

Left branch extraction, structure of NP, and scrambling*

Željko Bošković

University of Connecticut

The paper examines the phenomenon of left branch extraction (LBE), focusing on adjectival LBE, and explores consequences of a proper analysis of LBE for the theory of locality, the internal structure of NP, and the phenomenon of scrambling. In addition to the two existing analyses of LBE (an ECP analysis and a remnant movement analysis), I consider three new analyses of LBE, one based on the phase-based locality system, which extends the phase system from clauses to NPs, one based on the existence of crosslinguistic variation regarding the position of adjectives in the traditional NP, with some languages having the traditional NP-over-AP structure, others having Abney's (1987) AP-over-NP structure, and one based on Bošković and Takahashi's (1998) analysis of scrambling. The first two analyses rely on the claim that languages that allow LBE of adjectives do not have DP and the third one on a correlation between LBE and scrambling, where the availability of scrambling is a prerequisite (but not sufficient) for allowing LBE. Although there are reasons to disfavor some of the analysis considered in the paper, ultimately I will not be able to provide a completely conclusive way of teasing apart all the alternative analyses. In this respect, the paper reflects our present understanding of LBE, which is currently too rudimentary to put us in a position to conclusively argue for one analysis of the phenomenon.¹ Rather, the goal of the paper is more modest: My hope is that the exploration of the alternative analyses of LBE in this paper will bring us closer to understanding the nature of this rather mysterious and somewhat forgotten phenomenon, spurring further research on it, as well as help us shed light on a number of important issues concerning the theory of locality, the internal structure of NP, and the nature of scrambling. Regarding scrambling, a correlation between LBE and a particular view of the

* This material was presented at the 4th European Conference on Formal Description of Slavic Languages (University of Potsdam), Nanzan Workshop on Scrambling, 6th Seoul International Conference on Generative Grammar (Hansung University), Université de Paris, University of Maryland, Universidade Estadual de Campinas, University of the Basque Country at Vitoria-Gasteiz, University of Leipzig, and University of Connecticut. I thank all of these audiences and Klaus Abels, Wayles Browne, Kleanthes Grohmann, Ljiljana Progovac, Joachim Sabel, and Sandra Stjepanović for helpful comments. For help with judgments, I am especially grateful to Michèle Bacholle, Marcel den Dikken, Alexandra Goreska, Lydia Grebenyova, Edit Jakab, Iliyana Krapova, Mariana Lambova, Roumyana Pancheva, Natalia Rakhlin, Roumyana Slabakova, Penka Stateva, Arthur Stepanov, and Sandra Stjepanović.

¹For this reason, some of the remarks made in the paper will remain on a rather speculative level. Notice also that the alternative analyses of LBE discussed in the paper are sometimes based on mutually conflicting assumptions.

structure of the traditional NP which allows the DP layer to be missing from an NP (namely, the generalization that languages that allow LBE do not have DP), and a correlation between LBE and scrambling (namely, the generalization that the availability of scrambling is a prerequisite for LBE), which are argued for in the paper, will lead me to posit a correlation between the availability of scrambling and the absence of DP in a language, where the latter is a prerequisite for the former. An account of the correlation will be presented based on Bošković and Takahashi's (1998) analysis of scrambling. I will also explore the role of case in the phenomenon of scrambling, suggesting case does the job of D in scrambling languages.

The paper is organized as follows. After introducing LBE, in section 2 I summarize two existing accounts of LBE. In section 3 I turn to new approaches to LBE. Section 4 is the conclusion.

1. Introduction

Ross (1986:127) proposed the Left Branch Condition (LBC), which blocks movement of the leftmost constituent of an NP. The condition has been used in the literature to block extraction of determiners, possessors, and adjectives out of NP.²

- (1) a. *Whose_i did you see [t_i father]?
b. *Which_i did you buy [t_i car]?
c. *That_i he saw [t_i car].
d. *Beautiful_i he saw [t_i houses].
e. *How much_i did she earn [t_i money]?

As already noted by Ross, some languages, e.g., Latin and most Slavic languages, allow LBE, as

²French behaves like English in all respects except that it allows (1e) ((1a-d) are unacceptable in French), which indicates (1e) may not be a reliable test for whether a language allows LBE in general. Below, I will disregard such constructions. I will also confine the discussion to LBE in overt syntax, putting aside the question of whether languages considered allow LBE in covert syntax. (See Sabel 2002 for some relevant discussion. Finding a difference in the availability of LBE between overt and covert syntax would not be surprising given that the two components have been argued to differ regarding locality of movement; see Huang 1982 for the view that covert movement is less local than overt movement and Bošković 1998 for the claim that overt movement is less local than covert movement.)

illustrated by Serbo-Croatian (SC) (2) and Latin (3). (Pied-piping of the LBE remnant is also possible. (3) is taken from Uriagereka 1988.)

- (2) a. Čijeg_i si vidio [t_i oca]?
whose are seen father
'Whose father did you see?'
- b. Kakva_i si kupio [t_i kola]?
what-kind-of are bought car
'What kind of a car did you buy?'
- c. Ta_i je vidio [t_i kola].
that is seen car
'That car, he saw.'
- d. Lijepe_i je vidio [t_i kuće].
beautiful is seen houses
'Beautiful houses, he saw.'
- e. Koliko_i je zaradila [t_i novca]?
how-much is earned money
'How much money did she earn?'
- (3) Cuiam_i amat Cicero [t_i puellam]?
whose loves Cicero girl
'Whose girl does Cicero love?'

