and comparison with our own, for another occasion.
References


Bošković, Željko. 2008. What will you have, DP or NP? In Proceedings of NELS 37, ed. by Emily Elfner and Martin Walkow, 101–104.


Bošković, Željko, 2012. Now i’m a phase, now i’m not a phase: On the variability of phases with extraction and ellipsis.


Hackl, Martin. 2009. On the grammar and processing of proportional quantifiers: most versus more than half. Natural Language Semantics 17.63–98.


