

Getting Really Edgy: On the Edge of the Edge

Željko Bošković

The article argues that in constructions where there is more than one phrase at a phasal edge, only the highest edge is available for movement and anaphor binding. This shows that only the outermost edge counts as the edge of a phase for the Phase Impenetrability Condition (PIC). The article also demonstrates that moving the element that counts as the phasal edge in multiple specifier/adjunct cases can affect the PIC status of the remaining edges. These conclusions provide a new argument for the contextuality of phasehood. A number of recent works have argued that the phasal status of a phrase can be affected by the syntactic context in which it occurs. This article goes one step further: it shows that the concept of *phasal edge*, more precisely the status of a specifier/adjunct regarding the PIC, can also be affected by the syntactic context in which the specifier/adjunct occurs. The article also discusses several issues regarding the syntax and semantics of adjectives, possessors, and demonstratives, including what Partee (2006) calls *familiar* demonstratives, as well as anaphor binding.

Keywords: adjectives, anaphor binding, demonstratives, left branch extraction, object shift, phases, Phase Impenetrability Condition, possessors

In this article, I examine extraction out of phases with multiple edges in order to determine what counts as a phasal edge in such constructions. I will argue that not all edges count as phasal edges for the purpose of the Phase Impenetrability Condition (PIC). In this respect, the concept of *phasal edge* will turn out to be contextual: in order to determine whether a specifier (Spec) or an adjunct of phase XP counts as a phasal edge, it is necessary to determine whether XP has other Specs/adjuncts. Furthermore, I will show that movement of an element located in the Spec/adjunct position of phase XP can affect the status of the remaining Specs/adjuncts of XP with respect to the PIC.

Chomsky's (2000, 2001) original approach to phasehood is rigid in that the phasal status of a phrase does not depend on its syntactic context; thus, for Chomsky (2000, 2001) CP is always a phase. The Government-Binding Theory predecessor of phases, the barrier system outlined in Chomsky 1986, was different in this respect: in this system, whether or not a phrase functions as a barrier depends on its syntactic context, so CP is sometimes a barrier (e.g., when it is an

This article is based upon work supported by the National Science Foundation under grant BCS-0920888. For helpful comments, I thank anonymous reviewers, the participants of my University of Connecticut seminars, and the audiences at Formal Approaches to Slavic Linguistics 21 (Indiana University), Formal Approaches to Slavic Linguistics 22 (MacMaster University), Comparative Syntax and Language Acquisition Workshop 2 (Nanzan University), and University of Maryland.

adjunct) and sometimes not (e.g., when it is an object). A number of authors have argued that, similarly to barriers, the phasal status of a phrase can be affected by the syntactic context in which it occurs (see, e.g., Bobaljik and Wurmbrand 2005, Bošković 2005, 2013b, 2014b, to appear b, Den Dikken 2007, Despić 2011, to appear, Gallego and Uriagereka 2007, Kang 2014, Takahashi 2010, 2011, Wurmbrand 2013a). Thus, in a number of works belonging to this line of research CP is not always a phase; whether or not it is a phase depends on the syntactic context in which it occurs. This article goes one step further: it shows that the concept of *phasal edge*, more precisely the status of a Spec/adjunct with respect to the PIC, is also determined contextually. In other words, knowing that XP is a phase and that α is located in Spec,XP is not enough to establish the status of α regarding the PIC with respect to phase XP—it is necessary to examine the syntactic context in which α occurs within XP. I will examine three cases from this perspective: left branch extraction, anaphor binding, and object shift. The first two will also lead me to discuss several issues regarding the syntax and semantics of demonstratives, adjectives, and possessors.

1 Extraction with Modifying Adjectives

I will start the discussion with an extraction paradigm involving modifying adjectives in Serbo-Croatian (SC). SC presents an interesting puzzle regarding extraction from and of modifying APs. Although SC allows extraction of complements of modifying APs (1c), it disallows it when the AP where the complement originates is preceded by a possessor (1a) or a demonstrative (1b) (extracted elements are given in italics).¹

- (1) a. **Na tebe* sam vidio [Jovanovog ponosnog oca].
 of you am seen Jovan's proud father
 'I saw Jovan's father who is proud of you.'
- b. **Na tebe* sam vidio [tog ponosnog oca].
 of you am seen that proud father
- c. *Na tebe* sam vidio [ponosnog oca].
 of you am seen proud father

Furthermore, although SC allows left branch extraction of adjectives (2b), it disallows it when a demonstrative is present (2a), and in many cases it also disallows it in the presence of another adjective (3). Possessors, on the other hand, generally do not block such extraction (4).²

¹ The judgments in (1), and a number of other places in the article, are comparative, not absolute (they should therefore not be considered in isolation). Thus, while some speakers find (1c) somewhat degraded, even for them (1c) is better than (1a–b). The goal of the article is to explain contrasts of this type. Note also that in SC, adjectival complements must move out of the AP (see Bošković 2013a).

² One might think that what is involved here is the Specificity Condition. However, the Specificity Condition should be at work in both (1a) and (4) and should not be relevant to (3a). Furthermore, SC is rather liberal with respect to the Specificity Condition. Thus, all the examples in (i), which are unacceptable in English, are acceptable in SC (see Bošković 2012 for a suggestion regarding what is responsible for the difference between SC and English with respect to the Specificity Condition). In light of this, I will not pursue an analysis along the lines of the Specificity Condition.

- (i) O kojem piscu, je kupio [svaku knjigu/sve knjige/Petrovu knjigu t_i]?
 about which writer is bought every book/ all books/Peter's book
 *About which writer did he buy every book/all books/Peter's book?'

- (2) a. **Ponosnog* sam vidio [tog oca].
 proud am seen that father
 ‘I saw that proud father.’
 b. *Ponosnog* sam vidio [oca].
 proud am seen father
- (3) a. **Mašinskog* je on otpustio [neozbiljnog inženjera].
 mechanical is he fired not.serious engineer
 ‘He fired a mechanical engineer who was not serious.’
 b. *Mašinskog* je on otpustio [inženjera].
 mechanical is he fired engineer
- (4) *Omiljena* je kupio [Jovanova kola].
 favorite is bought Jovan’s car
 ‘He bought Jovan’s favorite car.’

I will show that the data in (1)–(4) receive a uniform account if the unacceptable examples are treated as locality-of-movement violations, under a phase account of locality. Furthermore, I will show that these examples help us sharpen the concept of phasal edges, given that they involve multiple edges of the same phase. More precisely, I will show that there is a correlation between extraction possibilities and linear order in the SC NP and I will argue that the data and the correlation in question provide evidence for a particular contextual approach to the PIC status of phasal edges.

Before I give an account of the above examples, a short digression is in order to introduce the relevant background concerning the syntax and semantics of SC NPs (section 2.1) and the phase system adopted here (section 2.2). Sections 3 and 4 are the main parts of the article, where I develop a particular approach to phasal edges based on a discussion of left branch extraction, object shift, and anaphor binding. Section 5 is the conclusion. Finally, in the appendix I discuss several issues regarding the syntax and semantics of what Partee (2006) calls *familiar* demonstratives, including the structural position of such demonstratives.

2 Background Assumptions

2.1 On the NP/DP Analysis

A number of authors have argued that SC, a language without articles, does not have the DP layer (see, e.g., Bošković 2005, 2012, Corver 1992, Despić 2011, 2013, Marelj 2008, 2011, Runić 2014, to appear, Takahashi 2013, Talić 2013, to appear a, Trenkić 2004, Zlatić 1997). In Bošković 2008, 2012, I make this claim more generally for all languages without articles, basing the claim on a number of syntactic and semantic phenomena that correlate with the presence or absence of articles, which can be captured if DP is not present in the *traditional NP* (TNP) of languages without articles. (The term *TNP* is used neutrally, without commitment to functional structure that may be present above NP.) In this system, English DP elements such as demonstratives and possessives are treated as NP adjuncts in SC, just like adjectives. In fact, as discussed in Zlatić 1997 and Bošković 2005, 2012, among other works, both morphologically and syntactically

demonstratives and possessives behave in every respect like adjectives in SC. Furthermore, arguments made in Bošković 2012, 2014b and Despić 2011, 2013, based on the binding properties of possessors, show that demonstratives, possessives, and adjectives are located in the same projection in SC. Thus, Despić (2011, 2013) observes that, in contrast to the pronouns and the names in the English examples (5a–b), the pronouns and the names cannot be coindexed in the SC examples (6a–b). Assuming that the possessive is an NP adjunct and that SC lacks DP, the possessor c-commands out of the subject TNP in (6), which results in Condition B and C violations in (6a) and (6b), respectively. Significantly, nothing changes in the presence of a demonstrative or an adjective, which indicates that the demonstrative and the adjective in (7)–(8) are located in the same projection as the possessor (i.e., they are all NP-adjoined).

- (5) a. His_i latest movie really disappointed Kusturica_i.
 b. Kusturica_i's latest movie really disappointed him_i.
- (6) a. *[_{NP} Kusturicin_i [_{NP} najnoviji film]] ga_i je zaista razočarao.
 Kusturica's latest movie him is really disappointed
 'Kusturica_i's latest movie really disappointed him_i.'
 b. *[_{NP} Njegov_i [_{NP} najnoviji film]] je zaista razočarao Kusturicu_i.
 his latest movie is really disappointed Kusturica
 'His_i latest movie really disappointed Kusturica_i.'
 (Despić 2013:245)
- (7) a. *[_{NP} Ovaj [_{NP} Kusturicin_i [_{NP} najnoviji [_{NP} film]]]] ga_i je zaista razočarao.
 this Kusturica's latest movie him is really disappointed
 'This latest movie of Kusturica_i really disappointed him_i.'
 b. *[_{NP} Ovaj [_{NP} njegov_i [_{NP} najnoviji film]]]] je zaista razočarao Kusturicu_i.
 this his latest movie is really disappointed Kusturica
 'This latest movie of his_i really disappointed Kusturica_i.'
 (Bošković 2014b:32)
- (8) *[_{NP} Brojni [_{NP} Kusturicin_i [_{NP} filmovi]]] su ga_i zaista razočarali.
 numerous Kusturica's movies are him really disappointed
 'Numerous movies of Kusturica_i really disappointed him_i.'
 (Bošković 2014b:32)

I will therefore adopt the NP-adjunction analysis for these elements here (for additional arguments, see the cited works).

One property of the SC TNP that will be relevant below concerns word order within the TNP, which transparently reflects semantic composition in SC. As noted in Bošković 2009, word order within the TNP is generally freer in NP (i.e., article-less) languages than in DP languages (see footnote 5 for languages that rather dramatically confirm this conjecture; thus, as noted there, any order of adjectives, demonstratives, and possessors is in principle allowed in Chinese, Japanese, and Korean). This is so because the richer syntactic structure of DP languages imposes

restrictions on TNP-internal word order in these languages that are not found in NP languages since they lack the syntactic structure in question. Thus, in English, demonstratives and possessors must precede adjectives because they are located in DP, which is higher than the projection where adjectives are located. In an NP language like SC, because DP is lacking, all these elements are treated as NP adjuncts. As a result, syntax does not impose any restrictions on their order: the only restrictions we may find come from the semantics. The TNP-internal word order in SC in fact transparently reflects semantic composition. The TNP-internal word order is freer in SC than in English; thus, possessors and adjectives can occur in either order. Demonstratives, however, precede possessors and adjectives.³

- (9) Jovanova skupa slika
 Jovan's expensive picture
- (10) skupa Jovanova slika
 expensive Jovan's picture
 'Jovan's expensive picture'
- (11) ova skupa slika
 this expensive picture
- (12) ?*skupa ova slika
 expensive this picture
- (13) ova Jovanova slika
 this Jovan's picture
- (14) ?*Jovanova ova slika
 Jovan's this picture

Working within the no-DP analysis where the elements in question are all NP-adjoined, in Bošković 2009 I give a semantic account of these ordering restrictions. When it comes to their semantics, possessives and adjectives are expected to be freely ordered. The most plausible semantics for possessives is modificational (see Partee and Borschev 1998: $[[\text{Mary's}]] = \lambda x. [R_i (\text{Mary}) (x)]$; R_i is a free variable)). Under standard assumptions that adjectives are also of type $\langle e, t \rangle$ and that there is a rule of intersective predicate modification, semantics imposes no restrictions on the order in which possessives and adjectives are composed. Demonstrative NPs pick out an individual of type e (see Kaplan 1989): demonstrative *that* is a function of type $\langle \langle e, t \rangle, e \rangle$. Once *that* maps a nominal to an individual, further modification by $\langle e, t \rangle$ predicates is not possible. Straightforward semantics thus allows possessives and adjectives to be composed in either order,

³ While the possessive-adjective order is often more neutral than the adjective-possessive order, what is important is the contrast with English, where the latter order is fully ungrammatical, as well as the contrast with the unacceptable examples in (12) and (14).

but demonstratives must be composed after both adjectives and possessives.⁴ This perfectly matches the actual ordering of these elements in SC.⁵

For present purposes, what is important from the above discussion is that SC, a language without articles, lacks the DP layer, and that demonstratives, possessors, and adjectives are located in the same projection, any ordering restrictions on these elements in SC following from semantic considerations.⁶

Having summarized the relevant assumptions concerning the syntax and semantics of SC TNPs, I now summarize the relevant assumptions concerning the phase framework.