This paper investigates LBE focusing on adjectival LBE, with the goal to use it to shed light on the structure of NP, in particular, the structural position of AP within the traditional NP.³ My point of departure is Uriagereka's (1988:113) observation that LBE is allowed only in languages that do not have overt articles. Thus, Bulgarian, which Uriagereka mentions, and Macedonian, the two Slavic languages that have overt articles, differ from SC, Russian, Polish, and Czech, which do not have overt articles, in that they disallow LBE (see (4)-(5)). Notice also that Latin differs from modern Romance languages in that it allowed LBE and did not have overt articles.⁴

³I will therefore mostly ignore works that focus on other types of LBE, e.g., possessor LBE (for recent discussion of possessor LBE, see Boeckx 2003a and Gavruseva 2000.)

⁴Bošković (2001) notes a potential counterexample to the ban on LBE in Bulgarian concerning the *li*-construction and

(4) a. *Kakva_i prodade Petko [t_i kola]? (Bulgarian)

what-kind-of sold Petko car

‘What kind of a car did Petko sell?’

b. cf. Kakva kola_i prodade Petko t_i?

c. *Čija_i xaresva Petko [t_i kola]?

whose likes Petko car

‘Whose car does Petko like?’

d. Čija kola_i xaresva Petko t_i?

e. *Novata_i prodade Petko [t_i kola].

new-the sold Petko car

‘The new car, Petko sold.’

f. Novata kola_i prodade Petko t_i.

(5) a. *Kakva_i prodade Petko [t_i kola]? (Macedonian)

what-kind-of sold Petko car

b. cf. Kakva kola_i prodade Petko t_i?

c. *Čija_i ja bendisuva Petko [t_i kola]?

whose it like Petko car

‘Whose car does Petko like?’

d. Čija kola_i ja bendisuva Petko t_i?

e. *Novata_i ja prodade Petko [t_i kola].

new-the it sold Petko car

f. Novata kola_i ja prodade Petko t_i.

explains it away. Note that we are dealing here with a one-way correlation, not having articles being a prerequisite, but not sufficient, for LBE. Whatever is responsible for the correlation between articles and the impossibility of LBE (call it X) is not the only principle of the grammar. A number of things could go wrong if X is not active in a language that could still block LBE. E.g., LBE could leave a (null) PF affix in a position where it could not be properly supported. Last Resort could also be an interfering factor. Suppose, e.g., that the only operation that could LB move a phrase in a language is topicalization and that adjectives cannot bear a topic feature (i.e. undergo topicalization) in the language, much like, e.g., control infinitives in English. Adjectival LBE in such a language would invariably violate the Last Resort Condition. Notice also that the way Uriagereka’s observation is deduced below, even the presence of null articles (more generally, determiners) will block LBE (for relevant discussion, see also Boeckx 2003a).

2. Existing accounts of LBE

2.1. The ECP analysis

Corver (1992) proposes an ECP analysis that captures Uriagereka's insight.⁵ He adopts the DP hypothesis, following Abney (1987). However, in contrast to Abney, for whom A takes NP as its complement, Corver adjoins AP to NP. Consider first Corver's analysis of (1). Regarding (1b-c), Corver assumes that *that* and *which* are D⁰, hence cannot undergo XP movement, the underlying assumption being that LBE is a phrasal movement (see, however, Bošković 2001:232-238). As for (1a), Corver assumes that *whose* is not a constituent, hence cannot undergo movement. (He places *who* in SpecDP and *'s* in D⁰.)⁶ For Corver, AP LBE violates the ECP. His analysis of AP LBE is

⁵See also Bowers (1987) and Corver (1990) for ECP accounts. Kennedy and Merchant (2000) argue against the ECP analysis based on the intriguing claim that some (though not all, see their p.119) LBC violations in non-LBE languages can be rescued by ellipsis, which they treat as PF deletion. Showing that a violation can be rescued by a PF operation, however, does not necessarily argue against a syntactic treatment of that violation. See, e.g. Lasnik (2001) and Bošković (2002b) for different ways of instantiating rescuing effects of various PF operations/mechanisms on violations of locality restrictions on movement and/or licensing of traces. (The authors do attribute an aspect of these restrictions to PF.) Since this work focuses on languages that allow LBE I leave investigation of the very interesting rescuing effect of ellipsis on LBE in languages that normally do not allow it for future research.

⁶As we will see below, this analysis leaves room for the existence of a language that has DP/determiners to allow possessor LBE. All that would have to happen in such a language is that the whole possessor is located in SpecDP, not just a part of it, as in English. This may be an appropriate way to handle Hungarian, a language that has determiners and allows LBE of possessors at least in some cases. (Hungarian possessive LBE may, however, involve a left dislocation-type configuration with a resumptive pronoun; see den Dikken 1999. For discussion of Hungarian possessor LBE, see also Boeckx 2003a, Szabolcsi 1983/1984, 1994, and Gavruseva 2000, among others.) Note that Hungarian does not allow adjectival LBE, as expected given the discussion below.

- (i) a. *Magas(-ak-at) látott lány-ok-at.
 tall-pl-acc saw-3sg girl-pl-acc
 b. cf. Magas lány-ok-at látott.
 'Tall girls, he saw.'
 c. *Milyen(-ek-et) látott lány-ok-at?
 what-kind-of-pl-acc saw-3sg girl-pl-acc
 d. Milyen lány-ok-at látott?

based on Chomsky (1986a) ECP system. Since it does not quite work, following Bošković (in press d) I will modify it to enhance its empirical coverage. The following is thus a modified version of Corver’s analysis.

Consider (6), which involves adjectival LBE under the standard assumption that movement out of DP must proceed through SpecDP (see, e.g., Boeckx 2001, 2003a, Gavruseva 2000, Giorgi and Longobardi 1991, Ormazabal 1991, Stowell 1989, Szabolcsi 1994, and Torrego 1987, who all build on the insights of Cinque 1980), and (7), a *that*-trace configuration.

(6) [DP AP_i [D’ D [NP t_i [NP

(7) [CP who_i [C’ that [IP t_i [I’

The configuration in (6) resembles the *that*-trace configuration in (7). Corver suggests the two should receive a uniform account. In particular, he applies Chomsky’s (1986a) rigid minimality account of the *that*-trace effect to (6). On Corver’s analysis, AP cannot antecedent govern its trace in (6) because of D’, a minimality barrier in Chomsky’s (1986a) sense projected by D.⁷ Consider now (8)-(11).

