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Steven Franks
Indiana University—Bloomington

# Binding and Phasehood in South Slavic Revisited\*

#### Abstract

In a series of works and using a variety of diagnostics, Bošković argues that languages can be divided into those in which nominals project to DP and those in which they do not. Since Bulgarian (and Macedonian) express definiteness morphologically, they would appear to differ from Bosnian/Croatian/Montenegrin/Serbian (and Slovenian) in countenancing DP, but recent work argues that evidence for Bg as a DP-language is not so clear cut. In an attempt to set the record straight about the South Slavic data she describes, this paper addresses the criticisms specifically raised by LaTerza (2016), who explores Despić's (2009, 2011, 2013) observations about binding and phasehood in BCMS. In revisiting her claims it will be shown that the relevant differences between the South Slavic languages do in fact lend support to the "parameterized DP" account of the different binding possibilities.

#### Keywords

South Slavic, DP, binding, phasehood, disjoint reference

#### Streszczenie

Wykorzystując różne metody badawcze, Bošković argumentuje w wielu swoich pracach, że języki można podzielić na te, w których frazy rzeczownikowe wymagają w swojej strukturze składniowej przedimka jako ośrodka frazy i są językami z DP oraz te, które nie wymagają przedimka jako ośrodka frazy i nie są językami z DP. Język bułgarski (i macedoński) wyrażają określoność w sposób morfologiczny i choć mogłoby się wydawać, że różnią się od bośniackiego/chorwackiego/czarnogórskiego/serbskiego (oraz słoweńskiego) pod względem struktury rzeczownikowej, najnowsze prace wykazują, że uznanie bułgarskiego jako języka z przedimkiem we frazie rzeczownikowej nie jest oczywiste. Nawiązując do danych językowych w pracy LaTerza (2016), zawierającej argumenty krytyczne wobec analizy zasad wiązania anaforycznego i cech fazowości w językach bośniackim/chorwackim/czar-

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nogórskim/serbskim przedstawionej w pracach Despić (2009, 2011, 2013), niniejszy artykuł stanowi próbę wyjaśnienia problematycznych danych z języków południowosłowiańskich i wykazuje, że istniejące istotne różnice pomiędzy językami południowosłowiańskimi umacniają koncepcję "parametryzacji struktury rzeczownikowej (DP)" w opisie różnych możliwości wiązania.

#### Słowa kluczowe

języki południowosłowiańskie, DP, wiązanie anaforyczne, cechy fazowości, odniesienie rozłączne

#### 1. Introduction

In several works, Despić (2009, 2011, 2013) adduces evidence from binding in Bosnian/Croatian/Montenegrin/Serbian (BCMS) in support of Bošković's (2003, 2005, 2008, 2009a, 2009b, 2012, 2013, 2014, 2016) proposal that languages can be broadly divided into those in which the extended nominal projection embraces DP and those in which it does not.¹ In Bošković's paradigm, English serves as a canonical DP-language and BCMS as a canonical NP-language. This correlates with the obvious fact that English has definite articles whereas BCMS, like most other Slavic languages including Russian and Polish, does not.² On the other hand, within South Slavic, Bulgarian (Bg) and Macedonian (Mac) are expected to pattern with English rather than BCMS, given that they too mark definiteness. Recent work, however, including papers by LaTerza (2016), Tasseva-Kurktchieva and Dubinsky (2018), and Migdalski (2018), examines Bošković's criteria (such as enumerated in fn. 2) and argues that the relevant facts from these languages are inconclusive, despite

<sup>&</sup>lt;sup>1</sup> The languages spoken in Bosnia and Herzegovina, Croatia, Montenegro, and Serbia are sufficiently uniform to permit me to adopt the term BCMS, reflecting current political reality. Despić follows Bošković in employing the archaic Yugoslav term Serbo-Croatian, whereas LaTerza uses Serbian.

<sup>&</sup>lt;sup>2</sup> In his on-going work, Bošković proposes an ever-expanding list of potential diagnostics. Here are ten from Bošković (2008), as summarized by Despić (2013: 240):

i. "Left-branch extraction" is possible only in languages without articles.

ii. "Adjunct extraction" is possible only in languages without articles.

iii. (Japanese-style) scrambling is possible only in languages without articles.

iv. Languages without articles disallow negative raising (i.e., strict negative polarity item licensing under negative raising), and languages with articles allow it.

v. Multiple *wh*-fronting languages without articles do not show superiority effects.

vi. Clitic doubling is possible only in languages with articles.

vii. Languages without articles do not allow transitive nominals with two genitives.

viii. The majority superlative reading is possible only in languages with articles.

ix. Head-internal relative clauses are island-sensitive in languages without articles, but not in those with articles.

x. Polysynthetic languages do not have articles.

Additional correlations have since been proposed by Bošković and his colleagues.

the existence of definite articles. LaTerza's squib focuses on binding and Migdalski's paper looks at the proposed relationship between tense and DP/NPlanguage status, while Tasseva-Kurktchieva and Dubinsky consider a number of diagnostics and conclude that the results are mixed.<sup>3</sup> The present article is more constrained, concentrating on just one of the many differences between language types identified by Bošković in arguing for the Parameterized DP Hypothesis, namely binding and the claim in LaTerza's squib (p. 741) that "Despić's analysis makes incorrect predictions." It will be argued that, when certain factors are corrected for, his predictions about Bg and Mac are more or less borne out, although there remain interesting puzzles to be addressed.

## 2. Some background

This section lays out the basic BCMS facts and the analysis put forward by Despić and Bošković.