2.2 Phases

It is often assumed that DP is a phase in English (for DP-as-a-phase analyses of English as well as other DP languages, see for example Bošković 2005, 2013a, Chomsky 2000, 2001, Den Dikken 2007, Despić 2011, Gutiérrez-Rexach and Mallén 2001, Heck, Müller, and Trommer 2008, Hira-

⁴ As discussed in Bošković 2014b, the account can be extended to nonrestrictive adjectives.

⁵ Also relevant is Chinese, an NP/article-less language where any order of adjectives, demonstratives, and possessors is in principle allowed (the same holds for Japanese and Korean), which follows if they are all NP-adjoined.

- (i) a. Wang-de hongsede paoche
Wang's red sports.car
- b. hongsede Wang-de paoche
 red Wang's sports.car
- c. na-bu hongsede paoche
 that-CL red sports.car
- d. hongsede na-bu paoche
 red that-CL sports.car
- e. na-bu Wang-de paoche
 that-CL Wang's sports.car
- f. Wang-de na-bu paoche
 Wang's that-CL sports.car

The source of the word order difference between Chinese and SC in, for example, (id) vs. (12) then must be semantics. In this spirit, assuming that 'that sports car' in (id) is of type *e* and 'red' is of type $\langle e,t \rangle$, Bošković and Hsieh (2013) argue that there is a contextual pronominal variable of type $\langle e,t \rangle$ in the denotation of demonstratives in Chinese but not in SC; this is the reason why an adjective preceding a demonstrative can be interpreted inside of its scope only in Chinese (the difference is tied to the classifier language status of Chinese).

Bošković and Hsieh (to appear) give an alternative account based on Chierchia 1998. In this account, although they both lack DP, Chinese and SC differ with respect to the semantic type of bare nouns; they are of type *e* in Chinese and of type $\langle e,t \rangle$ in SC. Since Chinese bare nouns are of type *e*, Chinese needs to employ type shifting when nouns are used predicatively: an operation that type-shifts type *e* to type $\langle e,t \rangle$ is required in Chinese; otherwise, nouns could not be used predicatively. Bošković and Hsieh (to appear) then propose that the type shift in question is allowed only in Chinese-type languages, not in languages where bare nouns are of type $\langle e,t \rangle$. A demonstrative-N sequence that follows an adjective can then be type-shifted to type $\langle e,t \rangle$ (and then modified by the adjective) in Chinese but not in SC. (For another account that is based on Chierchia 1998 and the proposal in Huang 2006 that bare adjectives in Chinese are of type *e*, see Bošković 2014b.)

⁶ The theoretical claims made in the article (see sections 3 and 4) actually do not crucially depend on adopting the no-DP analysis of SC. What is important here is that the relevant elements (e.g., adjectives) are located at the edge of the TNP in SC. Both the account of (1)–(4) given in section 3 and the account of the data discussed in this section could then be maintained under the DP analysis if the elements in question are all located at the edge of DP in SC (the phenomena discussed in section 2.2 would, however, remain unaccounted for), unlike in English. The SC DP would then be quite different from the English DP. At any rate, it seems clear that the SC elements in question behave rather differently from their counterparts in English (for a number of additional differences, see Bošković 2012, Zlatić 1997), hence cannot be treated in the same way as in English.

iwa 2005, Kramer 2009, Reintges and Lipták 2006, Riqueros 2013, Svenonius 2004, Ticio 2003). One argument to this effect, which also provides evidence for the DP/NP analysis from section 2.1, concerns the generalization in (15), established in Bošković 2012, Corver 1992, and Uriagereka 1988.

- (15) Only languages without articles may allow AP left branch extraction (LBE) examples like (16)–(17).⁷
- (16) *Expensive_i he loves [_{t_i} cars].
- (17) Skupa_i on voli [_{t_i} kola]. (SC)
 expensive he loves cars

In Bošković 2005, I develop a phase account of the generalization in (15).⁸ Since DP is a phase in English, the adjective must move to Spec,DP in (16) before it moves out of the DP. Assuming that adjectives are generated as NP adjuncts and that there is a ban on movement that is too short (antilocality), which requires Move to cross at least one full phrasal boundary (not just a segment) (for arguments for various versions of antilocality, see Abels 2003, Boeckx 2005, Bošković 1994, 1997, Grohmann 2003, Ishii 1999, Jeong 2006, Saito and Murasugi 1999, and Ticio 2003, among many others), (16) is ruled out via the PIC and antilocality: direct movement out of DP, as in (18), is ruled out by the PIC; and movement via Spec,DP, as in (19), is ruled out by antilocality. The PIC/antilocality problem does not arise in SC, which lacks DP.

- (18) AP_i [_{DP} [_{D'} D [_{NP} _{t_i} [_{NP} . . .
- (19) [_{DP} AP_i [_{D'} D [_{NP} _{t_i} [_{NP} . . .

Moreover, NP has been shown to function as a phase in SC (Bošković 2013b, 2014b). SC disallows deep LBE—that is, LBE out of a complement of a noun (see also Corver 1992).

- (20) On cijeni [_{NP} [_{N'} [prijatelj_e [_{NP} pametnih [_{NP} studenata]]]]].
 he appreciates friends smart students
 'He appreciates friends of smart students.'
- (21) ?*Pametnih_i on cijeni [_{NP} [_{N'} [prijatelj_e [_{NP} _{t_i} [_{NP} studenata]]]]].
 smart he appreciates friends students

⁷ Thus, in Bošković 2012 it is noted that Bulgarian and Macedonian, the only Slavic languages with articles, are the only Slavic languages that disallow such LBE. Latin, an article-less language, differs from Modern Romance, which has articles, in that it had LBE. Mohawk, Southern Tiwa, and the Gunwinjguan languages (see Baker 1996), and Hindi, Angika, and Magahi (see Bošković 2012) also allow LBE and lack articles. Particularly interesting is Finnish. Colloquial Finnish has developed a definite article. Significantly, Franks (2007) notes that LBE is disallowed in colloquial Finnish, but is still allowed in literary Finnish, which does not have articles. Another language change argument comes from Greek. Ancient Greek underwent a change from an article-less language (Homeric Greek) to a language with articles (Koine Greek). Significantly, while Homeric Greek productively allowed LBE, Koine Greek did not (see Bošković 2012).

Note also that the lack of DP is not the only requirement for LBE. Adjective-noun agreement is also needed (see Bošković 2013a), as a result of which LBE is disallowed in languages like Chinese and Japanese independently of (anti)locality considerations discussed below.

⁸ See Bošković 2005, Stjepanović 2010, 2011, and Talić 2013 for arguments that (17) involves subextraction of the adjective rather than remnant movement of the TNP or full TNP-movement with scattered deletion.

These data show that an NP above an NP from which LBE takes place in SC has the same effect as a DP above an NP from which LBE takes place in English: they both block LBE. This follows if NP is a phase in SC. (21) can then be accounted for in exactly the same way as (16): the higher NP blocks LBE in SC (21) for the same reason DP does so in English (16).

Abels's (2003) generalization that complements of phase heads are immobile confirms that NP is a phase in SC. Thus, Abels notes that an IP that is dominated by a CP, a phase, cannot move.

(22) *_{[IP His_i mother left]_j everyone_i believes that t_j.}

This follows from a PIC/antilocality interaction, with the PIC requiring IP-movement via Spec,CP, and antilocality blocking it because it is too short. If NP is a phase in NP languages, an NP complement of a noun should not be able to move in SC, which is indeed the case.

(23) ?*Beograda_i sam pronašla [_{NP} sliku t_i].
Belgrade.GEN am found picture
'Of Belgrade I found the/a picture.'

Further, it is not necessary to posit crosslinguistic variation regarding phasehood here. In particular, as I argue in Bošković 2013b, 2014b, the highest projection in the extended domain of NP counts as a phase: the highest projection in English is DP, hence DP functions as a phase, and the highest projection in SC is NP, hence NP functions as a phase.⁹ In both English and SC, TNP (i.e., the highest projection in the TNP) functions as a phase. There is then no need to posit crosslinguistic variation regarding phasehood: the relevant differences are the result of independently motivated variation in the amount of structure TNPs have in SC and English.

At any rate, what is relevant for present purposes is that NP is a phase in SC, which accounts for the ungrammaticality of (23) and the contrast between (21) and (17) (see Bošković 2013b, 2014b for additional evidence to this effect).

3 Phasal Edges

3.1 Phasal Edges and Movement

We are now ready to return to (1), repeated here as (24), with the relevant structure indicated.

- (24) a. *Na tebe_i sam vidio [_{NP} Jovanovog [_{NP} [ponosnog t_i] [_{NP} oca]]].
of you am seen Jovan's proud father
'I saw Jovan's father who is proud of you.'
- b. *Na tebe_i sam vidio [_{NP} tog [_{NP} [ponosnog t_i] [_{NP} oca]]].
of you am seen that proud father
- c. Na tebe_i sam vidio [_{NP} [ponosnog t_i] [_{NP} oca]].
of you am seen proud father

⁹ English *of*-genitive complements can be extracted (see, e.g., Chomsky 1986, Huang 1982), as in *Of Belgrade I found a picture*, which is expected given that DP, not NP, is a phase in English.

Recall that the highest projection in a TNP is a phase in both SC and English; in SC this is NP, and in English DP. Adjectives can undergo LBE in SC because they are located at the edge of the TNP phase: they are NP-adjoined, and NP is the phase. In English, they must move to the phasal edge, Spec,DP, from the NP-adjoined position, violating antilocality. What is important here is that extraction is legitimate only from the TNP phase-edge position.¹⁰

Returning to (24), the ungrammaticality of both (24a) and (24b) can be accounted for if only the highest edge is the edge—that is, if only the highest edge counts as the edge for the purpose of the PIC. The AP, which means the adjectival complement too, is then not located at the phasal edge in (24a–b); hence, extraction out of it is not possible because of the PIC. The problem does not arise in the acceptable (24c). ((24) is repeated in (25), with the phasal edge boldfaced.) I therefore take the above data to indicate that when more than one element is located at a phasal edge, only the highest/outermost edge is the edge.

- (25) a. *Na tebe_i sam vidio [_{NP} **Jovanovog** [_{NP} [ponosnog t_i] [_{NP} oca]]].
 of you am seen Jovan's proud father
 b. *Na tebe_i sam vidio [_{NP} **tog** [_{NP} [ponosnog t_i] [_{NP} oca]]].
 of you am seen that proud father
 c. Na tebe_i sam vidio [_{NP} [**ponosnog t_i**] [_{NP} oca]].
 of you am seen proud father

A strong argument for this analysis, and a further confirmation of the assumption in question, is provided by (2). The edge-of-the-edge account in fact extends to (2), repeated here as (26) with the relevant structure indicated, which can now be unified with (24).