(8) *Handsome_i she saw [t_i boys].

(9) *Handsome_i she saw that [t_i boy].

(10) Who_i do you think [t_i left]?

(11) *Who_i do you think that [t_i left]?

‘What kind of girls did he see?’

In fact, it should become obvious below that the way to refute the DP/NP analysis, one instantiation of which is Corver (1992), is to find a language with determiners that allows adjectival LBE, adjectival LBE being much more informative in the relevant respect than possessor LBE. (This is one of the reasons I am focusing on adjectival LBE. Notice that, following Corver 1992 and Grosu 1974, I assume not all LBC violations should necessarily be analyzed in the same way.)

⁷The relevant definitions from Corver (1992) are given in (i) (see Corver 1992 for details).

(i) A is a M(inimality)-barrier for B if A includes B, D (an X⁰ i-commander of B), and G (a maximal projection not necessarily distinct from A) containing B, where D i-commands B if the first constituent containing D contains B.

To account for the fact that both (8) and (9) are unacceptable we need to assume that both overt and null D project a minimality barrier. The null hypothesis (contra Chomsky 1986a) is then that the same should hold for both the overt and the null C. After all, the overt vs. null C/D distinction is really PF-based and should have no bearing on the syntax. It follows then that (8) contains a null D, which projects a minimality barrier, while (10) does not contain a null C. That is, the embedded clause in (10) is an IP, as argued in Bošković (1997), Doherty (1997) and Grimshaw (1997).

Turning now to languages that allow LBE, Corver's analysis of such languages is crucially based on his claim that such languages do not have DP at all. Corver offers several arguments in support of his claim. I will take SC as the representative of this language group, applying Corver's discussion of Czech and Polish to SC.⁸

First, SC does not have overt articles, which are the prototypical instantiation of D⁰. SC does have lexical items corresponding to *that*, *some*, etc., as well as possessives. However, such items are morphologically adjectives in SC (see Zlatić 1998), as (12) shows with respect to a partial paradigm.

- (12) a. nekim mladim djevojkama
 some.fem.pl.instr young.fem.pl.instr girls.fem.pl.instr.
 b. nekih mladih djevojaka
 fem.gen.pl.

Furthermore, in contrast to their English counterparts, the elements in question can occur in typical adjectival positions in SC, as shown in (13), where a possessive occurs in a predicative position of a copula construction. (English examples in (13)-(17) are given through glosses.)

⁸The claim that languages can differ with respect to the presence vs. absence of DP (regarding the latter option, see also Fukui's 1986 discussion of Japanese and Mahajan's 2003 discussion of SOV languages) has obviously important ramifications for the semantics of NP. For relevant discussion that assumes the crosslinguistic variation in question, see Willim (2000) and especially Chierchia (1998), who convincingly argues (contra Longobardi 1994) that the presence of DP is not necessary for argumenthood. Note that there is some controversy regarding the issue of whether SC lacks DP. Thus, Progovac (1998) and Leko (1999) argue for DP in SC (see also Rappaport 1998 for a more general Slavic perspective intended to be applicable to SC), while Stjepanović (1998), Zlatić (1997, 1998), Bošković (2004), and Trenkić (in press) argue against DP in SC (for an overview, see Bošković in press a). Note also that, as far as I can tell, the analyses considered in this paper would not crucially change if pronouns are Ds, more precisely, the only Ds in SC.

(13) Ova knjiga je moja.

*this book is my

Another English/SC contrast which indicates that SC Ds are actually adjectives concerns the fact that, in contrast to English, the elements in question can stack up in SC, just like adjectives.

(14) ta moja slika

*this my picture

Moreover, their order is relatively free in SC, in contrast to English, where it is fixed. This is not surprising under the D-as-A analysis, since the relative order of adjectives is also relatively free.⁹

(15) Jovanova skupa slika vs. skupa Jovanova slika

John's expensive picture *expensive John's picture

(16) tall angry men vs. angry tall men

Another argument, not noted by Corver, concerns the impossibility of modifying a SC prenominal possessive with adjectival morphology (*bratov* in (17)) by a possessive.¹⁰

⁹The order of the SC elements in question is sometimes fixed (see Zlatić 1997, 1998 and Leko 1999), but the same of course holds for adjectives (see, e.g., Sproat and Shih 1991). What is important here is the contrast between English and SC with respect to the permutability of the elements in question.

Note that the permutation can have a semantic effect. Thus, (ia) only has Larson and Cho's (1999) POSS-modifying reading, on which *Jovan's former house* refers to the house that John formerly owned. To express Larson and Cho's N-modifying reading, on which *Jovan's former house* refers to an object that Jovan now possess and that was once formerly a house, it is necessary to use (ib).

(i) a. bivša Jovanova kuća

former Jovan's house

b. Jovanova bivša kuća

¹⁰Note that a postnominal possessive noun that is assigned genitive by the head noun can be modified by a possessive (more generally, an adjective), as in *prijatelji(nom) moga(gen) brata(gen)* 'friends of my brother'. (Note that *brata* is a noun, not an adjective. The reader is also referred to Corbett 1987 for a peculiar construction found in Upper Sorbian and Slovak in which only the possessive modifying the possessive bears the adnominal genitive.)

(17) *Moj bratov prijatelj spava.
 my.nom brother's.nom friend.nom sleeps

This actually holds for adjectival modification of the possessives in question more generally, as shown in (18), which is not surprising given the claim that *moj* in (17) is an adjective. ((18) is acceptable only on the pragmatically implausible reading on which *bogati* modifies *konj* instead of *susedov*. A similar situation is found with multiple possessives.)