## 2.1. Despić's observation

Despić (2009, 2011, 2013), in assimilating the different binding possibilities of BCMS and English to Bošković's typology, observes that there is a curious divergence between BCMS and English in the acceptability of coreference. Compare the BCMS examples in (1), from Despić (2013: 245), and their felicitous English translations:<sup>4</sup>

<sup>&</sup>lt;sup>3</sup> Specifically, they maintain (p. 310) that Bg behaves like a DP-language with respect to clitic doubling and obligatory number morphology, but like an NP-language when Neg-raising and the absence of expletive subjects are considered. On the other hand, they contend, with respect to majority superlative readings, exhaustivity presupposition (with possessives), and extraction out of subject NPs, Bg exhibits DP-like behavior only when there is a definite determiner.

<sup>&</sup>lt;sup>4</sup> This striking contrast between English and BCMS has been confirmed by a number of speakers, in that English speakers do not hesitate in accepting the intended translations whereas BCMS speakers find coreference extremely dubious at best. In this regard, Aida Talić (p.c.) points out that, although she too agrees with the judgments in (1), there is some variation in speaker rejection of coreference in such examples, suggesting that "we need to be really careful how we set up examples and contexts" and that "there might be some variation, or even codeswitching to English." Further study along the lines of Srdanović (2019) is needed to check the judgments of BCMS (non-linguist) monolinguals. Such research is however quite tricky, and it is important to control for factors which interfere with judgments of possible coreference. As Željko Bošković (p.c.) reminds me, coreference is facilitated "in cases where you focalize one of the relevant elements or where you extend the binding domain with richer structure." An anonymous reviewer for *SPL* also raised various issues about additional BCMS binding data, possibly "casting doubt" on the relevance of Despić's binding diagnostics for Bošković's parameter. That reviewer's suggestion, which I cannot do justice to here, is that "instead of c-command, informational issues are involved." I agree that this is indeed why speakers' judgments vary (in

(1) a. \*[NP **Kusturicin**<sub>i</sub> [NP najnoviji film]] **ga**<sub>i</sub> je zaista razočarao.<sup>5</sup>

Kusturica's latest film HIM AUX<sub>3sG</sub> really disappointed

[Intended] 'Kusturica's latest film really disappointed him.'

b. \*[NP **Njegov**, [NP najnoviji film]] je zaista razočarao **Kusturicu**, his latest film AUX<sub>3ss</sub> really disappointed Kusturica [Intended] 'His, latest film really disappointed Kusturica,'

He offers the following explanation for why there is disjoint reference in BCMS, but not in English. Since there is no DP in BCMS, following Bošković he takes the possessive adjectives *Kusturicin* 'Kusturica's' and *njegov* 'his' to be adjoined to NP, as depicted in (1). The fact that they are adjoined to NP (rather than dominated by it) means that they c-command out of that NP, thereby causing disjoint reference with *ga* 'him' (by Condition B) and *Kusturicu* 'Kusturica' (by Condition C). In English, on the other hand, the possessives are dominated by DP, so there is no disjoint reference effect. This is the essence of the difference.

In this light, Bg and Mac, which as described in section 3.1 below are representative of DP-languages in that they have definite articles, are expected to pattern with English rather than their South Slavic neighbor BCMS.<sup>6</sup> LaTerza however contends that these languages pattern with BCMS with respect to binding. This is the problem presented by LaTerza (2016), who concludes (p. 751) that, whatever else the Parameterized DP Hypothesis may explain, "the different binding potential of English and Serbian prenominal possessives cannot be attributed to the presence vs. absence of DP in the two languages." We will consider her data in more detail in section 3, but let us first review some additional aspects of Despić's account of the BCMS nominal system.

## 2.2. Relativizing phasehood and quantifiers

The analysis hinges on Bošković's (2014, 2016) idea that, rather than positing fixed phase heads, it is instead only the highest phrase in the extended projection of a lexical category which counts as a phase. This relative conception of phasehood means that processes which ordinarily target phase heads and their complements or which require the exploitation of phase edges, such as

DP-languages as well), but there are clear base-line differences between language types when we abstract away from interfering factors such as focus.

<sup>&</sup>lt;sup>5</sup> Small caps are used to gloss clitic pronouns and other grammatical formatives.

<sup>&</sup>lt;sup>6</sup> They are also expected to differ from Slovenian, which, like BCMS, lacks definite articles, although according to Franks (2014) that language shows some tendencies towards development of a DP and Bošković (2009b: fn. 20) similarly concludes that he "wouldn't rule out the possibility that we are starting to witness a change here, i.e., the beginning of the emergence of a DP system." Slovenian speakers consulted about Slovenian versions of (1) nonetheless provided similar judgments as those given for BCMS.

ellipsis, movement, and binding, are sensitive to which phrases project in any given nominal domain. This turns out to be an extremely powerful proposal, since it means not only that languages will differ in terms of whether or not a DP is projected above NP, but also that there can be variation even within a single language. This variation depends on two factors: (i) what phrase(s), if any, are above NP and (ii) precisely where material at the left-edge of those phrases is situated. In Bošković's system, extractability is due to the interaction of the Phase Impenetrability Condition and his definition of anti-locality (a moving element needs to cross at least one maximal projection). Assuming that adjectival material is adjoined to NP, in a DP-language,8 the argument goes, an adjective cannot extract because it is dominated only by DP, hence, by anti-locality, cannot adjoin to it. On the other hand, in BCMS (and presumably more generally for NP-languages), the adjective can extract directly, there being no DP projection that it needs to escape from. Moreover, again because it is adjoined to NP rather than dominated by a distinct projection, that adjective also c-commands out of NP. This is what gives rise to the disjoint reference effects in (1).

Despić goes on to argue that if the structure is indeed one of NP-adjunction, then these effects should not only arise when the pronoun or R-expression is at the left-edge, but should persist even when ostensibly protected by another modifier, such as the demonstrative *ovaj* 'this':

- (2) a. \*[NP Ovaj [NP **Kusturicin**, [NP najnoviji film]]] **ga**, je zaista razočarao. this Kusturica's latest film HIM AUX<sub>3ss</sub> really disappointed [Intended] 'This latest film of Kusturica,'s really disappointed him,'.
  - b. \*[NP Ovaj [NP **njegov**; [NP najnoviji film]]] je zaista razočarao **Kusturicu**; this his latest film AUX<sub>38G</sub> really disappointed Kusturica [Intended] 'This latest film of his, really disappointed Kusturica.'