- (26) a. *Ponosnog_i sam vidio [_{NP} **tog** [_{NP} t_i] [_{NP} oca]]].
 proud am seen that father
 ‘I saw that proud father.’
 b. Ponosnog_i sam vidio [_{NP} t_i] [_{NP} oca]].
 proud am seen father

Recall that although both demonstratives and adjectives are NP-adjoined in SC, adjectives must adjoin below demonstratives for semantic reasons. As a result, given that only the highest edge is the edge, the adjective in (26a) is not located at the edge of the NP phase, hence is unavailable for LBE, in contrast to the adjective in (26b), which is located at the edge of the NP phase, hence

¹⁰ It is standardly assumed that APs are not phases, so extraction out of the AP itself does not raise any issues here. One exception is Bošković 2014b, where APs are phases (more precisely, the highest projection in the extended domain of A is a phase). However, extraction of both NPs and PPs out of APs proceeds without any problems there too, given other ingredients of that system. (See footnote 14 for some relevant discussion. See also Talić to appear for an application of the Bošković 2014b system to English; the only relevant adjustment is that an XP (which is the AP counterpart of DP) is present above AP in English, with XP rather than AP functioning as the phase as the highest phrase in the extended domain of A.) Below, I will ignore the possibility that adjectives may project a phase, since it does not affect the discussion here.

can undergo LBE. (24) and (26) thus receive a uniform account under the edge-of-the-edge analysis.¹¹

The same in fact holds for (3). Recall that adjectives must adjoin below demonstratives for semantic reasons, both being NP-adjoined in SC. As for multiple adjectives, in Bošković 2009 I argue that constraints on the order of adjectives are not syntactic in nature, but semantic/prosodic. In fact, these constraints are generally stated in semantic or prosodic terms (i.e., in terms of semantic classes or adjective length). I thus argue in Bošković 2009 that there is no need for a syntactic middleman, where the ordering restrictions would follow from stipulations regarding the order of merger of particular elements, which would furthermore have to reflect semantic/prosodic restrictions. Rather, the account developed in that work lets the latter do the job themselves: syntax then allows any order of adjectives (which are NP-adjoined), and semantics and prosody filter out unacceptable sequences (see Ernst 2002 for such a treatment of adverbs).

Consider (3a), repeated in (27a), from this perspective. Notice first that if the order of the adjectives is switched, with only the adjective that remains in situ in (27a) undergoing LBE, the example becomes acceptable, as shown in (27b).¹²

- (27) a. *Mašinskog_i je on otpustio [_{NP} neozbiljnog [_{NP} t_i [_{NP} inženjera]]].
 mechanical is he fired not.serious engineer
 ‘He fired a mechanical engineer who was not serious.’
 b. ?Neozbiljnog_i je on otpustio [_{NP} t_i [_{NP} mašinskog [_{NP} inženjera]]].
 not.serious is he fired mechanical engineer

What is important here is that in situ, *neozbiljnog* ‘not serious’ must precede *mašinskog* ‘mechanical’.

¹¹ A potential alternative might involve Relativized Minimality–style intervention effects, where the higher element would be an intervener for the lower element. This analysis faces several problems, however. First, under pretty much any definition of equidistance, the movement candidates here would be equidistant from the target of movement, which should void any intervention effects (see, e.g., Stjepanović 2011). Second, in the current system Relativized Minimality is relativized to features, where the target attracts the closest element with a particular feature. Here, however, it does not look like the moved element and the element that stays in situ share the feature that drives the movement, which is necessary for the intervention analysis (the acceptable examples are most natural if the moved element undergoes focus movement (see, e.g., footnote 12); the unacceptable examples do not improve if the elements that remain in the NP are not focalized). While the intervention (i.e., Attract Closest) account predicts that the effect in question will be voided if the higher Spec is not a candidate for the relevant movement, the current approach disallows movement of the lower Spec regardless of the feature makeup of the higher Spec (i.e., the effect is not feature-relativized here). (For relevant discussion, see section 4, which shows that the effect in question is operative with multiple focus movement, which is quite generally insensitive to Attract Closest/intervention effects, as well as in certain Dutch constructions where Attract Closest is also irrelevant. Also relevant is section 3.2, which discusses binding, not movement.)

Note also that Rackowski and Richards (2005) develop a locality system that they claim allows only the highest Spec of a phase to extract, though they do not offer any empirical evidence to this effect. Furthermore, their analysis does not completely ban such extraction and in fact would not extend to the cases considered here. For example, in their system *v* would agree with the object TNP in (26a), as a result of which the TNP would be ignored by *v* for the rest of the derivation. According to their definition of *closest* (p. 579), the two TNP edges, the demonstrative and the adjective, are in fact equidistant from *v*; hence, either should be able to move.

¹² When an adjective is extracted in the presence of another adjective, it is necessary to contrastively focus the extracted adjective (the same generally holds for possessor + adjective constructions); see Bošković 2005 for an explanation of the focus requirement. (Simple LBE also often requires focalization; this is the case with (3b), for example.)

- (28) a. neozbiljni mašinski inženjer
 b. ?*mašinski neozbiljni inženjer

In Bošković 2009, both *neozbiljnog* and *mašinskog* are adjoined to NP; they are thus both located at the NP edge. However, (28) indicates that *mašinskog* must adjoin below *neozbiljnog*. As a result, given that only the outermost edge counts as the edge, only *neozbiljnog* is located at the phasal edge. Consequently, *neozbiljnog* can undergo LBE, but *mašinskog* cannot. (27a–b) are thus accounted for in the same way as (24) and (26). In (29)–(31), I give additional examples of this type, which show that we are dealing with a more general pattern here.

- (29) Mladog su angažovali krilnog napadača.
 young are hired wing(ADJ) striker
 ‘They hired a young wing striker.’
- (30) *Krilnog su angažovali mladog napadača.
 wing(ADJ) are hired young striker
- (31) a. mladog krilnog napadača
 b. *krilnog mladog napadača

Importantly, the edge-of-the-edge problem that arose in (24a–b), (26a), (27a), and (30) does not arise in (4). As (32) shows, here the adjective and the possessor can occur in either order when no extraction takes place. This means that either of them can be generated as the higher adjunct, as a result of which they are both predicted to be able to undergo LBE, which is indeed the case (see (33)). Additional examples of this type, which involve multiple adjectives, are given in (34)–(36).

- (32) a. omiljena Jovanova kola
 favorite Jovan’s car
 b. Jovanova omiljena kola
 Jovan’s favorite car
- (33) a. Omiljena_i je kupio [_{NP} t_i [_{NP} Jovanova [_{NP} kola]]].
 favorite is bought Jovan’s car
 ‘He bought Jovan’s favorite car.’
 b. Čija_i je kupio [_{NP} t_i [_{NP} omiljena [_{NP} kola]]]?
 whose is bought favorite car
 ‘Whose favorite car did he buy?’
- (34) Mladog su angažovali brzog napadača.
 young are hired quick striker
 ‘They hired a quick young striker.’
- (35) ?Brzog su angažovali mladog napadača.
 quick are hired young striker
- (36) a. mladog brzog napadača
 b. ?brzog mladog napadača

Under this analysis, we would further expect that (2a) should improve if the demonstrative is extracted and the adjective remains in situ, given that the demonstrative can be base-generated as the higher adjunct. This prediction is also borne out.

- (37) Tog_i sam vidio [_{NP} t_i [_{NP} ponosnog [_{NP} oca]]].
 that am seen proud father
 ‘I saw that proud father.’

Finally, (1a) should also improve if the adjective precedes the possessor. The AP in question is then the outermost edge; hence, extraction out of it should be possible. This is indeed the case.

- (38) ?Na tebe_i sam vidio [_{NP} [ponosnog t_i] [_{NP} Jovanovog [_{NP} oca]]].
 of you am seen proud Jovan’s father
 ‘I saw Jovan’s father who is proud of you.’

A potential alternative analysis can be constructed based on Hiraiwa’s (2005) claim that what is contained in the edge is not at the edge of the phase. The AP can then count as being at the NP phase edge in (24a–b). Still, nothing contained in the AP, including the adjectival complement, is at the phasal edge; hence, movement out of the AP, as in (24a–b), is not possible. However, in addition to ruling out (24a–b), this analysis incorrectly rules out (24c). Furthermore, it does not rule out the unacceptable examples (2a)/(26a) and (3a)/(27a), which then also remain unaccounted for. Nor does this analysis account for the binding contrasts discussed in section 3.2.

An additional problem for this alternative is raised by examples (39)–(40). (See Talić to appear a on such examples, where DP blocks such extraction in English; following Talić, I assume that *extremely* starts out adjoined to AP.) The relevant phases are boldfaced in (39)–(42).

- (39) Izuzetno_i su kupili [_{NP} [**AP** t_i [**AP** skup]]] [_{NP} automobil]].
 extremely are bought expensive car
 ‘They bought an extremely expensive car.’
- (40) *Extremely_i they bought [**DP** [_{NP} [**AP** t_i [**AP** expensive]]] [_{NP} cars]].

In contrast to English (40), which is ruled out by the PIC or antilocality (depending on whether or not *extremely* moves through Spec,DP), SC (39), where antilocality is not violated, is acceptable. This is not expected under Hiraiwa’s analysis, where the adverb should not count as being at the edge of the NP in (39). I conclude therefore that an analysis along the lines of Hiraiwa’s (2005) proposal that what is contained in the edge is not at the edge of the phase cannot account for the full relevant paradigm.¹³

¹³ Fox and Pesetsky (2005) may provide another alternative. In their system, linear ordering is established derivationally, when a phasal level is reached. Furthermore, the linear order established at phase X cannot be contradicted by the linear order established at phase Y. This system can account for some of the examples discussed here, such as (26a), where the surface order of *ponosnog* ‘proud’ and *tog* ‘that’ contradicts the order established at the NP phase level, where the order is *tog ponosnog*. It is difficult to tell whether the system could capture the full paradigm discussed here since this would depend on what kind of additional assumptions were adopted. However, at least (54a) below and possibly

Notice also that the adverb extraction paradigm shows the familiar restriction: such extraction is possible only out of the outermost edge. The contrast in (41)–(42) can then be taken to confirm the current analysis, where only the outermost edge counts as the phasal edge.

(41) *Izuzetno_i su kupili [NP [AP skup] [NP [AP t_i brz] [NP automobil]]].
 extremely are bought expensive fast car

(42) ??Izuzetno_i su kupili [NP [AP t_i skup] [NP [AP brz] [NP automobil]]].
 extremely are bought expensive fast car

A technical issue arises, however. Consider the following derivation for (26a): the AP first adjoins to the NP above the demonstrative, which brings it to the outermost NP phase edge. This movement violates antilocality; hence, the example is still ruled out. But then consider the same derivation for (24a–b): the PP adjoins to the NP above the demonstrative/possessor, as in (43).

(43) *Na tebe_i sam vidio [NP t_i [NP Jovanovog [NP [ponosnog t_i] [NP oca]]]].
 of you am seen Jovan's proud father
 'I saw Jovan's father who is proud of you.'

The antilocality problem does not arise here. However, this derivation is not an option in Chomsky's (2000, 2001) system, where the head whose edge is targeted by movement (in this case N) must probe the moving element, hence must c-command it. The derivation in question is then ruled out.¹⁴

(38) appear to be problematic (being ruled out by this account of (26a)). More importantly, an analysis along these lines would have nothing to say about the binding data in section 3.2, where the relevant elements do not undergo movement, hence no conflicting ordering arises. In that section, I show that these data instantiate the same effect as those discussed in this section, and can in fact be accounted for in a unified manner under the current analysis.

¹⁴ Elsewhere (Bošković 2013b), I argue that nouns and adjectives take only NPs as complements in SC; PPs modifying nouns and adjectives are adjuncts (but see Talić 2013). Higher NP-adjunction then still violates antilocality in (43). The above issue then arises only with NP complements, as in (i) (the adjective takes a dative complement in (i)), where adjunction to the higher NP does not violate antilocality.

(i) *Generalu_i sam vidio [NP tog [NP [AP lojalnog t_i] [NP vojnika]]].
 general.DAT am seen that loyal soldier
 'I saw that soldier loyal to the general.'

There is an alternative to the account given in the text that is consistent with approaches in which successive-cyclic movement does not involve probing by a higher head, as in Bošković 2007. Since adjectives assign inherent case, what is relevant here is that in contrast to genitive complements, nominal complements with inherent (nongentive) case allow deep LBE and can extract (ii). In Bošković 2013b, I argue that this is so because NPs with inherent-case-assigning Ns have more structure ((iii); the relevant phases are boldfaced below); they involve a functional projection that facilitates inherent case assignment, which voids antilocality effects.