(18) *bogati susedov konj
 rich neighbor's horse

Assuming that an adjective cannot be modified by a possessive or, more generally, an adjective, (17)-(18) can be easily accounted for if SC possessives under consideration are indeed adjectives.

Based on the above arguments, following Corver (1992) I conclude all “D”s are As in SC. SC, and the same holds for other Slavic languages allowing LBE, does not project DP on top of NP.

Let us now examine LBE in SC in light of this conclusion. Consider (19).

(19) Lijepe_i [VP t_i [VP [V' gleda [NP t_i [NP kuće]]]]].
 beautiful watches houses
 ‘Beautiful houses, he/she is watching.’

Given the absence of D, the problem that arises in English (1d) (cf. (6)) does not arise in SC (19): there is no D to project a minimality barrier. A question arises why V does not project a minimality barrier, i.e., why V' isn't a minimality barrier for the NP-adjoined trace. I assume that adjunction to XP voids the minimality barrierhood of X, i.e. when Y adjoins to XP, the head of X does not project a minimality barrier for the Y-chain (see Bošković 1992).

Why can't adjunction to DP provide an escape hatch from the minimality effect of D in (1d), as in (20)?

(20) *Beautiful_i he [VP t_i [VP saw [DP t_i [DP [D' D [NP t_i [NP houses]]]]]]].

Chomsky's (1986a) ban on adjunction to arguments provides an answer (for evidence for the ban, see Bošković 1997, in press c, McCloskey 1992, and Motapanyane 1994). Adjunction to DP in (20) is an instance of adjunction to an argument, hence disallowed. Is the ban on adjunction to arguments violated in SC (19)? The answer is no, if the ban is applied derivationally, i.e. at the point of adjunction. (Murasugi and Saito 1994 make the same proposal concerning the ban on adjunction to adjuncts). Following Takahashi's (1994) approach to successive cyclicity, I assume movement of the AP in (19) does not start until the final target of the movement enters the structure.¹¹ At the point of adjunction, the relevant element is then not an argument in (19), in contrast to (20). More precisely, the object NP in (19) becomes an argument only when it merges with the V. However, adjunction to it occurs prior to this, hence it does not violate the derivational version of the ban on adjunction to arguments. On the other hand, under Takahashi's view of successive cyclic movement, adjunction to the object in (20) takes place after the object has been integrated into the clausal structure (recall that the AP undergoes movement only after its target, located above IP, enters the structure, a point at which the direct object has already been merged with the verb). (20) then involves adjunction to an argument even under the derivational interpretation of the condition in question.

I now turn to additional data concerning LBE discussed in Bošković (in press d), showing how they can be accounted for under a Corver-style analysis. Notice first that LBE out of a complement of a noun, which I will refer to as *deep LBE*, is disallowed (See (21b). See also Corver 1992 for Polish and Czech.)

(21) a. On je vidio [NP [N' prijatelja [NP njegove majke]]].

he is seen friend his mother

'He saw a friend of his mother.'

b. *Čije_i je on vidio [NP [N' prijatelja [NP t_i majke]]]?

whose is he seen friend mother

'Whose mother did he see a friend of?'

¹¹In Takahashi's system, this is quite generally the case; successive cyclic movement does not start until the final target of movement enters the structure, contra Chomsky (1999). Takahashi's approach is revived in Bošković (2002a) and Boeckx (2003a), where it is argued to be empirically superior to Chomsky's (1999) system. In fact, the analysis to be presented can be considered an argument in favor of this approach.

(21b) can be accounted for in the same way as English (20). Like D in (20), the higher N in (21b) projects a minimality barrier (N') for the LBE trace. We could try to void the minimality effect by adjoining the possessive to the higher NP. However, the adjunction would involve adjunction to an argument for the same reason the adjunction of AP to the direct object DP does in (20).

Interestingly, deep LBE becomes much better if the lower NP is moved outside of the higher NP. True, (22) is still somewhat degraded, but the reason for this is that extraction of genitive complements of nouns is generally not fully acceptable in SC (see Zlatić 1994), as shown in (23). What is important for our current purposes is that (22) is clearly better than (21b) in spite of the marginality of genitive NP extraction. Notice also that moving the whole higher NP remnant of deep LBE in front of the verb does not improve (21b), as shown in (24).

(22) (?)?Čije_i je on [_{NP} t_i majke]_j vidio [_{NP} prijatelja t_j]?

(23) (?)?On je [_{NP} njegove majke]_j vidio [_{NP} prijatelja t_j]?

(24) *Čije_j je on [_{NP} prijatelja [_{NP} t_j majke]]_i vidio t_i?

How can these facts be accounted for? The modified ECP analysis actually does not rule out (22), in contrast to (21b), since (22) does not have to involve AP-adjunction to an argument, while (21b) does (to void the minimality effect).¹²

An obvious question that arises now is whether LBE and crosslinguistic variation regarding LBE can be accounted for without appealing to the ECP, given the well-known conceptual arguments against the ECP regarding the arbitrary nature of the notion of government? In section 3.1. I will present an updated locality account of LBE based on the current, phase-based approach to locality. Before doing that, I will examine an existing non-ECP account of LBE.¹³ I will eventually conclude that LBE can be accounted for without employing the ECP, thus contributing to the continuing attempt to eliminate the mechanism of government from the grammar.

2.2. Remnant AP fronting

¹²Notice that movement of the complement NP in (22) raises no problems with respect to the ECP assuming that its trace is lexically governed (see, however, Corver 1992).

¹³Note that I confine the discussion of the existing accounts of LBE to accounts that focus on languages that allow LBE. For another such analysis, which is based on the possibility of pronunciation of lower copies of movement, see Fanselow and Čavar (2002) (see also Bošković in press d for a criticism of this analysis).