These judgments contrast with English, where all the intended readings are perfectly natural. The difference, it is claimed, has to do with the fact that possessives and demonstratives in English but not BCMS entail an additional projection above NP.<sup>10</sup>

 $<sup>^{7}</sup>$  The phenomena described in Tasseva-Kurktchieva and Dubinsky (2018) may well require such flexibility.

<sup>&</sup>lt;sup>8</sup> Bošković (2005) had also put forward an alternative whereby, in DP-languages, NP is dominated by AP (for him, the default option), and that it is only in NP-languages that AP must be adjoined to NP.

<sup>&</sup>lt;sup>9</sup> The items in (2) are drawn from Despić (2011: 34). Note that the demonstratives, just like the possessives, are formally adjectival, hence adjoin to NP.

<sup>&</sup>lt;sup>10</sup> Bošković (2012) shows that Japanese, Chinese, and Korean behave just like BCMS with respect to Despić's paradigm, and Bošković and Şener (2014) argue that Turkish (another putative NP-language) does as well, although Kornfilt (2018: 159–161) takes issue with their claim.

Under the relativized phasehood model that projection need not be DP, as it is in English. Thus if the element to the left of the offending expression is a QP-projecting quantifier, such as BCMS pet 'five' or mnogo 'many', then the disjoint reference effect disappears. This fascinating observation was reported by Despić (2011: 70–71), who comments: "It has been argued by a variety of authors (e.g., Franks 1994, Bošković 2006) that certain numerals and quantifiers in SC project QP, taking the whole NP as its complement, e.g.,  $\left[ _{\text{QP}} \left[ _{\text{QY}} \text{ Q NP} \right] \right]$  .... When a quantifier of this type [is introduced], Condition B effects disappear, as expected." Here is one of his original examples; note that Qs such as mnogo 'many' and pet 'five' take genitive NP complements:<sup>11</sup>

(3) [QP Mnogo [NP Kusturicinih, [NP prijatelja]]] je kritikovalo **njega**, many Kusturica's  $_{GEN}$  friends  $_{GEN}$  AUX $_{3SG}$  criticized him 'Many of Kusturica's friends criticized him,'

And here is one for Condition C from Bošković (2014), who builds on Despić's insights:

(4) [QP Pet/Mnogo [NP **njegovih**, [NP filmova]]] je proslavilo **Kusturicu**, five/many his movies movies AUX made-famous Kusturica 'Five/Many of his, movies made Kusturica, famous.'

Adding a quantifier, as in (3) and (4), has a markedly different effect than adding a demonstrative did in (2): the QP now blocks the NP-adjoined possessor from c-commanding out of the subject phrase. The result is the reemergence of the possibility of coreference. In sum, in addition to supporting his arguments that, unlike in English, no DP is projected in BCMS, these facts provide striking confirmation for Bošković's notion of relativized phasehood.

Within Slavic, according to the speakers I have consulted (but see Lyutikova and Pereltsvaig 2015 for a different perspective), Russian behaves similarly to BCMS. Here is a relevant example, in which the cataphoric reading is inaccessible, presumably due to Condition C (with or without *èti* 'these'):

 <sup>(</sup>i) \*(Èti) ego<sub>i</sub> prijateli kritikovali Ivana<sub>i</sub>.
 these his friends criticized Ivan
 [Intended] 'These friends of his, criticized Ivan,'

Additional applications of Bošković's relativized phase system to Russian can be found in Zanon (2015). On the other hand, Szczegielniak (2017), in arguing for a universal DP, provides comparable data to suggest that Polish behaves like English.

<sup>&</sup>lt;sup>11</sup> This is example (82) from page 71, which used tonic *njega* instead of clitic *ga*. Although speakers confirm that the judgment here would have been the same with the clitic, for other examples Srdanović (2019) reports a contrast in the viability of coreference (with tonic pronouns predictably biasing towards a disjoint interpretation).

## 3. Extending the coverage to Bulgarian and Macedonian

In this section it is shown that, contrary to the claims of LaTerza (2016) but as predicted by the account in Despić (2013), Bulgarian and Macedonian behave as expected.

#### 3.1. Definiteness inflection

Since nominal expressions in Bg and Mac can bear definite articles, these are usually taken to be DP-languages (at least when definiteness is explicitly marked). Such definiteness in Bg and Mac is expressed inflectionally on the highest head in the extended nominal projection. Here are some Bg examples with bare nouns, where addition of the article gives rise to a definite interpretation:

(5)	a.	kniga( <b>ta</b> ) book <sub>(DEF)</sub>	b.	dete( <b>to</b> ) child <sub>(DEF)</sub>	c.	mâž( <b>ât</b> ) man <sub>(DEF)</sub>
(6)	a.	ženi( <b>te</b> ) women <sub>(DEF)</sub>	b.	gradove( <b>te</b> ) cities <sub>(DEF)</sub>	c.	mâže( <b>te</b> ) men <sub>(DEF)</sub>

The form of the article depends on the gender-number of the host word, with -ta in (5a) being feminine, -to in (5b) being neuter,  $-\hat{a}t$  in (5c) being masculine, and -te in (6) being plural. However, one cannot just look at the final vowel of the stem because e can be neuter, as in (5b), or plural, as in (6b, c), and, more generally, articulation is a function of the word that expresses it; as argued in Franks and King (2000: 278–284), the article is best analyzed as an inflected form of that word. The example, one rule is that when the stem ends in a the inflection must also be -ta, are gardless of phi-features, hence in (7a) the suffix must be -ta even though bašta father is masculine, but, as (7b) shows, as soon as a modifier is introduced the suffix appropriately reflects its phi-features.