- (ii) a. ?Kakvom ga je prijetnja smrću uplašila?
 what.kind.of him is threat death.INSTR scared
 'Of what kind of death did a threat scare him?'
 (Bošković 2013b:91)
- b. Čime_i ga je [(Jovanova) prijetnja t_i] uplašila?
 what.INSTR him is Jovan's threat scared
 'The threat of what (by Jovan) scared him?'
 (Zlatić 1994:207)

To summarize, we have seen that SC exhibits a rather intricate paradigm regarding the possibilities for extraction of and subextraction from NP edges. The paradigm reveals a correlation between word order and the possibilities for extraction and subextraction where only the NP-initial phrase is accessible for these movements. This can be straightforwardly captured if only the outermost edge counts as the edge of a phase for the purpose of the PIC.

3.2 Phasal Edges and Binding

An interesting extension of the current proposals to a binding paradigm is noted by Zanon (to appear) for Russian, which I apply here to SC (see also Wurmbrand 2013b for an application of the current proposals regarding multiple edges to Agree). While possessors can in principle either precede or follow adjectives in SC (see (32)), reflexive possessors must precede them.

(44) Marija je prodala svoju omiljenu knjigu.
 Marija is sold her(anaphor) favorite book
 ‘Marija sold her favorite book.’

(45) *Marija je prodala omiljenu svoju knjigu.
 Marija is sold favorite her(anaphor) book

The ungrammaticality of (45) can be rather straightforwardly accounted for in the current system. A number of authors have argued that the binding domain for Condition A should be stated in terms of phases (see, e.g., Canac-Marquis 2005, Despić 2011, to appear, Hicks 2009, Lee-Schoenfeld 2008, Quicoli 2008, Safir 2014, Zanon 2015, to appear). Suppose that, as seems natural under a phase-based approach, an anaphor can be bound outside of its own minimal phase XP only if it is located at the edge of the phase (the anaphor then does not really ‘belong’ to phase XP; rather, it belongs to a higher phase). Under the current proposal that only the outermost edge counts as the phasal edge, the anaphor is located at the phasal edge in (44) but not in (45), hence the contrast between these constructions.

(iii) [_{NP} threat [_{FP} F [_{NP} his [_{NP} death]]]]

As I argue in Bošković 2014b, the highest phrase in the extended domain of all lexical heads is a phase. AP is then also a phase, which means that *generalu* ‘general’ in (i) must move to the AP edge before adjoining to the higher NP (recall that adjectives assign inherent case—they take FP as complement). Now, in Bošković to appear a,b successive-cyclic \bar{A} -movement through NP/AP edges must proceed via NP/AP-adjunction (see Bošković to appear b for a deduction of this). This is (e.g.) what is responsible for the unacceptability of examples like (iv), where the moved phrase is inherently case-marked, which means that the lowest N takes FP as complement. Both NPs are phases. Since successive-cyclic \bar{A} -movement through NP edges can only proceed via NP-adjunction, movement from the NP2 edge to the NP1 edge violates antilocality.

(iv) *Smrću_i je on vidio [_{NP1} t_i [_{NP1} opise [_{NP2} t_i [_{NP2} prijetnji [_{FP} [_{NP3} t_i]]]]]].
 death.INSTR is he seen descriptions.ACC threats.GEN
 ‘He saw descriptions of threats by death.’

Given the above discussion, *generalu* then first needs to adjoin to the AP in (i), after which it adjoins to the highest NP segment; the second step violates antilocality.

(v) *Generalu_i sam vidio [_{NP} t_i [_{NP} tog [_{NP} [_{AP} t_i [_{AP} lojalnog [_{FP} t_i]]] [_{NP} vojnika]]]].
 general.DAT am seen that loyal soldier

Also relevant is Nissenbaum's (2000) observation that in Bulgarian multiple *wh*-fronting constructions, only an anaphor in the highest Spec,CP is accessible for binding by an element in the higher clauses. The contrast in (46)–(47) in fact confirms the above analysis. Multiple *wh*-fronting in Bulgarian places fronted *wh*-phrases in distinct Specs of CP (see Koizumi 1994, Nissenbaum 2000, Richards 2001; for the original discussion, see Rudin 1988). What the contrast in (46)–(47) then shows is that only the higher Spec,CP is located at the phasal edge, hence accessible for higher binding. (Note that (48)–(49) show that we are not dealing here with a Superiority effect; either order of the *wh*-phrases is in principle possible.)¹⁵

- (46) *Maria_i znae kǎde kolko/kakvi svoi_i snimki bjaha kupeni.
 Maria knows where how.many/what.kind.of her(anaphor) pictures were bought
 'Maria knows where how many/what kind of pictures of herself were bought.'
- (47) ??Maria_i znae kolko/kakvi svoi_i snimki kǎde bjaha kupeni.
 Maria knows how.many/what.kind.of her(anaphor) pictures where were bought
- (48) Kǎde kolko/kakvi snimki bjaha kupeni?
 where how.many/what.kind.of pictures were bought
 'Where were how many/what kind of pictures bought?'
- (49) Kolko/Kakvi snimki kǎde bjaha kupeni?
 how.many/what.kind.of pictures where were bought

The contrast between (46) and (47) thus confirms the conclusion based on the contrast between (44) and (45) that only the highest Spec of phase XP is available for anaphor binding from outside of XP.¹⁶

¹⁵ I have modified Nissenbaum's (2000) examples to avoid certain interfering factors. (See Despić to appear for an account of the Bulgarian possessive reflexive that is consistent with the phase approach to Condition A.)

Note also that, as expected, Bulgarian disallows anaphors within a subject to be bound outside of their clause, as in (i). ((ib) is even worse than (ia).) Furthermore, as noted by Roumyana Pancheva (pers. comm.), (ic), where *svoi snimki* 'pictures of herself' is located at the edge of its clause (it is CP-adjoined; see Bošković 2002, Rudin 1993), is better than (ib).

- (i) a. *Maria_i znae če svoi_i snimki bjaha kupeni.
 Maria knows that her(anaphor) pictures were bought
 'Maria knows that pictures of herself were bought.'
- b. *Maria_i znae kǎde bjaha kupeni svoi_i snimki.
 Maria knows where were bought her(anaphor) pictures
 'Maria knows where pictures of herself were bought.'
- c. ??Maria_i znae svoi_i snimki kǎde bjaha kupeni.
 Maria knows her(anaphor) pictures where were bought

¹⁶ Nissenbaum (2000) shows that English behaves like Bulgarian regarding cases like (46)–(47). On the basis of (ia), which contrasts with (ib), he shows that LF *wh*-movement can create new binding possibilities for anaphors in English. He then argues that the reason why LF *wh*-movement of the *wh*-phrase in situ does not rescue (iia) is that it tucks in under *which man* in the lower Spec,CP, similarly to the second *wh*-phrase in the Bulgarian example (46); hence, the anaphor cannot be bound from the higher CP (in contrast to what we see in (iib)).

- (i) a. Who_i thinks Mary was looking at which picture of himself_i?
 b. *John_i thinks Mary was looking at a picture of himself_i.
 (Nissenbaum 2000:146)

To summarize the discussion in section 3, in constructions where more than one element is located at the edge of the same phase, only the highest edge is available for movement and anaphor binding. This can be accounted for in the phase system if only the outermost edge counts as the edge of a phase. This conclusion argues for a contextual approach to phasehood, since it indicates that the status of a Spec/adjunct of phase XP with respect to the PIC cannot be determined without examining the syntactic context in which it occurs (i.e., without examining whether XP has other Specs/adjuncts).¹⁷

4 Traces as Nonedges

4.1 Object Shift

The above analysis has a number of consequences. Many of the predictions cannot be tested, however, because of interfering factors. I will discuss one case here, object shift, which should suffice to illustrate these factors. The discussion will also provide another argument for the contex-

-
- (ii) a. *Mary_i knows which man was looking at which picture of herself.
 b. Mary_i knows which picture of herself_i John is looking at.
 (Nissenbaum 2000:144)

There is an issue, however: examples like (iii) are acceptable (in contrast to their counterparts in Bulgarian; see footnote 15).

- (iii) John knows that/why pictures of himself are valuable.

Such examples more generally raise a problem for the phase account of Condition A. I leave the issue open, merely noting that a number of authors, most recently Hicks (2009) within the phase approach to Condition A, have argued that we are dealing here with logophors, which are not subject to the phase-binding (i.e., Condition A) requirement, the logophor option being unavailable in (i) (though it arises in other contexts with objects, as in *Bill thought that nothing could make a picture of herself in the Times acceptable to Sandy* (Pollard and Sag 1992:272) and *Bush and Dukakis charged that General Noriega had secretly contributed to each other's campaigns* (Pollard and Sag 1992:267)). Logophoricity is quite generally an interfering factor with English *picture* anaphor nouns, which, as is well-known, do have logophoric usages (they permit split and non-c-commanding antecedents (e.g., *The agreement that Iran and Iraq reached guaranteed each other's trading rights in the disputed waters until the year 2010* (Pollard and Sag 1992:264) and give rise to strict readings under VP-ellipsis). There are ways of blocking the logophor option, as in (iv) (because of a viewpoint binding requirement, clausemate logophors must be referentially identical), where an anaphor within the subject cannot be bound outside of its phase. (For discussion of logophoricity, see for example Charnavel and Sportiche 2013, Hicks 2009, Kuno 1987, Lebeaux 1984, Pollard and Sag 1992, Zribi-Hertz 1989.)

- (iv) *John told Mary that the photo of himself with her in Rome proved that the photo of herself with him in Naples was a fake.
 (Pollard and Sag 1992:275)

¹⁷ Two observations are in order here. First, head movement raises an issue since a head can move even in the presence of a Spec, and assuming that the edge contains the topmost Spec/adjunct and the head in order to handle the issue seems rather stipulative. However, the issue does not arise if head movement occurs in PF, as many have argued (e.g., Boeckx and Stjepanović 2001). As noted by Susi Wurmbrand (pers. comm.), there are several options that would still allow head movement to be treated as a syntactic operation. Thus, a head is often assumed to move via its projection, where head movement of K is the result of attraction of KP (see Pesetsky and Torrego 2001) or in fact is KP-movement (see, e.g., Koopman and Szabolcsi 2000). Another option is to appeal to phase extension with head movement (Den Dikken 2007, Gallego and Uriagereka 2007). Under this view, head movement extends the phase to the next phase, which means that head movement never crosses a phasal boundary; hence, any intervening Specs are not phasal edges. At any rate, because of the murky nature of head movement, I will not discuss it here.

Second, it is worth noting here Müller's (2011) discussion of melting effects. Although melting effects are superficially very different from the pattern discussed in the text, they could also be interpreted as indicating that phasal edges are contextual.

tuality of phasal edges. In particular, I will show that movement can affect the status of a Spec regarding phasal edgehood/the PIC.

Let us assume that object shift targets Spec,vP and that subjects are generated in Spec,vP. In fact, given that many authors have argued that English objects at least may undergo object shift (see, e.g., Boeckx and Hornstein 2005, Bošković 1997, Epstein and Seely 2006, Johnson 1991, Koizumi 1995, Lasnik 1999), English may be the relevant case here. Given that subjects must move to Spec,TP in English and given the proposals made above, it appears that object shift must tuck in under the subject, in Richards's (2001) fashion.¹⁸ If the object were to move above the subject, the subject would not be located at the outermost edge, hence should not be able to extract (I only indicate subject movement in (50)–(51)).

(50) [_{TP} John_i kissed [_{vP} t_i [_{vP} Mary]]].

(51) [_{TP} John_i kissed [_{vP} Mary [_{vP} t_i]]].

However, Chomsky (2001) argues that PIC effects arise only when the higher phase head enters the structure. Since this is not the case in (50)–(51), T can attract the subject even in violation of the PIC (in fact, even VP is accessible to T), which means that the subject could still start in the lower Spec,vP.

Furthermore, as argued in Bošković 2011, 2013c, any type of locality violation caused by X, including PIC and antilocality violations (see also Riqueros 2013), can be voided if X moves away, leaving a trace/copy that is deleted in PF.¹⁹ Given this, any example where both relevant elements undergo movement, like (52), may be irrelevant.

(52) [_{TP} Who_i did [_{TP} John_j kiss [_{vP} t_{i/j} [_{vP} t_{j/i}]]]]?

In fact, in Icelandic even the counterpart of (50)–(51) would be one such case, given that, as argued in Bošković 2004, Chomsky 2001, Hiraiwa 2001, Holmberg and Platzack 1995, and Svenonius 2001, shifted objects in Icelandic actually undergo further movement from Spec,vP.