Adopting Abney's (1987) NP-as-complement-of-A analysis, Franks and Progovac (1994) present a remnant AP fronting analysis of LBE.¹⁴ Under this analysis, traditional AP LBE actually involves remnant movement of the AP out of which the NP complement of A has moved.

- (25) [_{AP} Crveno t_i]_j je on kupio t_j [_{NP} auto]_i.
 red is he bought car
 'He bought a red car.'

As noted in Bošković (in press d), the analysis faces several problems. According to Franks and Progovac, the NP *auto* in (25) right adjoins to IP. However, if this were correct we would expect the NP always to follow the adjunct in constructions like (26)-(27), which is not the case.

- (26) Crveno je on kupio auto prije tri dana.
 red is he bought car before three days
 'He bought a red car three days ago.'

- (27) ?*Crveno je on kupio prije tri dana auto.

The fact that the NP in question must precede the adjunct in (26)-(27) provides evidence against the rightward movement analysis. The alternative is to assume *auto* in (25) actually moves to the left, with remnant VP fronting (i.e. fronting of the VP out of which *auto* has moved) feeding remnant AP fronting, as a result of which *auto* ends up in a sentence final position in spite of moving to the left.¹⁵ A problem with this analysis is that constructions in which an NP complement of A clearly undergoes leftward movement are degraded, as shown in (28). This indicates that NP movement out of AP, the crucial ingredient of the remnant AP movement analysis, is not fully acceptable in SC, a fact which invalidates the remnant AP movement analysis.¹⁶

¹⁴Franks and Progovac actually propose the analysis for what I in Bošković (in press d) call extraordinary LBE, which under the remnant movement analysis involves remnant PP movement. However, Franks and Progovac do hint that the remnant movement analysis should also be applied to constructions like (25).

¹⁵It is worth noting in this respect that LBE constructions actually sound best when the remnant of LBE precedes the verb (see Fanselow and Čavar 2002 and Bošković 2001), a potentially significant fact.

¹⁶Note that under the analysis presented in section 3.2., where adjectives are argued to be located in SpecNP, the

(28) ?*Kuće_i je on vidio lijepe t_i.
 houses is he seen beautiful
 ‘He saw beautiful houses.’

Another problem with the remnant movement analysis is that it is not obvious how it can account for a very interesting fact concerning LBE illustrated in (29)-(30) for SC and (31) for Russian.¹⁷

(29) a. Visoke je on vidio djevojke.

tall is he seen girls
 ‘Tall girls, he saw.’

b. Lijepe je on vidio djevojke.

beautiful is he seen girls
 ‘Beautiful girls, he saw.’

(30) a. *Visoke je on vidio lijepe djevojke.

b. *Lijepe je on vidio visoke djevojke.

(31) a. *Simpatičnye emu nravjatsja vysokie studenty.

good-looking he-dat likes tall students
 ‘He likes good-looking tall students.’

b. Simpatičnye emu nravjatsja studenty.

Apparently, AP LBE is not possible in the presence of another AP (see, however, section 3.2.1.). I

ungrammaticality of (28) follows immediately if intermediate, bar-level elements cannot move (see Chomsky 1995).

¹⁷For similar examples involving Bošković’s (in press d) extraordinary LBE, see Bošković (2001), Franks (1998), Franks and Progovac (1994), and Schütze (1996). Note that fronting the remnant does not improve the unacceptable examples, as shown by **visoke je on lijepe djevojke vidio* and **visoke je on djevojke vidio lijepe*. For the former example, which involves double AP LBE from a raised position, see section 3.2.1. (the analysis presented there also excludes **visoke je on lijepe vidio djevojke*). As for the latter construction, assuming that it involves movement of *visoke djevojke* followed by LBE of *visoke*, the construction can be ruled out either because it involves non-constituent movement (if *visoke* is higher than *lijepe* prior to movement—I assume below that the adjectives are either located in multiple Specs of NP or adjoined to NP), or because it involves movement of an intermediate element that is larger than a head but smaller than a full phrase (if *visoke* is lower than *lijepe*), which is standardly assumed to be disallowed.

will refer to the construction in question as *double AP LBE*. (32) gives the structure of (30a) under the remnant AP movement analysis.

(32) *_{[AP Visoke t_i]_j je on vidio t_j [_{AP lijepe djevojke]_i.}}

To account for this type of construction Franks and Progovac (1994) propose that AP cannot undergo the movement that feeds remnant AP fronting. In other words, AP cannot move out of AP. The question is why. We could revive the A-over-A Principle (Chomsky 1964), which would block AP movement out of AP. However, the principle has a number of undesirable consequences. E.g., it rules out (33a-b), which involve movement of an NP out of an NP. I conclude therefore that the A-over-A Principle has to be eliminated from the grammar.

(33) a. Who_i did he see friends of t_i?
b. John and Mary_i, he saw friends of t_i.

Note also that although banning AP movement out of AP would suffice to account for (32), it does not say anything about (34), which does not involve AP movement out of AP.

(34) *Visoke lijepe on gleda djevojke.
tall beautiful he watches girls
'He is watching tall beautiful girls.'

Under the remnant AP movement analysis, (34) can be analyzed in essentially the same way as (25), namely, as involving NP movement out of AP, followed by remnant AP fronting (the higher AP would undergo the movement). It is not clear how this derivation can be ruled out.

The most serious problem for the Franks and Progovac (1994) account of the ban on double AP LBE is raised by constructions like (35).

(35) a. Novim_i je on [_{AP zadovaljan} [t_i poslom]].
new is he content job
'He is content with his new job.'
b. Hrabrim/svojim_i je on [_{AP vjeran} [t_i vojnicima]].

brave/his is he loyal soldiers
'He is loyal to brave/his soldiers.'