<sup>&</sup>lt;sup>12</sup> While the inflectional status of definiteness in Bg (and Mac) has been asserted as early as Gyllin (1982) or as recently as Koev (2011), the specific arguments that the definiteness morpheme behaves as an integral part of the word which expresses it are best summarized by Halpern (1995), relying largely on Elson's (1976) observation that the article in Bg and Mac, although historically a clitic, is clearly not one synchronically.

<sup>&</sup>lt;sup>13</sup> The only exception I know of concerns the compound forms *dvesta* 'two hundred' and *trista* 'three hundred' when they bear an article. Here a curious thing happens, in that for many speakers the most natural definite version ends in plural -te rather than -ta:

<sup>(</sup>i) a. dvesta**te** b. trista**te** two-hundred

(7) a. bašta
$$\mathbf{ta}$$
 b. dobri $\mathbf{jat}$  bašta father  $\mathbf{good}_{\mathsf{DEE}}$  father

As (7b) also shows, when one introduces modification in front of the noun, it is the modifier that is inflected. And when there are multiple modifiers, definiteness is marked on the first/highest one, as in (8), although all other material combining with that modifier is ignored, as demonstrated by (9):

```
(8) [goljamata
                  [interesna
                             kniga]]
                  interesting book
    large
(9) a. [[dosta
                  glupavata] zabeležka]
                             remark
       quite
                  stupid
    b. [[kupenite včera]
                             knigil
       bought yesterday
                             books
    c. [[vernijat [na demokratičnite
                                       idei]]
                                               prezident]
                      democratic
       faithful
                  to
                                       ideas
                                               president
```

In all relevant respects, Mac behaves similarly to Bg, except that Mac has a tripartite system, with a neutral/unmarked -t series as opposed to a proximal series in -v and a distal series in -n; see Friedman (2001: section 2.1.3.) or Tomić (2012: chapter 7) Here are some comparable Mac examples:

```
(10) a. zgrada(va)
                       b. deca(ta)
                                        c. čovek(on)
        building_{(PROX)}
                          children<sub>(DEF)</sub>
                                            man_{(DIST)}
(11) [crvenana
                 [volnena šapka]]
    red
                 woolen
                           hat
(12) a. [[mnogu pogolemana] crvena
                                          šapka]
                   larger
        much
                                          hat
                                  red
    b. [[bogatiot [so žito]]
                                 kraj
        rich
                 with grain
                                 region
```

Given these facts, the simplest approach is to project a DP above NP, with D bearing a definiteness feature (which, in Mac, can be further specified as proximate or distant). Definiteness inflection is then implemented on the highest accessible head c-commanded by D, either through Agree, as in the minimalist analysis of Koev (2011), or through some other agreement mechanism, depending on the details of the structure and one's view of Spell-out.<sup>14</sup>

<sup>&</sup>lt;sup>14</sup> For more complex data and various possible analyses the interested reader is referred to Embick and Noyer (2001) or Franks (2001).

## 3.2. LaTerza's Binding Data

The upshot of the preceding discussion is that Bg and Mac nominals can bear definiteness inflection, in which case they project up to a DP. This should imply a binding behavior comparable to that of English. LaTerza (2016: 748–749), however, presents the examples (and judgments) in (13) and (15) for Bg and in (14) and (16) for Mac:

- (13) a. \*Negovijat, papagal uxapa Ivan, včera. his parrot bit Ivan yesterday [Intended] 'His, parrot bit Ivan, yesterday.'
  - b. \*Ivanovijat<sub>i</sub> papagal nego<sub>i</sub> uxapa včera.
     Ivan's<sub>DEF</sub> parrot him bit yesterday
     [Intended] 'Ivan<sub>i</sub>'s parrot bit him<sub>i</sub> yesterday'.
- (14) a. \*Negoviot, papagal go, grizna Jovan, včera. his parrot HIM bit Jovan yesterday [Intended] 'His, parrot bit Jovan, yesterday.'
  - b. \*Jovanoviot<sub>i</sub> papagal **go**<sub>i</sub> grizna **nego**<sub>i</sub> včera.

    Jovan's<sub>DEF</sub> parrot HIM bit him yesterday

    [Intended] 'Jovan,'s parrot bit him, yesterday.'
- (15) a. \*Tozi **negov**, papagal uxapa **Ivan**, včera. this his parrot bit Ivan yesterday [Intended] 'This parrot of his, bit Ivan, yesterday'.
  - b. \*Vsičkite **Ivanovi**, papagali **nego**, uxapaxa včera. all Ivan's parrots him bit yesterday [Intended] 'All of Ivan,'s parrots bit him, yesterday.'
- (16) a. \*Toj **negov**<sub>i</sub> papagal **go**<sub>i</sub> grizna **Jovan**<sub>i</sub> včera. that his parrot нім bit Jovan yesterday [Intended] 'That parrot of his, bit Jovan, yesterday.'
  - b. \*Mnogu Jovanovi, papagali go, griznaa nego, včera.
     many Jovan's parrots HIM bit him yesterday
     [Intended] 'Many of Jovan,'s parrots bit him, yesterday.'

She observes that these judgments "are clearly problematic for Despić's (2013) account" since "Bulgarian and Macedonian ... should pattern identically to English ... insofar as they resemble it in terms of the relevant parameter (presence of DP), [but] do not do so." In the remainder of this section I point out some problems with her data and argue that, when these are corrected for, Mac and Bg indeed pattern like English.

## 3.3. Bulgarian Condition B

As a point of departure it should be pointed out that all the South Slavic languages have clitic pronouns and that these are not freely replaceable by their tonic/full counterparts. A major concern thus has to do with LaTerza's use of the tonic pronoun rather than the clitic in her Bg examples in (13b) and (15b). It turns out that these are infelicitous in Bg independently of binding, so that (17), without the possessive *Ivanovijat* 'Ivan's', is not actually judged any differently than (13b):

(17) ?\*Papagalât **nego** uxapa včera.

parrot<sub>DEF</sub> him bit yesterday

[Intended] 'The parrot bit him yesterday.'