From this perspective, consider Dutch object shift. In Dutch ditransitives, the direct object (DO) can undergo object shift only if the indirect object (IO) does so too (see, e.g., Den Dikken 1995). This is shown in (53), where the objects preceding the adverb have undergone object shift. ((53a–c) are taken from Den Dikken 1995:198.)

- (53) a. . . . dat Jan **waarschijnlijk** Marie het boek geeft.
 that Jan probably Marie the book gives
 b. . . . dat Jan Marie **waarschijnlijk** het boek geeft.
 that Jan Marie probably the book gives
 c. . . . dat Jan Marie het boek **waarschijnlijk** geeft.
 that Jan Marie the book probably gives

¹⁸ See Bošković 2015 for a deduction of the tucking-in effect within Chomsky's (2013) labeling system.

¹⁹ The effect of copy deletion is unified in Bošković 2011, 2013c with Ross's (1969) claim that ellipsis (taken as PF deletion) can rescue locality violations; see footnote 20.

- d. *... dat Jan het boek **waarschijnlijk** Marie geeft.
 that Jan the book probably Marie gives
- e. *... dat Jan het boek Marie **waarschijnlijk** geeft.
 that Jan the book Marie probably gives

Given that both objects are candidates for object shift, we may be dealing here with a simple Attract Closest effect: since the IO is higher than the DO, the DO cannot be attracted for object shift across the IO (see (53d)). It is well-known that traces do not count as interveners: Relativized Minimality violations are voided if the intervener undergoes movement (i.e., if it is turned into a trace; see Chomsky 1995).²⁰ As a result, the problem in question does not arise in (53c), where the IO undergoes object shift and then the DO undergoes object shift by tucking in into the lower Spec (see Richards 2001). (53e) is then ungrammatical because the word order indicates that the DO has moved first.

Importantly, the IO must also undergo object shift for the DO to move to Spec,CP (see Den Dikken 1995, Richards 2001; the observation was originally made in Haegeman 1991 regarding West Flemish), although a non-*wh*-NP in an A-position should not interfere with *wh*-movement via Attract Closest.

- (54) a. Wat zal Jan Marie waarschijnlijk geven?
 what will Jan Marie probably give
- b. ?*Wat zal Jan waarschijnlijk Marie geven?
 what will Jan probably Marie give
 (Den Dikken 1995:198)

As noted above, Icelandic and Germanic object shift in general have been argued to involve movement above Spec,vP. Given this and given Zwart's (1993) SVO analysis of Dutch, where Dutch objects obligatorily move to Spec,vP (this movement is responsible for the SOV order of Dutch), I will then assume that objects undergo movement to Spec,vP below *waarschijnlijk* 'probably', with object shift involving movement to a higher position from there. I also assume that after the first step of movement, which places the IO and the DO in separate Specs of vP, the IO is located in the higher Spec,vP (essentially a Superiority effect, given that the IO is higher than the DO prior to the movement; the DO tucks in into the lower Spec,vP, as in Richards 2001).

²⁰ As an illustration of (i), Italian disallows movement across an experiencer, as in (iia). However, when the intervening experiencer undergoes movement, which turns the intervener into a trace, the intervention effect is voided, as in (iib).

- (i) Traces do not count as interveners for Relativized Minimality effects.
- (ii) a. *Gianni_i sembra a Maria [t_i essere stanco].
 Gianni seems to Maria to.be ill
- b. A Maria_j, Gianni_i sembra t_j [t_i essere stanco].
 to Maria Gianni seems to.be ill

By appealing to PF copy deletion, in Bošković 2011 I unify this effect with Ross's (1969) rescuing effect of ellipsis on locality violations, implementing this through the *-marking mechanism that goes back to Chomsky (1972), where *t_j* in (iib) is a *-marked element that is deleted in PF. (For recent applications of the *-marking mechanism, see e.g. Hornstein, Lasnik, and Uriagereka 2003, Lasnik 2001, Merchant 2008.)

The above facts, including the surprising (54), then receive a straightforward account. In fact, (54) represents the pattern noted above (see the discussion of (52)): with multiple Specs of the same phase, only the higher Spec can undergo movement ((54b) represents the pattern in (55)). However, the lower Spec can also move once the higher Spec moves ((54a) represents the pattern in (56)). This means that just as traces do not count as interveners for Relativized Minimality effects, they also do not count as phasal edges.²¹

(55) * $[_{CP} \dots [_{VP} IO DO [_{V'} \dots]]]$

(56) $[_{CP} \dots [_{VP} \text{IO} DO [_{V'} \dots]]]$

Interestingly, Icelandic allows examples like (54b), though it behaves like Dutch regarding (53) (see Rackowski and Richards 2005; I give only the crucial examples here, from page 589).

(57) *Ég skilaði bókinni ekki bókasafninu.
I returned book.the not library.the
'I didn't return the book to the library.'

(58) Hverju skilaðir-ðu bókasafninu ekki?
what returned-you library.the not
'What did you not return to the library?'

(59) Hverju skilaðir-ðu ekki bókasafninu?
what returned-you not library.the

This is not surprising given the above discussion. Recall that what is responsible for (53) is simply Attract Closest, which should work in the same way in Dutch and Icelandic. However, what is responsible for (54b), where Attract Closest is irrelevant (there is only one *wh*-phrase), is the Zwart-style movement found in surface SOV languages (which ‘‘turns’’ Dutch from an SVO into an SOV language). This movement is not present (or at least not obligatory) in Icelandic, a true

²¹ See Bošković 2014a and Wurmbrand 2013b for different implementations of the proposed effect in terms of *-marking. In the former work, I unify the rescuing effect of traces on PIC violations with the observation in Bošković 2013c that movement of phase heads rescues locality violations, illustrated by Galician (i), where article incorporation in (ib) voids the definiteness effect from (ia) (see Bošković 2013c, Uriagereka 1996 for Galician D-incorporation and Bošković to appear b for a PIC account of the definiteness effect in which definite DPs disallow movement via Spec,DP). I achieve this unification by proposing (following a suggestion by Aida Talić (pers. comm.)) that with PIC violations at phase XP, the * is placed not on the phase itself but on the outermost element of the phase (other than the moving element itself): the * is then placed on the IO in (56) and on t_i in (ib), both of which are copies deleted in PF (see Bošković 2014a for details of the account).

- (i) a. *De quén_j liches os mellores poemas de amigo t_j ?
of whom read the best poems of friend
b. De quén_j liche-los_i [_{DP} [_{D'} t_i [_{NP} mellores poemas de amigo t_j]]]?
of whom read the best poems of friend
'Who did you read the best poems of friendship by?'
(Uriagereka 1996:270–271)

SVO language.²² In other words, the IO in Icelandic (59) can remain in situ within VP; hence, the PIC problem discussed above with respect to Dutch does not arise in Icelandic. ((58) can be treated like (54a).) In fact, Icelandic may be taken to provide evidence that (53d) and (54b) should not receive a uniform account: if (53d) is treated in terms of Attract Closest, (54b) then should not receive such a treatment.

Another puzzle may also fall into place. Consider the well-known paradigm regarding extraction from Spanish DPs, where possessors block extraction of agents and themes, and agents block extraction of themes (extractions that are not specifically marked as blocked are possible).

- (60) a. *_i[De quién/ De qué] has leído [varios libros t_{ag}/t_{obj} [de Juan]_{poss}]?
 of whom/of what have.you read several books of Juan
 (Ticio 2003:28)
- b. */??_i[De qué obra] conoces [varias traducciones t_{theme} [de escritores importantes]_{ag}]?
 of what work know.you several translations of writers
 important
 (Ticio 2003:29)

These facts are standardly analyzed in terms of intervention effects, where in the base-generated position the possessor is higher than the agent, and the agent is higher than the theme (see, e.g., Ormazabal 1991, Riqueros 2013, Sánchez 1996, Ticio 2003, Torrego 1987). There is a serious problem with this analysis, however: why would a non-*wh*-phrase (in fact, an argument in its base position) interfere with *wh*-movement? In other words, we have here the same puzzle as in the Dutch example (54b). Given the current understanding of intervention effects, there should be no intervention effect here.

The above discussion enables us to look at this paradigm in a new light. Suppose we have the structure in (61), where the possessor is in the higher Spec,DP, the agent is in the lower Spec,DP (possibly moved there from Spec,NP, tucking in under the possessor), and the theme is the N-complement.²³

- (61) [_{DP} Possessor [_{D'} Agent [_{D'} [_{NP} Theme . . .

Since DP is a phase, the theme must move to Spec,DP if it is to move out of DP. Assuming tucking-in, the theme must tuck in under the agent if an agent is present.

- (62) [_{DP} Possessor [_{D'} Agent [_{D'} Theme [_{D'} . . .

²² Note that German is irrelevant here because of the more general freedom of word order in double object constructions in that language (prior to what is considered to be object shift here); see Den Dikken 1995. (Den Dikken also notes that the same issue arises with some Dutch ditransitives.)

²³ A number of other structures would also work; hence, (61) should not be taken too seriously. What is important is that the structure observes the extraction hierarchy, which is confirmed by binding (see, e.g., Riqueros 2013, Ticio 2003). Note that an analysis along the lines of (61) requires positing rightward Specs or stylistic/PF movement, which are standardly assumed (see, e.g., Torrego 1987 for the former and Ticio 2003 for the latter).

We are dealing here with a multiple edge configuration. Given that only the outermost edge counts as the edge for the purpose of the PIC, only the possessor can move in (62). If only the agent and the theme are present, the agent is the outermost Spec; hence, only the agent can move. The only-the-highest-edge-is-the-edge analysis thus enables us to account for the patterns of extraction from the Spanish DP without employing the problematic (in this context) intervention effect. (As expected, not realizing the higher edge lexically improves extraction of the lower edge; see Riqueros 2013.)

4.2 Multiple LBE

The same pattern, where movement of the outermost edge improves PIC violations, is observed with multiple LBE examples in SC like (63).

- (63) $\text{Onu}_i \text{ staru}_j \text{ prodaje } [\text{NP } t_i t_j \text{ kuću}].$
 that old sells house
 ‘He/She is selling that old house.’

(63) involves multiple LBE: both the demonstrative and the adjective undergo LBE. This is the same pattern as the one exhibited by Dutch double object constructions: a lower Spec, which is otherwise immobile, can undergo movement if the higher Spec also moves. I have suggested above that traces not only do not count as interveners for Relativized Minimality effects, but also do not count as phasal edges for the purpose of the PIC. Since t_i in (63) then does not count as being at the edge of the NP phase, the adjective is allowed to undergo movement, in contrast to the adjective in (2a).

There is an ordering restriction on multiple LBE: the Spec that is higher prior to LBE must be the first Spec, which means also the higher one, in the result of multiple LBE.

- (64) $\text{Onu}_i \text{ staru}_j \text{ prodaje } t_i t_j \text{ kuću}.$
 that old sells house
 ‘He/She is selling that old house.’

- (65) * $\text{Staru}_i \text{ onu}_j \text{ prodaje } \text{kuću}.$
 old that sells house

As argued in Bošković 2005, there is a focus requirement on LBE with multiple NP adjuncts: such LBE involves focus movement. We cannot then be dealing here with a simple Superiority (i.e., Attract Closest) effect, given that, as discussed in Bošković 2002, unlike multiple *wh*-movement, multiple focus movement is not sensitive to Superiority effects. Under the current analysis, the strict ordering of the elements undergoing LBE in fact follows independently of Superiority/Attract Closest. Given the above discussion, the higher Spec (*onu* ‘that’) prior to movement must move first; otherwise, a PIC violation would result. (Only the higher Spec is located at the phasal edge; hence, only the higher Spec is accessible to movement. The lower Spec (*staru* ‘old’) is inaccessible to movement independently of Attract Closest.) After the higher Spec is vacated, the lower Spec is located at the phasal edge, hence accessible to movement. The lower Spec then moves, undergoing Richards-style tucking-in into a lower Spec, yielding (64).

Another construction falls in line under the above analysis, providing further evidence that traces do not count as phasal edges for the purpose of the PIC. An anonymous reviewer observes that (66) is significantly better than (24a).²⁴

- (66) ?Jovanovog_i na tebe_j sam vidio [_{NP} t_i [_{NP} [ponosnog t_j] [_{NP} oca]]].
 Jovan's of you am seen proud father
 'I saw Jovan's father who is proud of you.'