In (35), the adjective uncontroversially (i.e. under anybody's analysis) takes NP as its complement. Significantly, AP LBE from the NP complement of the adjective is possible. There seems to be no way of making a relevant distinction between (30) and (35) under the remnant AP movement analysis. Under this analysis, all the constructions in question involve a double AP LBE configuration, hence should be ruled out because they involve movement of an AP out of an AP (full AP movement out of AP in (30) and remnant AP movement out of AP in (35)), which is by hypothesis disallowed. The problem is actually more general. It is difficult to see how one can make a principled distinction between (30) and (35) in Abney's system more generally, where the constructions in question have essentially the same structure in the relevant respects.

In addition to the problems noted above, it is not clear how several other properties of LBE can be captured under the remnant AP movement analysis. E.g., it is not clear how the relevance of the presence vs. absence of DP for LBE and the deep LBE data from section 2.1. can be captured under this analysis. The above discussion forces us to the conclusion that the remnant AP movement analysis cannot be maintained.

3. New analyses of LBE

3.1. The phase analysis

In this section I consider a phase-based implementation of the DP/NP analysis (cf. Bošković in press d), in which, as in the ECP analysis, locality plays the central role.¹⁸ As a preliminary attempt at a phase analysis, let us assume that DP, but not NP, is a phase, on a par with Chomsky's (1999) proposal concerning clausal phasehood that CP, but not IP, is a phase (see also Franks and Bošković 2001). Let us furthermore assume that D cannot have the escape hatch for successive

¹⁸Chomsky's (1999) notion of *phase* is similar to the pre-minimalist notion of *bounding node*. The basic idea is that XP can move out of a phase only if it first moves to the Spec of the phase due to the Phase-Impenetrability Condition (PIC), which says that only the head and the Spec of a phase are accessible for movement to a position outside of the phase. This movement is instantiated by giving the head of the phase the EPP property, which is satisfied by filling the Spec position. The EPP then drives movement to the Spec of the phase. After the movement, the element located in the Spec of the phase is accessible for movement outside of the phase.

cyclic movement EPP feature. The assumptions seem to give us the desired result. Given the PIC, LBE out of DP in English is now ruled out.¹⁹ It is still allowed in SC, given that the traditional NP is indeed an NP in SC. The analysis is, however, too strong when it comes to English. It undergenerates in that it rules out all phrasal movement out of DP in English, including (36).

(36) Who do you like [_{DP} [_{NP} friends of t]]?

Consider now the following revision of the phase analysis. DP is a phase and can have the escape hatch EPP feature, just like CP, which means that *who* in (36) can move through SpecDP. (I continue assuming that NP is not a phase, which holds for both English and SC.) Suppose, however, that AP movement from the NP adjoined position to SpecDP is ruled out.²⁰ This can be achieved by adopting a version of Bošković's (1994, 1997) and Saito and Murasugi's (1999) condition on chain links given in (37), which rules out movement that does not cross an XP boundary (see also Fukui 1993 and Grewendorf and Sabel 1999).²¹

¹⁹I assume with Corver that possessives like *whose* are not constituents and that elements like *which* and *that* are heads, hence cannot undergo LBE, which is a phrasal movement.

²⁰Kennedy and Merchant (2000) also account for the impossibility of AP LBE in English by causing the independently needed AP movement to SpecDP to result in a violation (a PF violation for them. Their analysis is actually slightly more complicated since they assume a richer structure for the traditional NP.) However, since they focus on the impossibility of +wh-adjectival LBE, their analysis, which is based on what seems to be an accidental gap in the lexicon of English, ends up being too tightly tied to wh-movement and does not readily extend to other instances of AP LBE (i.e. the fact that other movement operations, not just wh-movement, also fail to extract adjectives out of the traditional NP in English-type languages). Furthermore, their analysis appears to rule out all wh-movement out of the traditional NP in English, including (36). The reader should, however, bear in mind that the strategy employed above (namely, causing movement to SpecDP to result in a violation) is the same strategy as the one employed by Kennedy and Merchant.

²¹Bošković (1994, 1997) and Saito and Murasugi (1999) give slightly different formulations of the principle, which they suggest is derivable from economy, the basic idea being that the ban on superfluous steps rules out movement that is too short (Fukui 1993 makes the same point, but only for adjunction). The authors show the principle has considerable motivation. Thus, Bošković (1994) appeals to the principle to rule out movement from the complement to the Spec of the same phrase. This way we can rule out movement from object to subject θ -position (complement to SpecVP), which becomes necessary once the syntactic θ -criterion is dispensed with, in accordance with minimalist guidelines. (More precisely, Bošković shows the condition enables us to rule out ungrammatical instances of

(37) Each chain link must be at least of length 1, where a chain link from A to B is of length n if there are n XPs that dominate B but not A.

The reader is also referred to Abels (2003a,b) and Ishii (1999), where the relevant movement (movement from the position adjoined to the complement of X to SpecXP) is ruled out via Economy because it is considered to be superfluous. More generally, according to these authors, when an element X is already located in the minimal domain of a head (see Chomsky 1993 for the definition of minimal domain) it cannot move to another position in the minimal domain of the same head, which is the case with the movement we are interested in, given that movement is a last resort operation driven by the need to create a local configuration between two elements.²²

A particularly strong case against movement that is too local is made in Grohmann (2000, 2003), who develops a full-blown theory of anti-locality which rules movement from X to Y if X and Y are too close.²³ He gives a host of empirical arguments for the anti-locality hypothesis and

movement into θ -positions while still allowing movement into θ -positions to take place in certain well-defined configurations, in which he argues the movement indeed takes place.) Bošković (1997) also appeals to the principle to rule out movement from SpecXP to the XP-adjoined position, thus accounting for the impossibility of short-subject topicalization and short zero-subject relativization in English, which otherwise remain unaccounted for. Furthermore, under Takahashi's (1994) view of successive cyclic movement, based on the Minimize Chain Links Principle, which requires each chain link to be as short as possible, a condition like (37) is necessary to prevent the principle from forcing a phrase in an adjoined position to keep adjoining to the same node. Finally, (37) also rules out adjunction of X to its own XP and substitution of X to SpecXP (Chomsky's 1994 self-attachment), which raised a problem for Chomsky (1994). (Notice also that Grewendorf and Sabel 1999, who adopt the multiple specifiers framework, appeal to a principle similar to (37) to rule out movement from one SpecXP to another SpecXP.)