The string *papagalât nego uxapa* in (17) is not possible to begin with, unless *nego* receives heavy contrastive focusing. And focusing would block any cataphoric interpretation, rendering *nego* in (13b) disjoint from *Ivan* independently of binding theory. When confronted with this issue and asked to use a clitic instead, one of LaTerza's original informants actually provided me with (18) as acceptable under the coreferential reading:<sup>15</sup>

(18) **Ivanovijat**, papagal **go**, uxapa včera. Ivan's parrot HIM bit yesterday 'Ivan's parrot bit him, yesterday.'

The English-style interpretation of (18) is important because BCMS speakers consistently disallow coreference in comparable sentences. This sort of judgment was corroborated by Iliyana Krapova (p.c.), who points out that the tonic form induces a disjoint reference reading even when LaTerza's sentences are corrected for word order (i.e., by placing *nego* after the verb). This is not true, however, if a clitic is used instead of the tonic pronoun. Compare the following minimal pair provided by Krapova:

- (19) a. \*Edin **nein**, papagal uxapa **neja**, včera. one her parrot bit her yesterday [Intended] 'A parrot of her, s bit her, yesterday.'
  - b. Edin nein, papagal ja, uxapa včera.
     one her parrot HER bit yesterday
     'A parrot of her,'s bit her, yesterday.'

This contrast is telling, and serves to vitiate the relevance of LaTerza's examples.

<sup>&</sup>lt;sup>15</sup> An additional issue is that possessive adjectives are somewhat stilted and can sound quite odd, although, unlike in Polish, they are still reasonably productive. The normal way to express such possession in Bg is to use a PP, e.g., *na Ivan* 'Ivan's' (lit. 'of Ivan').

Along these same lines, Krapova also deems coreference possible in the examples in (20)—exactly as expected if the subjects in these Bg sentences are DPs:

- (20) a. **Negovijat**<sub>i</sub> bašta **go**<sub>i</sub> smjata za mnogo inteligenten. his<sub>DEF</sub> father HIM considers for very intelligent 'His, father considers him, very intelligent.'
  - b. Baštata na Marko<sub>i</sub> go<sub>i</sub> smjata za mnogo inteligenten. father<sub>DEF</sub> of Marko HIM considers for very intelligent 'Marko<sub>i</sub>'s father considers him<sub>i</sub> very intelligent.'

Compare (20) with BCMS (21), based on Despić (2009: 22), in which coreference is not possible—again, exactly as expected for an NP-language:<sup>16</sup>

- (21) a. \*Njegov<sub>i</sub> otac **ga**<sub>i</sub> smatra veoma pametnim. his father HIM considers very intelligent<sub>INST</sub> [Intended] 'His, father considers him, very intelligent.'
  - b. \*Markov<sub>i</sub> otac **ga**<sub>i</sub> smatra veoma pametnim.

    Marko's father HIM considers very intelligent<sub>.nsst</sub>

    [Intended] 'Marko<sub>i</sub>'s father considers him, very intelligent.'

In sum, when the problems with examples (13b) and (15b) are fixed, Bg does not display Condition B effects, in keeping with its presumed DP-language status.<sup>17</sup>

#### 3.4. Macedonian

As LaTerza notes, Mac differs from Bg in that clitic doubling is obligatory for definite objects, hence the clitic *go* 'him' is required in (14) and (16). Of course, as in Bg, the most natural versions of these sentences would just have the clitic pronoun. Nonetheless, the speakers I have consulted, including some of LaTerza's original ones, all find coreference viable in all these examples. While it is true that initial reactions are that the owner of the parrot and the person bitten are probably different, all speakers readily concede that they could be the same (some describing to me credible scenarios, explaining that ordinarily

<sup>&</sup>lt;sup>16</sup> An *SPL* reviewer remarks that "while my informants agree with the BCMS data in (1), (2), (3), and (4), they do not completely agree with those in (21)." In particular, when the possessive is pronominal, as in (21a), they find coreference acceptable. Interestingly, the reviewer observes, "this difference between pronominal and R-expression possessives is only found with Condition B. Condition C effects arise regardless of the type of the possessive." This may be related to the fact that the possessive pronoun in BCMS behaves like English *his* (rather than Russian *ego*) in not forcing disjoint reference in (i):

<sup>(</sup>i) Jovan voli [njegovu<sub>i/j</sub> majku].

Jovan loves his mother

'Jovan loves his<sub>in</sub> mother.'

<sup>&</sup>lt;sup>17</sup> We return to Condition C in section 3.5 below.

one's parrots are more likely to bite other people). It is thus possible that LaTerza was collecting preferred/dominant readings rather than absolute judgments, which could explain the discrepancy between what she reports and the judgments I obtained. The fact nonetheless remains that the coreference possibilities in Mac are exactly as they are in English, which is precisely what we expect if Mac, like English, is a DP-language.

There is however one difference between Mac and Bg worth pointing out. Whereas Bg speakers express a clear contrast between the alternatives (19), finding the tonic form in (19a) unacceptable with coreference, this is not the case for speakers of Mac. Contrary to what LaTerza reports for (14) and (16) above, all my Mac consultants (including one originally polled by LaTerza) insisted that in none of the examples does using the full pronoun force disjoint reference (although that would be the preferred interpretation):

- (14') a. **Negoviot**<sub>i/j</sub> papagal **go**<sub>i</sub> grizna **Jovan**<sub>i</sub> včera. his<sub>DEF</sub> parrot HIM bit Jovan yesterday 'His<sub>i/i</sub> parrot bit Jovan<sub>i</sub> yesterday.'
  - Jovanoviot<sub>i</sub> papagal go<sub>i/j</sub> grizna (nego<sub>i/j</sub>) včera.
     Jovan's<sub>DEF</sub> parrot HIM bit (him) yesterday
     'Jovan<sub>i</sub>'s parrot bit him<sub>i/i</sub> yesterday.'
- (16') a. Toj **negov**<sub>i/j</sub> papagal **go**<sub>i</sub> grizna **Jovan**<sub>i</sub> včera. that his parrot HIM bit Jovan yesterday 'That parrot of his if bit Jovan yesterday.'
  - b. Mnogu **Jovanovi**, papagali **go**<sub>i/j</sub> griznaa (**nego**<sub>i/j</sub>) včera. many Jovan's parrots HIM bit him yesterday 'Many of Jovan,'s parrots bit him,' yesterday.'