While in principle the possessor can either follow or precede the adjective (see section 3), in (66) the possessor must be generated above the adjective, just as in (24a) (not as in (38)); otherwise, it could not undergo LBE. In (24a), the possessor in this position blocks PP-movement, as the outermost edge of the NP. The effect is voided in (66) by the movement of the possessor, given that traces do not count as phasal edges for the purpose of the PIC. (66) is then derived just like (63), through multiple LBE: the possessor moves first, then the PP moves, tucking in under the possessor. Just as in (63), the order of the fronted elements in (66) cannot be switched. The contrast between (66) and (67) can be accounted for in the same way as the contrast between (64) and (65).²⁵

- (67) *Na tebe Jovanovog sam vidio ponosnog oca.
 of you Jovan's am seen proud father

²⁴ Regarding *sam* 'am', we seem to be dealing here with the kind of clitic placement discussed in Bošković 2001:164.

²⁵ Bulgarian multiple *wh*-fronting exhibits the same pattern as multiple LBE. Consider (i).

- (i) a. ?Koji se opitvat da razberat kogo_j t_i e ubil t_j?
 who self try to find.out whom is killed
 Intended meaning: 'Who are they trying to find out whom killed?'
 b. *Kogo_j se opitvat da razberat koji_i t_i e ubil t_j?
 whom self try to find.out who is killed
 (Richards 2001:100)

That crossing paths are preferred to nesting paths here follows from the above discussion. (ii) is the structure of (ia–b) prior to movement to the higher CP, with both *wh*-phrases moving to the lower CP edge.

- (ii) ... razberat [_{CP} koj kogo [_{C'} e ubil]]
 find.out who whom is killed

With this movement, Superiority (Attract Closest) forces the *koj kogo* 'who whom' order, with the *wh*-phrases located in the separate Specs of the embedded CP. Given the above discussion, only the higher *wh*-phrase is located at the phasal edge; hence, only the higher *wh*-phrase can move. (However, Superiority may also be at work here.)

Note that the lower *wh*-phrase can move if the higher *wh*-phrase is turned into a trace.

- (iii) a. Koji kogo_j misliš [_{CP} t_i t_j će [_{IP} t_i e udaril t_j]]?
 who whom think.you that has hit
 'Who do you think hit whom?'
 b. *Kogo koj misliš [će e udaril]?
 whom who think.you that is hit

Here, the *wh*-phrases move to the embedded CP in the same way as in (i). Given the above discussion, *koj* 'who', located in the higher Spec,CP, must move first to the matrix Spec,CP, with *kogo* 'whom' then moving, tucking in under *koj* in the lower Spec,CP. *Kogo* is thus allowed to move to the matrix CP in (iii) because the higher embedded-clause Spec,CP was turned into a trace.

4.3 Binding

A strong argument that traces do not count as phasal edges is provided by (68), involving LBE of the AP. (68) contrasts with (69), where the AP remains in situ.

- (68) Omiljenu_i je Marija prodala [_{t_i} svoju knjigu].
 favorite is Marija sold her(anaphor) book
 ‘Marija sold her favorite book.’
- (69) *Marija je prodala [omiljenu svoju knjigu].
 Marija is sold favorite her(anaphor) book

As discussed above, *omiljenu* ‘favorite’ must be the outermost NP adjunct in (68); otherwise, it could not undergo LBE. Recall that (69) is ruled out because the anaphor *svoju* is not located at the NP phase edge, hence cannot be bound outside of the NP. *Svoju* then must be at the NP phase edge in (68). This confirms that traces do not count as phasal edges.²⁶

Also relevant is (70).

- (70) a. Iz kojeg tima_i je pozdravio [svoje prijatelje _{t_i}]?
 from which team is greeted his(anaphor) friends
 ‘He greeted his friends from which team?’
- b. Pozdravio je svoje prijatelje iz tog tima.
 greeted is his(anaphor) friends from that team
 ‘He greeted his friends from that team.’

In contrast to English (see (71a)), SC allows extraction of NP adjuncts, as in (71b).²⁷

- (71) a. *From which city_i did Peter meet [_{NP} girls _{t_i}]?
 b. Iz kojeg grada_i je Petar sreo [_{NP} djevojke _{t_i}]?
 from which city is Peter met girls
 ‘From which city did Peter meet girls?’

As argued in Bošković 2013b, such adjuncts are adjoined to NP. Their extraction is then banned in English because the PIC requires movement to Spec,DP, which violates antilocality. The problem does not arise in SC, given the lack of DP. Because these adjuncts are adjoined to NP, we would expect that adjectives and possessors can be extracted in the presence of such adjuncts and that these adjuncts can also be extracted in the presence of adjectives and possessors, since either can be generated as the higher NP adjunct. However, since a demonstrative must be gener-

²⁶ Because of interfering factors, it is not possible to test the multiple *wh*-fronting anaphor construction from section 3.2.

²⁷ We are dealing here with another NP/DP generalization, whereby adjunct extraction from TNPs can be possible only in NP (i.e., article-less) languages (see Bošković 2012, Stjepanović 1998; note that this is a one-way correlation). As noted in Bošković 2012, Slovenian, Polish, Czech, Ukrainian, Russian, SC, Hindi, Angika, and Magahi, which do not have articles, allow NP adjunct extraction, while English, Spanish, Icelandic, Dutch, German, French, Arabic, and Basque, which do have articles, disallow it.

ated as the outermost adjunct, it should block the extraction of an adjective or a possessor but should itself be able to move. All this is borne out in SC (extraction can affect available readings).

- (72) a. Pametne_i je upoznao [t_i studente sa beogradskog fakulteta].
 smart is met students from Belgrade university
 ‘He met smart students from the University of Belgrade.’
- b. Sa kojeg fakulteta_i je upoznao [pametne studente t_i]?
 from which university is met smart students
 ‘He met smart students from which university?’
- c. Iz kojeg tima_i je upoznao [tvoje prijatelje t_i]?
 from which team is met your friends
 ‘He met your friends from which team?’
- d. Čije_i je upoznao [t_i prijatelje iz tog tima]?
 whose is met friends from that team
 ‘Whose friends from that team did he meet?’
- e. Ovog_i je on oborio [t_i studenta iz Beograda].
 this is he failed student from Belgrade
 ‘He failed this student from Belgrade.’
- f. *Iz Beograda_i je on oborio [ovog studenta t_i].
 from Belgrade is he failed this student
 ‘He failed this student from Belgrade.’

Returning to (70), (70b) is acceptable since the anaphor can be generated as the higher NP adjunct here. The anaphor is then the outermost edge, hence can be bound outside of its NP. As for (70a), here the PP must be generated as the higher adjunct; otherwise, it could not undergo movement. The anaphor is not located at the edge of the NP prior to the movement. However, since the movement turns the outermost edge into a trace, the anaphor is located at the NP phase edge after the movement, hence can be bound outside of the object NP.²⁸

²⁸ Interestingly, Zanon (to appear) notes (with respect to Russian) that quantifiers can precede anaphoric possessors, as illustrated in (i) with SC.

- (i) Marija je prodala svaku svoju knjigu.
 Marija is sold each her(anaphor) book

Zanon argues that what makes this possible is QR (Quantifier Raising); after QR, the anaphor is at the phasal edge in (i) given that traces do not count as phasal edges. (See Zanon 2015, to appear for details of the analysis as well as a very interesting discussion of indefinites; Zanon argues that indefinites in Russian can undergo QR but can also be interpreted in situ, and she shows that scopal properties of indefinites interact with anaphor binding in examples where an indefinite and an anaphor are located in the same NP, exactly as the current proposals predict. Also see Bošković 2014a and Zanon 2015, to appear for discussion of the anaphor-binding effect discussed in this article in Slavic genitive-of-quantification environments.)

It should be noted that the adjective-*svoj* order can improve with strong focus on the adjective, as noted by Zanon (to appear) and illustrated by the actually occurring example (ii) (*immanentno* ‘immanent’ bears focus stress). The suggestion is that in such cases the adjective undergoes focus movement, either overtly (string-vacuously) or covertly, so that only a trace precedes *svoj* (see Zanon 2015, to appear; note that the possibility of scrambling the adjective out of its TNP in adjective-*svoj* examples, which would not require focus on the adjective, is ruled out by the well-known ban on string-vacuous scrambling).

5 Conclusion

I have shown that in constructions where more than one element is located at the edge of the same phase, only the highest edge is available for movement and anaphor binding. I have argued that this shows that only the outermost edge counts as the edge of a phase for the purpose of the PIC. I have also shown that movement of the element that counts as the phasal edge in multiple Spec/adjunct configurations can affect the PIC status of the remaining edges. The central conclusion of this article provides a new argument for the contextuality of phasehood. While Chomsky's (2000, 2001) original approach to phasehood is context-insensitive in that the phasal status of a phrase does not depend on its syntactic context, many have argued that—similarly to the Government-Binding predecessor of phases, barriers—the phasal status of a phrase can be affected by the syntactic context in which it occurs (see, e.g., Bobaljik and Wurmbrand 2005, Bošković 2005, 2014b, Den Dikken 2007, Despić 2011, to appear, Gallego and Uriagereka 2007, Kang 2014, Takahashi 2010, 2011, Wurmbrand 2013a). I have shown that the concept of phasal edge—that is, the status of a Spec/adjunct with respect to the PIC—is also determined contextually: it can also be affected by the syntactic context in which the Spec/adjunct occurs. In other words, not only are phases themselves contextual; phasal edges are contextual as well.

Appendix: Familiar Demonstratives

As noted in section 3.2, while possessors can in principle either precede or follow adjectives in SC (see (32)), reflexive possessors must precede them.

(73) Marija je prodala svoju omiljenu knjigu.
 Marija is sold her(anaphor) favorite book
 'Marija sold her favorite book.'

(74) *Marija je prodala omiljenu svoju knjigu.
 Marija is sold favorite her(anaphor) book

As discussed in section 3.2, an anaphor can be bound outside of its minimal phase only if it is located at the edge of that phase. Since only the outermost edge counts as the phasal edge, the anaphor is located at the phasal edge in (73) but not in (74).

Surprisingly, demonstratives allow anaphoric possessors to follow them.

(75) ?Vidjeli su tu svoju prijateljicu.
 seen are that their(anaphor) friend

(ii) ... što paradiraju gradovima zahtijevajući neke administrativne privilegije, ističući svoje ljudske
 that parade cities demanding some administrative privileges asserting their human
 nemogućnosti kao immanentno svoje pravo.
 inabilities like immanent their(anaphor) right
 (Bošković 2014a:55)

Significantly, this is not the only case where a demonstrative + possessor combination behaves exceptionally. Recall that a demonstrative blocks LBE of an adjective, the reason being that the demonstrative must be the outermost edge of the NP. Given that only the outermost edge counts as the edge of the phase, the adjective then cannot undergo extraction in (76).

- (76) *Ponosnog_i sam vidio tog t_i studenta.
 proud am seen that student
 ‘I saw that proud student.’

Interestingly, when a possessor is added to (76), adjectival LBE improves.

- (77) Ponosnog_i sam vidio tog tvog t_i studenta.
 proud am seen that your student

The same kind of improvement is found with adjunct extraction. Recall that (78) is ruled out because the element that undergoes extraction is not the outermost edge of the NP, the outermost edge being the demonstrative (see the discussion of (72f)).

- (78) *Iz kojeg tima_i je upoznao [te prijatelje t_i]?
 from which team is met those friends
 ‘From which team did he meet those friends?’

Significantly, (78) also improves when a possessor is added.

- (79) Iz kojeg tima_i je upoznao [te tvoje prijatelje t_i]?
 from which team is met those your friends
 ‘From which team did he meet those friends of yours?’

We have a rather interesting state of affairs here. Descriptively, the demonstrative + possessor combination behaves just like the possessor alone would behave. Consider (76) and (78). Both of these become acceptable if the demonstrative is replaced by a possessor. The reason is that semantically, nothing prevents the possessor from being generated as the lower NP adjunct here. The extraction can then proceed from the outermost edge.

- (80) Ponosnog_i sam vidio [_{NP} t_i [_{NP} Jovanovog [_{NP} studenta]]].
 proud am seen Jovan’s student
 ‘I saw Jovan’s proud student.’