²²Ishii uses the fact that this way we rule out movement from the position adjoined to the complement of X to SpecXP to account for the *that*-trace effect. Following Kayne (1994) and Saito and Fukui (1998), Ishii equates SpecXP and the XP-adjoined position. A *wh*-phrase in SpecIP is then actually IP adjoined. Since it is already located in the minimal domain of C it cannot move to SpecCP, which, Ishii shows, derives the *that*-trace effect. Abels appeals to the impossibility of movement within the same minimal domain to account for the immobility of IP, among other things. (He shows that quite generally, the complement of a phase head cannot be moved, which he demonstrates can be explained given the ban on movement within the same minimal domain.)

²³See these works for the precise definitions. Grohmann (2000) does not explicitly discuss anti-locality with respect to movement within the traditional NP. (He discusses only movement in the clausal domain). However, his theory can be easily extended to the NP-domain, as shown in Grohmann (2003), Grohmann and Haegeman (2003), Grohmann and

places it within a broader theoretical context, arguing it follows from Bare Output Conditions.

In short, given the above discussion, the AP is too close to move to SpecDP, movement illustrated in (38). Given the PIC, which rules out (39), this prevents AP extraction out of DP, while still allowing (36), which abstractly has the structure in (40).²⁴

(38) * $[_{DP} AP_i [_{D'} D [_{NP} t_i [_{NP} \dots$

(39) * $AP_i [_{DP} [_{D'} D [_{NP} t_i [_{NP} \dots$

(40) $[_{DP} NP_i [_{D'} D [_{NP} [_{N'} [_{PP} t_i$

Turning now to SC (21)-(22), we can account for these data if we modify the assumption that NP is not a phase, i.e. if we assume that NP headed by a noun that takes a non-trace complement is a phase (see also Wurmbrand and Bobaljik 2003 for the claim that whether or not a phrase functions as a phase may depend on the structural environment in which it occurs, which means that some projections are phases only in certain contexts). The assumption immediately rules out (21b), repeated here, since the higher NP is a phase. Movement from the position adjoined to its complement is then ruled out by the PIC. (The AP (recall the possessive is actually an adjective) cannot move to the higher SpecNP for the same reason it could not move to SpecDP in (38).)

(41) * $\check{C}i_{je_i}$ je on vidio $[_{NP}$ prijatelja $[_{NP}$ t_i $[_{NP}$ majke]]]?

whose is he seen friend mother

‘Whose mother did he see a friend of?’

What about (22)? The improved status of (22) can be accounted for given Chomsky’s (1999) proposal that locality and the PIC are evaluated at the next phase level, which admittedly involves some look-ahead. Given this assumption, no problems arise with movement of the lower NP out of the NP in object position since at the point of evaluation, the object N does take a trace complement, hence its maximal projection is not a phase.

Panagiotidis (2004), and Ticio (2003).

²⁴We are actually accounting for the impossibility of AP movement out of DP in the same way Abels (2003a,b) accounts for the impossibility of IP movement out of CP (more generally, the impossibility of movement of the complement of a phase head).

(42) (?)?Čije_i je on [_{NP} t_i [_{NP} majke]]_j vidio [_{NP} prijatelja t_j]?

Notice also that LBE out of traditional A-taking-NP-as-complement constructions like (35) is readily accounted for given that AP is not a phase. ((35a) is repeated here as (43).)

(43) Novim_i je on [_{AP} zadovaljan [_{NP} t_i [_{NP} poslom]]].

new is he content job

‘He is content with his new job.’

Finally, (34) is also straightforwardly accounted for. The APs cannot be moved together since under the current analysis they do not form a constituent (in contrast to the remnant movement analysis). I assume that if APs undergo separate LBEs, the example is ruled out as a relativized minimality violation since an AP would move over an AP. (I return to double AP LBE below.)

The phase analysis thus accounts for the full LBE paradigm. I conclude, therefore, that it is possible to account for LBE under the DP/NP analysis without appealing to the ECP. Recall, however, that the main motivation for the minimalist drive to eliminate the ECP and, more generally, the notion of government is the powerful nature and arbitrariness of the mechanisms in question. Given the assumptions we were led to adopt above, the phase analysis is starting to look almost as arbitrary as the ECP analysis.²⁵ While the complexity of the data to account for may

²⁵The charge can be levied against the phase system in general (for critical discussion of the phase system, see Boeckx and Grohmann 2004, Bošković 2002a, and Epstein and Seely 1999). It is worth noting in this respect another similarity between the phase system and the ECP system of Chomsky (1986a), namely, they both make IP special (by making it a non-phase in the phase-system and by banning adjunction to IP and exempting it from inherent barrierhood in the *Barriers* system). Chomsky (1999) does attempt to show that the way of making IP special in the phase system is principled, in contrast to the *Barriers* system, where it is clearly arbitrary. Chomsky takes propositionality to be the criterion for phasehood, which, according to him, makes CPs, but not IPs, phases. The criterion actually does not always work as desired since IPs often semantically seem to correspond to full-blown propositions. Thus, as noted in Bošković (2002a), the infinitival IP in *There seemed to have arrived someone* seems to be no less of a proposition than the embedded finite CP in *It seemed there had arrived someone* or *It seemed someone had arrived*. There is also the question of why propositionality should be the relevant criterion. In fact, given that phases are crucially involved in multiple spell-out, more precisely, in determining which chunks of structure are shipped off derivationally to the phonology and the semantics, it seems that a phonological criterion for defining phases would be as natural as a semantic criterion (e.g. a piece of structure corresponding to an intonational phrase

justify the theoretical complications (i.e. appeal to some arbitrary assumptions), in accordance with the minimalist drive to eliminate arbitrariness from the grammar, in the next section I discuss an alternative DP/NP analysis which does not employ either the ECP or phases (cf. Bošković in press d). While the analysis is more principled (i.e. it relies on fewer arbitrary assumptions) than either the ECP or the phase analysis, it is, however, based on a rather radical proposal concerning crosslinguistic variation regarding the structure of the traditional NP which will hopefully be confirmed by future work.²⁶