This is interesting in the context of the arguments in Franks (2009) that the object clitics in Mac have evolved into object agreement markers, and in this regard differ from their Bg counterparts. It thus seems that the fact that the Mac sentences in (14) and (16) are ungrammatical without the clitic (or object agreement marker) go relates to the judgment that coreference between nego 'him' and Jovan is actually acceptable in (14b) and (16b). That is, if Mac go is not a short form pronominal version of nego, then there is no opposition and this facilitates coreference between nego and the name. See also Despić (2013) for discussion of competition approaches to binding.

<sup>&</sup>lt;sup>18</sup> One relevant factor clouding judgments (also for Bg, as mentioned in fn. 15) might be that the possessive adjective based on *Jovan* is not particularly natural, but my consultants were easily able to abstract away from this. When replaced with the more standard *na Jovan* 'of Jovan', no Mac speakers expressed any reservations about the acceptability of coreference, just as in Bg (20b) with *na Marko* 'of Marko'.

## 3.5. Bulgarian Condition C and the effect of quantifiers

In light of these corrected judgments, the effect of introducing a quantifier or numeral above the possessive in such Bg sentences should be immaterial, since there is nothing to be ameliorated. That is, so far as Condition B applied to clitic pronouns is concerned, Bg behaves like a DP-language. Matters however become more complicated when one considers R-expressions and, interestingly, it is here that we find evidence for a QP projection that creates a new phase edge for the purposes of binding.

Although the judgments of Mac speakers perfectly parallel those of English speakers, some Bg speakers, e.g., Iliyana Krapova (p.c.), do concur with the judgment LaTerza reports for (13a), repeated below:<sup>19</sup>

(22) \*Negovijat, papagal uxapa Ivan, včera. his parrot bit Ivan yesterday [Intended] 'His, parrot bit Ivan, yesterday.'

That is, for unclear reasons which evoke the mixed DP-language diagnostics described by Tasseva-Kurktchieva and Dubinsky (2018), and which are futher explored in section 4.1 below, in such sentences coreference between the R-expression *Ivan* and the possessive pronoun is not necessarily felicitous.<sup>20</sup>

(i) **Negovijat**, papagal **go**, uxapa **Ivan**, včera. his parrot HIM bit Ivan yesterday 'His parrot bit Ivan, yesterday.'

The reviewer comments that clitic doubling here prevents the R-expression from being a new information focus, but that is because what doubling does in Bg (unlike in Mac) is force the associate to be a topic.

(i) Negovijat, si papagal uxapa Ivan, včera.
 his DEF SELF parrot bit Ivan yesterday
 'His, (own) parrot bit Ivan, yesterday.'

Note that *si* does not have this function in Mac, a factor which may contribute to the difference in judgments between Bg and Mac. She reports that this same speaker also accepts Bg versions of BCMS (1b) and (2b):

- (ii) a. Negovijat, nov film naistina razočarova Tarantino, his<sub>DEF</sub> new film truly disappointed Tarantino 'His, new film truly disappointed Tarantino,'
  - b. Tozi negov, nov film naistina razočarova Tarantino, this his new film truly disappointed Tarantino 'This new film of his, truly disappointed Tarantino.'

<sup>&</sup>lt;sup>19</sup> A reviewer points out that with clitic doubling coreference in Bg (22) becomes perfect:

<sup>&</sup>lt;sup>20</sup> Indeed, even in English I find coreference strained in (22), presumably because the pragmatically most direct way to say this is *Ivan's parrot bit him yesterday*. Aida Talić (p.c.) reports working with a speaker who accepts coreference here, particularly if 'his' is emphasized, but the speaker adds that using the reflexive possessive clitic *si*, as in (i), would make the sentence much more natural; for colloquial Bg *si* with possessive pronouns, see Schürcks (2006).

Similarly, replacing tonic *neja* 'her' in (19a) with *Marija* would be just as bad.<sup>21</sup> On the face of it, then, although Bg behaves as a regular DP-language for the purposes of Condition B, R-expressions can behave as if c-commanded by possessive pronouns under DP.<sup>22</sup>

Let us therefore probe Condition C more carefully, relying again on Krapova's judgments. Despite rejecting coreference in (22), when a demonstrative is introduced, as in (23), coreference greatly improves; similarly, Krapova does not agree with the infelicitous judgment reported by LaTerza for (15a).

(23) Tezi **negovi**, papagali uxapaxa **Ivan**, včera. these his parrots bit Ivan yesterday 'These parrots of his, bit Ivan, yesterday.'

While, unsurprisingly, adding a numeral to the mix, as in (24a), does not diminish (23), it is striking that the numeral on its own, i.e., without the demonstrative, has the same ameliorating effect as the demonstrative. This is shown in (24b).<sup>23</sup>

- (24) a. Tezi pet **negovi**, papagala uxapaxa **Ivan**, včera. these five his parrots<sub>COUNT</sub> bit Ivan yesterday 'These five parrots of his, bit Ivan, yesterday.'
  - b. Pet**te negovi**, papagala uxapaxa **Ivan**, včera. five his parrots parrots bit Ivan yesterday 'The five parrots of his, bit Ivan, yesterday.'