- (81) Iz kojeg tima_i je upoznao [_{NP} [_{NP} tvoje [_{NP} prijatelje]] t_i]?
 from which team is met your friends
 ‘He met your friends from which team?’

In light of this, I suggest that the demonstrative + possessor sequence in exceptional cases like (77) and (79) forms a constituent, which has the distribution of the possessor. Since the possessor can be generated below adjectives and adjuncts, extraction can then proceed from the outermost edge here. (77) and (79) are then treated in the same way as (80) and (81).

As for (75), given that the demonstrative + possessor sequence forms a constituent, there is only one NP edge in (75), which means that the anaphor in (75) is located at the outermost edge, in contrast to (74), where this is not the case. (75) is then treated in the same way as (82).

- (82) Vidjeli su svoju prijateljicu.
 seen are their(anaphor) friend
 ‘They saw their friend.’

The exceptional examples with demonstratives thus all fall into place once we observe that in all those cases the demonstrative occurs with a possessor, and capitalize on this observation by treating the demonstrative + possessor sequence as one constituent that has the same structural positioning as the possessor. Note also that the two must be adjacent in the examples under consideration. Thus, if an adjective that normally can occur above a possessor is added to (75), (77), and (79), all these examples become unacceptable. This confirms the relevance of the demonstrative + possessor sequence in the examples under consideration and in fact provides evidence that the demonstrative and the possessor form a constituent in these examples.

- (83) *Vidjeli su tu omiljenu svoju prijateljicu.
 seen are that favorite their(anaphor) friend
 (84) *Ponosnog sam vidio tog ćelavog tvog studenta.
 proud am seen that bold your student
 (85) *Iz kojeg tima je upoznao te omiljene tvoje prijatelje?
 from which team is met those favorite your friends

But what kind of demonstrative are we dealing with here? This obviously cannot be the “usual” demonstrative whose semantics was discussed above. In fact, it isn’t. As pointed out by Sandra Stjepanović (pers. comm.), what is relevant here is a special demonstrative usage that does not have the same semantics as regular demonstratives. This usage—the *familiar* demonstrative, discussed in Partee 2006—is accompanied by some presumption of familiarity, where the relevant NP is understood as familiar to both the speaker and the hearer. On this usage, *that/those* is unstressed and cannot be accompanied by a pointing gesture. It is also not anaphoric to any antecedent explicitly present in the preceding discourse. It harks back to some earlier discussion, but the relevant entities have not been mentioned in the immediately preceding context and are not being pointed to.

- (86) Those three books of yours are still in my office.
 (Partee 2006:270)
 (87) I really didn’t like that one argument of his, and I told him so.
 (Partee 2006:270)

Partee observes that we are dealing with a discourse-anaphoric usage here; the examples could be paraphrased by using ‘that I told you about’, ‘that we were talking about earlier’. There is also a presumption of familiarity: the speaker conveys confidence that the hearer recognizes the

referent although it has not been mentioned in the immediate context. Another exceptional property of familiar demonstratives is the absence of presupposition of exhaustivity. Thus, while *I really didn't like his one argument, and I told him so* presupposes that he gave only one argument, (87) is compatible with his having given several arguments.

Interestingly, familiar demonstratives are often accompanied by possessors, though this is not always the case, as in Lyons's (1999:284) example *I'm all in favor of people cycling more, but those mountain bikes are a nuisance in the country*, where the familiar demonstrative is used to express emotional solidarity between the speaker and the hearer, which also involves a presupposition of shared familiarity with the referent.

Turning now to the exceptional demonstrative cases in the SC examples discussed in this appendix, they all in fact involve Partee's familiar demonstratives. The demonstrative in these examples is unstressed, cannot be accompanied by a pointing gesture, and is used to hark back to some earlier discussion although the entities referred to have not been mentioned in the immediately preceding context. There is also a presupposition of shared familiarity; the relevant referents are understood as being familiar to the hearer and the speaker. In fact, it appears that the presence of a possessor (especially a pronominal possessor) facilitates establishing shared familiarity. In other words, we are dealing here with Partee's familiar demonstrative. The above examples help us elucidate the syntactic position of this demonstrative. At least in the cases where this demonstrative is accompanied by a possessor, the demonstrative is merged with the possessor, not with the rest of the NP. While this seems exceptional, it is not when we take into consideration that we are dealing here with a type of element different from the regular demonstrative. Recall, for example, that the familiar demonstrative is characterized by nonexhaustivity. While it is true that the TNPs in question are interpreted as definite, the definiteness may actually also come from the presence of the possessive.

References

- Abels, Klaus. 2003. Successive cyclicity, anti-locality, and adposition stranding. Doctoral dissertation, University of Connecticut, Storrs.
- Baker, Mark. 1996. *The polysynthesis parameter*. New York: Oxford University Press.
- Bobaljik, Jonathan David, and Susi Wurmbrand. 2005. The domain of agreement. *Natural Language and Linguistic Theory* 23:809–865.
- Boeckx, Cedric. 2005. Some notes on bounding. Ms., Harvard University, Cambridge, MA.
- Boeckx, Cedric, and Norbert Hornstein. 2005. A gap in the ECM paradigm. *Linguistic Inquiry* 36:437–441.
- Boeckx, Cedric, and Sandra Stjepanović. 2001. Head-ing toward PF. *Linguistic Inquiry* 32:345–355.
- Bošković, Željko. 1994. D-Structure, θ -Criterion, movement into θ -position. *Linguistic Analysis* 24:247–286.
- Bošković, Željko. 1997. *The syntax of nonfinite complementation: An economy approach*. Cambridge, MA: MIT Press.
- Bošković, Željko. 2001. *On the nature of the syntax-phonology interface: Cliticization and related phenomena*. Amsterdam: Elsevier Science.
- Bošković, Željko. 2002. On multiple *wh*-fronting. *Linguistic Inquiry* 33:351–383.
- Bošković, Željko. 2004. PF merger in stylistic fronting and object shift. In *Minimality effects in syntax*, ed. by Arthur Stepanov, Gisbert Fanselow, and Ralf Vogel, 37–71. Berlin: Mouton de Gruyter.
- Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59:1–45.

- Bošković, Željko. 2007. On the locality and motivation of Move and Agree: An even more minimal theory. *Linguistic Inquiry* 38:589–644.
- Bošković, Željko. 2008. What will you have, DP or NP? In *NELS 37*, ed. by Emily Elfner and Martin Walkow, 101–114. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Bošković, Željko. 2009. More on the no-DP analysis of article-less languages. *Studia Linguistica* 63:187–203.
- Bošković, Željko. 2011. Rescue by PF deletion, intervention effects, and head movement. *Linguistic Inquiry* 42:1–44.
- Bošković, Željko. 2012. On NPs and clauses. In *Discourse and grammar: From sentence types to lexical categories*, ed. by Günther Grewendorf and Thomas Ede Zimmermann, 179–242. Berlin: Mouton de Gruyter.
- Bošković, Željko. 2013a. Adjectival escapades. In *Formal Approaches to Slavic Linguistics 21*, ed. by Steven Franks, Markus Dickinson, George Fowler, Melissa Whitcombe, and Ksenia Zanon, 1–25. Ann Arbor: Michigan Slavic Publications.
- Bošković, Željko. 2013b. Phases beyond clauses. In *The nominal structure in Slavic and beyond*, ed. by Lilia Schürcks, Anastasia Giannakidou, Urtzi Etxeberria, and Peter Kosta, 75–128. Berlin: Walter de Gruyter.
- Bošković, Željko. 2013c. Traces do not head islands: What can PF deletion rescue? In *Deep insights, broad perspectives: Essays in honor of Mamoru Saito*, ed. by Yoichi Miyamoto, Daiko Takahashi, Hideki Maki, Masao Ochi, Koji Sugisaki, and Asako Uchibori, 56–93. Tokyo: Kaitakusha.
- Bošković, Željko. 2014a. More on the edge of the edge. In *Formal Approaches to Slavic Linguistics 22*, ed. by Cassandra Chapman, Olena Kit, and Ivona Kučerova, 44–46. Ann Arbor: Michigan Slavic Publications.
- Bošković, Željko. 2014b. Now I'm a phase, now I'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry* 45:27–89.
- Bošković, Željko. 2015. On the timing of labeling: Deducing Comp-trace effects, the Subject Condition, the Adjunct Condition, and tucking in from labeling. Ms., University of Connecticut, Storrs.
- Bošković, Željko. To appear a. Extraction from complex NPs and detachment. In *The Blackwell companion to syntax*, ed. by Martin Everaert and Henk van Riemsdijk, 2nd ed. Malden, MA: Wiley-Blackwell.
- Bošković, Željko. To appear b. From the Complex NP Constraint to everything: On deep extractions across categories. *The Linguistic Review*.
- Bošković, Željko, and I-Ta Chris Hsieh. 2013. On word order, binding relations, and plurality in Chinese noun phrases. *Studies in Polish Linguistics* 8:173–204.
- Bošković, Željko, and I-Ta Chris Hsieh. To appear. On the semantics of the NP-internal word order: Chinese vs Serbo-Croatian. In *Proceedings of Formal Description of Slavic Languages 10.5*. Frankfurt am Main: Peter Lang.
- Canac-Marquis, Réjean. 2005. Phases and binding of reflexives and pronouns in English. In *Proceedings of the 12th International Conference on Head-Driven Phrase Structure Grammar*, ed. by Stefan Müller, 482–502. Stanford, CA: CSLI Publications.
- Charnavel, Isabelle, and Dominique Sportiche. 2013. Anaphor binding domains in French. Ms., UCLA and Institut Jean Nicod.
- Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6:339–405.
- Chomsky, Noam. 1972. Some empirical issues in the theory of transformational grammar. In *Goals of linguistic theory*, ed. by Stanley Peters, 63–130. Englewood Cliffs, NJ: Prentice-Hall.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries. In *Step by step: Essays on Minimalist syntax in honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.

- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. by Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130:33–49.
- Corver, Norbert. 1992. On deriving left branch extraction asymmetries: A case study in parametric syntax. In *NELS 22*, ed. by Kimberley Broderick, 67–84. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Despić, Miloje. 2011. Syntax in the absence of Determiner Phrase. Doctoral dissertation, University of Connecticut, Storrs.
- Despić, Miloje. 2013. Binding and the structure of NP in Serbo-Croatian. *Linguistic Inquiry* 44:239–270.
- Despić, Miloje. To appear. Phases, reflexives and definiteness. *Syntax*.
- Dikken, Marcel den. 1995. *Particles: On the syntax of verb-particle, triadic, and causative constructions*. Oxford: Oxford University Press.
- Dikken, Marcel den. 2007. Phase extension: Contours of a theory of the role of head movement in phrasal extraction. *Theoretical Linguistics* 33:1–41.
- Epstein, Samuel David, and T. Daniel Seely. 2006. *Derivations in Minimalism*. Cambridge: Cambridge University Press.
- Ernst, Thomas. 2002. *The syntax of adjuncts*. Cambridge: Cambridge University Press.
- Fox, Danny, and David Pesetsky. 2005. Cyclic linearization of syntactic structure. *Theoretical Linguistics* 31:1–46.
- Franks, Steven. 2007. Deriving discontinuity. In *Studies in formal Slavic linguistics*, ed. by Franc Marušič and Rok Žaucer, 103–120. Frankfurt am Main: Peter Lang.
- Gallego, Ángel J., and Juan Uriagereka. 2007. Sub-extraction from subjects: A phase theory account. In *Romance Linguistics 2006*, ed. by José Camacho, Nydia Flores-Ferrán, Liliana Sánchez, Viviane Déprez, and María José Cabrera, 149–162. Amsterdam: John Benjamins.
- Grohmann, Kleanthes. 2003. *Prolific domains: On the antilocality of movement dependencies*. Amsterdam: John Benjamins.
- Gutiérrez-Rexach, Javier, and Enrique Mallén. 2001. NP movement and adjective position in the DP phases. In *Features and interfaces in Romance*, ed. by Julia Herschensohn, Enrique Mallén, and Karen Zagona, 107–132. Amsterdam: John Benjamins.
- Haegeman, Liliane. 1991. Scrambling, clitic placement and Agr recursion in West Flemish. Ms., Université de Genève.
- Heck, Fabian, Gereon Müller, and Jochen Trommer. 2008. A phase-based approach to Scandinavian definiteness marking. In *Proceedings of the 26th West Coast Conference on Formal Linguistics*, ed. by Charles B. Chang and Hannah J. Haynie, 226–233. Somerville, MA: Cascadilla Press.
- Hicks, Glyn. 2009. *The derivation of anaphoric relations*. Amsterdam: John Benjamins.
- Hiraiwa, Ken. 2001. EPP and object shift in Scandinavian. In *Proceedings of the 20th West Coast Conference on Formal Linguistics*, ed. by Karine Megerdooimian and Leora Anne Bar-el, 290–303. Somerville, MA: Cascadilla Press.
- Hiraiwa, Ken. 2005. Dimensions of symmetry in syntax: Agreement and clausal architecture. Doctoral dissertation, MIT, Cambridge, MA.
- Holmberg, Anders, and Christer Platzack. 1995. *The role of inflection in Scandinavian syntax*. Oxford: Oxford University Press.
- Hornstein, Norbert, Howard Lasnik, and Juan Uriagereka. 2003. The dynamics of islands: Speculations on the locality of movement. *Linguistic Analysis* 33:149–175.
- Huang, C.-T. James. 1982. Logical relations in Chinese and the theory of grammar. Doctoral dissertation, MIT, Cambridge, MA.
- Huang, Shi-Zhe. 2006. Property theory, adjectives, and modification in Chinese. *Journal of East Asian Linguistics* 15:343–369.