Presumably, *tezi* 'these' indicates a DP and the quantifier indicates a QP above the phrase containing the possessive pronoun. It thus appears that embedding the subject inside a QP facilitates coreference, just like embedding it inside a DP does. Here is another more complete paradigm provided by Krapova, which shows that not just numerals but any quantifier above the possessive makes coreference acceptable:

- (25) a. \*Nejnite, problemi pritesnjavaxa Marija, mnogo. her<sub>DEF</sub> problems troubled Maria much [Intended] 'Her, problems made Maria, very uneasy.'
  - b. Tezi **nejni**, problemi pritesnjavaxa **Marija**, mnogo. these her problems troubled Maria much 'These problems of hers, made Maria, very uneasy.'

<sup>&</sup>lt;sup>21</sup> One possibility, suggested to me by Željko Bošković (p.c.), is that this is reminiscent of the old "Avoid Pronoun Principle" and can perhaps be subsumed under the "Montalbetti effect" from Montalbetti (1984) and treated in Despić (2011: 268–275).

<sup>&</sup>lt;sup>22</sup> Curiously, these judgments are the exact opposite of what LaTerza (2016: 748) remarks in a footnote: "one native speaker of Bulgarian ... claims that coreference between the prenominal possessive and the R-expression is acceptable whereas coreference with the pronoun is not."

<sup>&</sup>lt;sup>23</sup> Papagala is a special count form that occurs with numerals. See Stateva and Stepanov (2016), Franks (2018), or Pancheva (2018) for discussion.

- (26) a. Mnogo**to nejni**, problemi pritesnjavaxa **Marija**, many<sub>DEF</sub> her problems troubled Maria 'Her, many problems made Maria, uneasy.'
  - b. Vsičkite nejni, problemi pritesnjavaxa Marija, all problems troubled Maria 'All her, problems made Maria, uneasy.'
  - c. Tezi vsički **nejni**, problemi pritesnjavaxa **Marija**, these all her problems troubled Maria 'All these problems of hers, made Maria, uneasy.'

While (25) replicates the contrast exhibited in (22) versus (23), (26) demonstrates that introducing a quantifier above *nejni* 'her' similarly prevents it from c-commanding *Marija*, thereby avoiding the potential Condition C violation. It is unclear why having just a DP above NP, as in (25a), instead of a DP and a QP, is not sufficient to override the R-expression effect (since replacing the R-expression with a clitic pronoun makes these good for Condition B). Nor is it clear why R-expressions should pattern with tonic pronouns in requiring a further degree of embedding for coreference to become felicitous. The solution surely has to do with the depth of nominal structure, although just how to calculate that depth remains a puzzle. Nonetheless, regardless of how such subtleties are explained, these data demonstrate that demonstratives and quantifiers indeed count as adding a distinct category above NP, just as Despić showed for BCMS, since they are able to suppress traditional Condition C effects.

## 4. Analyzing the Bulgarian binding data

In describing the paradigms presented at the end of the previous section, Iliyana Krapova (p.c.) concludes that "the generalization seems to be that *nejni* cannot c-command *Marija*, and only when it reaches a higher Spec—SpecDP—it appears to be able to. It is protected in this sense by Dem, Q, etc." This strikes me as a likely conclusion, so in what follows we explore ways to implement it.

## 4.1. Speculations on (LF and overt) movement solutions

As a point of departure, consider LaTerza's attempt to come to grips with her judgments for (13)–(16) in LF movement terms. She considers two possibilities. One, which she rejects for good reason, is that in all three languages prenominal possessives are actually adjoined to DP, hence c-command out of it. The other, which she leaves the reader with as a credible possibility, is that—again in all three languages—they raise covertly, in LF, to some high position

from which they c-command the entire clause.<sup>24</sup> This would be tempting,<sup>25</sup> if indeed the languages truly patterned alike, because it has the potential of unifying the binding possibilities in BCMS, Bg, and Mac independently of phrase structure in the extended NP. Unfortunately, as we have seen, the data do not actually warrant a uniform account. Still, it may be possible to accommodate the corrected data with a more fleshed out version of possessive movement.

Let us return to Krapova's idea that we want the demonstrative or quantifier to serve to establish a phase above *nejni* in (25b) and (26). Even so, we are left with a problem: Why does the DP in (25a) not do the same (taking the definite article on *nejnite* to be indicative of a DP)?<sup>26</sup> One solution might be to assume, with LaTerza (2016: 252), that in all these languages "prenominal possessors uniformly raise at LF to the edge of their largest containing nominal,"<sup>27</sup> but to

As before, however, the question arises of what happens if a clitic is used instead of the tonic pronoun. It turns out that then coreference is good (I have slightly modified the example to make it less confusing):

(ii) 
$$\begin{bmatrix} N_P \end{bmatrix}_N = Prijateljica \end{bmatrix} = \begin{bmatrix} N_P \end{bmatrix}_N = Markove_i majke \end{bmatrix} = ga_i je zagrlila.$$
 female-friend Marko's mother HIM AUX  $_{386}$  hugged 'A (female) friend of Marko,'s mother hugged him,'

This indicates that the lack of felicity of (i) has to do with the tonic pronoun, and that, as expected, the embedded possessive can never in fact c-command out of the higher NP. The interpretative possibilities of the tonic problem are nonetheless puzzling. In implicating possessive pronouns per se, LaTerza contrasts (i) with (iii):

(iii) 
$$\begin{bmatrix} N_{\rm NP} \end{bmatrix} = N_{\rm NP}$$
 Prijatelj $\begin{bmatrix} N_{\rm PP} \end{bmatrix} = N_{\rm NP}$  od Marka Markovića,  $N_{\rm NP} \end{bmatrix} = N_{\rm NP}$  je zagrlio njega, 'A friend of Marko Markovic,'s hugged him,'

The relevant difference here however is the PP, since judgments are the same for (iv):

<sup>&</sup>lt;sup>24</sup> An argument LaTerza (2016: 247) makes for this is that even embedded possessives show the disjoint reference effect in BCMS:

<sup>(</sup>i) \*[NP [N Prijatelj] [NP Markove, majke]] je zagrlio njega, friend Marko's mother AUX, hugged him [Intended] 'A friend of Marko,'s mother hugged him,'

<sup>&</sup>lt;sup>25</sup> Although, in point of fact, it would really just recast in LF terms Despić's structure for BCMS by saying that, in all these languages, possessives must for some reason adjoin to the maximal projection in the nominal domain. They would thus be at the phase edge and c-command out of the subject NP, giving rise to Condition B and C effects uniformly.