- Ishii, Toru. 1999. Cyclic Spell-Out and the *that*-trace effect. In *Proceedings of the 18th West Coast Conference on Formal Linguistics*, ed. by Sonya Bird, Andrew Carnie, Jason D. Haugen, and Peter Norquest, 220–231. Somerville, MA: Cascadilla Press.
- Jeong, Youngmi. 2006. The landscape of applicatives. Doctoral dissertation, University of Maryland, College Park.
- Johnson, Kyle. 1991. Object positions. *Natural Language and Linguistic Theory* 9:577–636.
- Kang, Jungmin. 2014. On the absence of TP and its consequences: Evidence from Korean. Doctoral dissertation, University of Connecticut, Storrs.
- Kaplan, David. 1989. *Themes from Kaplan*. Oxford: Oxford University Press.
- Koizumi, Masatoshi. 1994. Layered specifiers. In *NELS 24*, ed. by Mercè González, 255–269. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Koizumi, Masatoshi. 1995. Phrase structure in Minimalist syntax. Doctoral dissertation, MIT, Cambridge, MA.
- Koopman, Hilda, and Anna Szabolcsi. 2000. *Verbal complexes*. Cambridge, MA: MIT Press.
- Kramer, Ruth. 2009. Definite markers, phi features and agreement: A morphosyntactic investigation of the Amharic DP. Doctoral dissertation, University of California, Santa Cruz.
- Kuno, Susumu. 1987. *Functional syntax*. Chicago: University of Chicago Press.
- Lasnik, Howard. 1999. *Minimalist analysis*. Oxford: Blackwell.
- Lasnik, Howard. 2001. When can you save a structure by destroying it? In *NELS 31*, ed. by Min-Joo Kim and Uri Strauss, 301–320. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Lebeaux, David. 1984. Locality and anaphoric binding. *The Linguistic Review* 4:343–363.
- Lee-Schoenfeld, Vera. 2008. Binding, phases, and locality. *Syntax* 11:281–298.
- Lyons, Christopher. 1999. *Definiteness*. Cambridge: Cambridge University Press.
- Marelj, Marijana. 2008. Probing the relation between binding and movement: A left branch extraction and pronoun insertion strategy. In *NELS 37*, ed. by Emily Elfner and Martin Walkow, 73–86. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Marelj, Marijana. 2011. Bound-variable anaphora and Left Branch Condition. *Syntax* 14:205–229.
- Merchant, Jason. 2008. Variable island repair under ellipsis. In *Topics in ellipsis*, ed. by Kyle Johnson, 132–153. Cambridge: Cambridge University Press.
- Müller, Gereon. 2011. *Constraints on displacement: A phase-based approach*. Amsterdam: John Benjamins.
- Nissenbaum, Jon. 2000. Investigations of covert phrase movement. Doctoral dissertation, MIT, Cambridge, MA.
- Ormazabal, Javier. 1991. Asymmetries of *wh*-movement and some theoretical consequences. Ms., University of Connecticut, Storrs.
- Partee, Barbara. 2006. A note on Mandarin possessives, demonstratives, and definiteness. In *Drawing the boundaries of meaning: Neo-Gricean studies in pragmatics and semantics in honor of Laurence R. Horn*, ed. by Betty J. Birner and Gregory Ward, 263–280. Amsterdam: John Benjamins.
- Partee, Barbara, and Vladimir Borschev. 1998. Integrating lexical and formal semantics: Genitives, relational nouns, and type-shifting. In *Proceedings of Tbilisi Symposium on Language, Logic, and Computation 2*, ed. by Robin Cooper and Thomas Gamkrelidze, 229–241. Tbilisi: Tbilisi State University, Center of Language, Logic, and Speech.
- Pesetsky, David, and Esther Torrego. 2001. T-to-C movement: Causes and consequences. In *Ken Hale: A life in language*, ed. by Michael Kenstowicz, 355–426. Cambridge, MA: MIT Press.
- Pollard, Carl, and Ivan Sag. 1992. Anaphors in English and the scope of binding theory. *Linguistic Inquiry* 23:261–303.
- Quicoli, A. Carlos. 2008. Anaphora by phase. *Syntax* 11:299–329.
- Rackowski, Andrea, and Norvin Richards. 2005. Phase edge and extraction: A Tagalog case study. *Linguistic Inquiry* 36:565–599.

- Reintges, Chris, and Anikó Lipták. 2006. Have = be + prep: New evidence for the preposition incorporation analysis of clausal possession. In *Phases of interpretation*, ed. by Mara Frascarelli, 107–132. Berlin: Mouton de Gruyter.
- Richards, Norvin. 2001. *Movement in language: Interactions and architectures*. Oxford: Oxford University Press.
- Riqueros, José. 2013. Spanish nominal(ization) patterns. Doctoral dissertation, University of Connecticut, Storrs.
- Ross, John Robert. 1969. Guess who? In *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*, ed. by Robert I. Binnick, Alice Davison, Georgia M. Green, and Jerry L. Morgan, 252–286. Chicago: University of Chicago, Chicago Linguistic Society.
- Rudin, Catherine. 1988. On multiple questions and multiple *wh*-fronting. *Natural Language and Linguistic Theory* 6:445–501.
- Rudin, Catherine. 1993. On focus position and focus marking in Bulgarian questions. In *Papers from the 4th Annual Meeting of the Formal Linguistics Society of Midamerica*, ed. by Alice Davison, 252–265. Bloomington: Indiana University Linguistics Club.
- Runić, Jelena. 2014. A new look at clitics, clitic doubling, and argument ellipsis: Evidence from Slavic. Doctoral dissertation, University of Connecticut, Storrs.
- Runić, Jelena. To appear. A new look at argument ellipsis: Evidence from Slavic. In *NELS 43*. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Safir, Ken. 2014. One true anaphor. *Linguistic Inquiry* 45:91–124.
- Saito, Mamoru, and Keiko Murasugi. 1999. Subject predication within IP and DP. In *Beyond principles and parameters*, ed. by Kyle Johnson and Ian Roberts, 167–188. Dordrecht: Kluwer.
- Sánchez, Liliana. 1996. Syntactic structure in nominals: A comparative study of Spanish and Southern Quechua. Doctoral dissertation, University of Southern California, Los Angeles.
- Stjepanović, Sandra. 1998. Extraction of adjuncts out of NPs. Paper presented at the Comparative Slavic Morphosyntax Workshop, Bloomington, Indiana, June 1998.
- Stjepanović, Sandra. 2010. Left branch extraction in multiple *wh*-questions: A surprise for question interpretation. In *Formal Approaches to Slavic Linguistics 18*, ed. by Wayles Browne, Adam Cooper, Alison Fisher, Esra Kesici, Nikola Predolac, and Draga Zec, 502–517. Ann Arbor: Michigan Slavic Publications.
- Stjepanović, Sandra. 2011. Differential object marking in Serbo-Croatian: Evidence from left branch extraction in negative concord constructions. In *Formal Approaches to Slavic Linguistics 19*, ed. by John Bailyn, Ewan Dunbar, Yakov Kronrod, and Chris LaTerza, 99–115. Ann Arbor: Michigan Slavic Publications.
- Svenonius, Peter. 2001. On object shift, scrambling, and the PIC. In *A few from Building E39: Papers in syntax, semantics and their interface*, ed. by Elena Guerzoni and Ora Matushansky, 267–289. MIT Working Papers in Linguistics 39. Cambridge, MA: MIT, MIT Working Papers in Linguistics.
- Svenonius, Peter. 2004. On the edge. In *Peripheries: Syntactic edges and their effects*, ed. by David Adger, Cécile De Cat, and George Tsoulas, 259–287. Dordrecht: Kluwer.
- Takahashi, Masahiko. 2010. Case, phases, and nominative/accusative conversion in Japanese. *Journal of East Asian Linguistics* 19:319–355.
- Takahashi, Masahiko. 2011. Some consequences of Case-marking in Japanese. Doctoral dissertation, University of Connecticut, Storrs.
- Takahashi, Masahiko. 2013. Phases and the structure of NP: A comparative study of Japanese and Serbo-Croatian. In *Formal Approaches to Slavic Linguistics 21*, ed. by Steven Franks, Markus Dickinson, George Fowler, Melissa Whitcombe, and Ksenia Zanon, 359–372. Ann Arbor: Michigan Slavic Publications.
- Talić, Aida. 2013. Extraordinary complement extraction: PP-complements and inherently case-marked nominal complements. *Studies in Polish Linguistics* 8:127–150.

- Talić, Aida. To appear a. Adverb extraction, specificity, and structural parallelism. *Canadian Journal of Linguistics*.
- Talić, Aida. To appear b. Syntactic mobility of the host and accent shift to proclitics. In *NELS 45*. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Ticio, Emma. 2003. On the structure of DPs. Doctoral dissertation, University of Connecticut, Storrs.
- Torrego, Esther. 1987. On empty categories in nominals. Ms., University of Massachusetts, Boston.
- Trenkić, Danijela. 2004. Definiteness in Serbian/Croatian/Bosnian and some implications for the general structure of the nominal phrase. *Lingua* 114:1401–1427.
- Uriagereka, Juan. 1988. On government. Doctoral dissertation, University of Connecticut, Storrs.
- Uriagereka, Juan. 1996. Determiner clitic placement. In *Current issues in comparative grammar*, ed. by Robert Freidin, 257–294. Dordrecht: Kluwer.
- Wurmbrand, Susi. 2013a. QR and selection: Covert evidence for phasehood. In *NELS 42*, ed. by Stefan Keine and Shayne Sloggett, 277–290. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Wurmbrand, Susi. 2013b. Tagalog infinitives: Consequences for the theory of phases, voice marking, and extraction. Ms., University of Connecticut, Storrs.
- Zanon, Ksenia. 2015. On hybrid coordination and quantifier raising in Russian. Doctoral dissertation, Indiana University, Bloomington.
- Zanon, Ksenia. To appear. Russian anaphoric possessive in context. In *Formal Approaches to Slavic Linguistics 23*. Ann Arbor: Michigan Slavic Publications.
- Zlatic, Larisa. 1994. An asymmetry in extraction from noun phrases in Serbian. In *Proceedings of the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature and Folklore*, ed. by George Fowler, Henry Cooper, and Jonathan Ludwig, 207–216. Indiana Slavic Studies 7. Bloomington: Indiana University, Department of Slavic Languages and Literatures.
- Zlatic, Larisa. 1997. The structure of the Serbian noun phrase. Doctoral dissertation, University of Texas at Austin.
- Zribi-Hertz, Anne. 1989. Anaphor binding and narrative point of view: English reflexive pronouns in sentence and discourse. *Language* 65:695–727.
- Zwart, C. Jan-Wouter. 1993. Dutch syntax: A Minimalist approach. Doctoral dissertation, University of Groningen.

Department of Linguistics, U-1145
University of Connecticut
Storrs, CT 06269
zeljko.boskovic@uconn.edu