<sup>&</sup>lt;sup>26</sup> Not all Bg speakers however share that judgment, nor as (14a') shows do speakers of Mac, so perhaps (as noted in the next section), we should abstract away from R-expressions and concentrate on Condition B effects.

<sup>&</sup>lt;sup>27</sup> Note that similar movement applies to quantified expressions in SpecDP in English sentences such as (i) in order to give the bound variable reading:

<sup>(</sup>i) Every boy's mother loves him.

This movement must be in LF, since the felicity of coreference *in John's mother loves him* and *His mother loves John* (as well as ungrammatical \**John's mother loves himself*) shows that SpecDP does not c-command out of DP.

temper that movement with an overt step that feeds this movement. This could explain the blocking effect of demonstratives and quantifiers.<sup>28</sup>

Suppose that overt movement of the possessive phrase is involved, and that the intervening demonstrative or quantifier disrupts that movement. This could make sense if these expressions are specifiers (of DP for the demonstrative, of QP for the quantifier) and the possessive phrase moves to SpecDP from below.<sup>29</sup> So, movement to SpecDP roughly as in (27a) is felicitous, but the similar movement in (27b) is not possible:

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(27) a. \left[_{\text{DP}} \text{ possessive } D_{\text{[+DEF]}} \right]_{\text{NP}} \frac{\text{possessive } ... }{\text{possessive } D_{\text{[+DEF]}}} \left[_{\text{OP}} \frac{\text{numeral/quantifer } \left[_{\text{O'}} Q \left[_{\text{NP}} \frac{\text{possessive } ... }{\text{possessive } ... }\right]\right]\right]
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An overt demonstrative, on the other hand, would be incompatible with movement because SpecDP is already occupied:

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(28) [_{DP} demonstrative D_{_{[+DEF]}}[_{NP} possessive ... ]]
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We then want possessives to adjoin to their containing phrase in LF, so that they scope out of that phrase, thereby giving rise to the observed binding theoretic effects. In this way, it is only possessives that are already high in the nominal domain which can c-command out of that domain. Note that this requires (articulated) *nejnite* in (25a) to be in SpecDP, as depicted in (27a), whereas all the other (unarticulated) instances of *nejni* in (25) and (26) must remain lower.

## 4.2. Yet puzzles remain

Finally, even if such an account of disjoint reference in (25a) vs. possible coreference when the possessive is lower—as in (25b) and (26)—turns out to be viable for Condition C effects, a mystery remains: Why are examples such as (18) and (20a) acceptable? Here the possessive should move from SpecDP in LF to c-command the clitic, giving rise to a Condition B effect. But it seems not to, so we have an incompatibility between the behavior of clitic pronouns and R-expressions. That is, whatever account is adopted, we face the puzzle of the minimal pair of (18) and (22), repeated in (29):<sup>30</sup>

<sup>&</sup>lt;sup>28</sup> Another possibility is that these somehow count as intervening operators, preventing LF raising of the possessive (also then treated as an operator), under relativized minimality.

<sup>&</sup>lt;sup>29</sup> An anonymous *SPL* reviewer points out that the possessive phrase cannot be adjoined to NP, because the hypothesized movement would result in a violation of anti-locality.

<sup>&</sup>lt;sup>30</sup> Note that the difference is unlikely to reduce to whether the possessive is an R-expression or pronominal, since (20a), with *negovijat* 'his' failing to c-command *go* 'him', patterns with (18)/(29a).

b. \*Negovijat; papagal uxapa Ivan; včera. his<sub>DEF</sub> parrot bit Ivan yesterday [Intended] 'His, parrot bit Ivan, yesterday.'

Either we want to treat (29a) as representative and somehow explain (29b), or the other way around. If the former, then Bg works like a DP-language and we can avoid LF possessor raising, but we need some other explanation for the apparent Condition C effect in (29b), as well as its obviation when there is a higher demonstrative or quantifier. If the latter, then the account in section 4.1 will require something special to be said about clitics. In that regard I offer the following two speculations: either (i) the lack of c-command in (29a) has to do with the position of the clitic (vis-à-vis a comparable R-expression), which may in turn be a matter of whether the goal is a head (clitic *go*) or a phrase (tonic *nego* or R-expression); or (ii) it depends on timing, with c-command calculated (for some reason) for the clitic before LF movement of the possessive.

In sum, contrary to what LaTerza (2016) claims, there is a real contrast between BCMS, on the one hand, and Mac and Bg, on the other. BCMS has the hallmarks of an NP-language in Bošković's paradigm, whereas Mac exhibits clear DP-language properties. Its neighbor Bg is slightly more mixed,<sup>31</sup> with some puzzling discrepancies between Condition B and Condition C effects as well as variation in judgments. The fact nonetheless remains that demonstratives create a higher DP phase in Bg but are adjoined to NP in BCMS. This means they prevent possessives from c-commanding out of the subject just as quantifiers do in both languages, and it also means that, contra LaTerza (2016: 751), there is no reason to reject the Parameterized DP Hypothesis account of "the different binding potential of English and Serbian [BCMS] prenominal possessives."

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Steven Franks
Department of Linguistics
Ballantine Hall 862
1020 E. Kirkwood Avenue
Bloomington, IN USA 47405-7005
franks(at)indiana.edu