3.2. The AP/NP analysis

There is a great deal of controversy concerning the position of AP within the traditional NP, which was brought about by the DP Hypothesis. The long-standing assumption has been that AP is dominated by NP. However, Abney (1987) argues AP actually dominates NP. More precisely, A takes NP as its complement. A great deal of effort has been spent in the literature trying to determine which of the two analyses is correct. I would like to suggest they are both correct, but for different languages. In particular, I suggest that in English, A indeed takes NP as a complement (the AP-over-NP pattern), as Abney argued. In SC, on the other hand, N takes AP as

instead of a piece of structure corresponding to a proposition.) There are of course a lot of other candidates for defining phases (e.g. binding domain, Case-domain, etc.), which emphasizes the arbitrary nature of the decision to select propositionality as the relevant criterion, which, as we have seen above, does not quite work anyway. The point of all of this is that the former does not seem to be much more natural than the notions of *L-marking* or *barrier*. (One argument for the superiority of the notion of phase could be that it is more comprehensive, i.e., it is involved in more phenomena, as can be seen from Chomsky's claim that non-phases are not phonologically isolable. (*Barriers* would have nothing to say about this.) However, as noted in Bošković (2002a), this particular claim cannot be maintained given that IP, a non-phase, can undergo right-node raising, as shown by *Joe wonders when, and Bill wonders why, Mary left*. (Note that, if Wexler and Culicover 1980, Kayne 1994, and Bošković in press b are right, we are dealing here with IP ellipsis rather than IP movement.))

²⁶Admittedly, the alternative analysis (the AP/NP analysis) is also not quite as broad in its empirical coverage as the ECP and phase analyses, a familiar situation in comparison of analyses of different order of arbitrariness/power, theoretically more arbitrary/powerful analyses often having broader empirical coverage. For one thing, since the AP/NP analysis is intended to provide a principled way of ruling out adjectival LBE in English-type languages while in principle allowing it in SC-type languages, something additional has to be said under this analysis about cases where adjectival LBE is banned in SC-type languages, as in the case of deep LBE.

its Spec. (Assuming AP is adjoined to NP would also work. I will refer to the SC pattern as the NP-over-AP pattern.)²⁷ The presence/absence of DP determines which pattern a language will exhibit, DP languages exhibiting the AP-over-NP pattern and NP languages the NP-over-AP pattern. I assume that the AP-over-NP pattern is the default, i.e. it is specified as the canonical option in UG. Why is it that NP languages have to switch to the NP-over-AP pattern? To account for this, I make what seems to me to be a rather natural assumption, namely, that AP cannot be an argument (see also Stowell 1991:209-210). In English-type languages, the assumption has no relevant consequences, since DP always dominates AP. However, this is not the case in SC-type languages, where, due to the lack of DP, AP would end up functioning as an argument if the AP-over-NP pattern were employed. It follows then that whenever DP is lacking in a language, NP has to cover AP, i.e. the NP-over-AP pattern has to be employed. We thus deduce the dependence of the AP-over-NP/NP-over-AP pattern on the presence/absence of DP in a language.

Let us now instantiate the proposed analysis with respect to an actual example. Suppose we want to merge *big* and *cars*. The question is which element will project. Given Chomsky's (1999) proposal that even pure Merge is subject to Last Resort (see also Bošković 2002a and Hornstein 2001), either *big* or *cars* has the relevant selectional feature. In English it is *big*, and in SC *cars*.²⁸ The relevant difference between English and SC is thus instantiated in lexical terms, in line with

²⁷I will not be able to examine here all the issues that arise under either the NP-over-AP or the AP-over-NP analysis. (Note also that following Chomsky 1995, I am not positing any agreement projections.) I merely reiterate Duffield's (1999:142) observation that, in the minimalist system, in which the Head Movement Constraint is relativized to the actual feature checked, adjectives are not necessarily expected to block N-to-D movement (see Bernstein 1993, Cinque 1994, Longobardi 1994 and references therein for N-movement) in AP-over-NP languages. (In the current system, X can move to head Y across head Z to check feature F if Z does not have F.)

Note that Duffield (1999) also argues that there is crosslinguistic variation with respect to the position of adjectives within the traditional NP. While the current analysis instantiates the variation as the head vs. spec/adjunct distinction (the choice between spec and adjunct being immaterial), Duffield instantiates it as the head/spec vs. adjunct distinction (the choice between head and spec being immaterial for him).

It is worth noting here that Bernstein (1993) argues that adjectives can vary with respect to whether they exhibit the NP-over-AP or the AP-over-NP pattern even within a single language. I leave detailed discussion of Bernstein's Romance data that led her to make this claim for future research.

²⁸This is most naturally stated in Marantz's (2001) system, in which the categorial information of a given word comes from vocabulary items like little a and little n. In this system, the relevant difference can be stated only once as the property of these two items.

the current research effort to reduce crosslinguistic variation to lexical differences.

The AP/NP analysis gives us the most principled account of the impossibility of AP LBE in English. The extraction is not possible because it would involve extraction of a non-constituent (the AP is not a constituent to the exclusion of the NP in English, as shown in (44).) The non-constituency problem does not arise in SC, where the NP dominates AP (see (45)).

(44) [_{DP} D [_{AP} Adj [_{NP} N]]]

(45) [_{NP} AP N]

The different behavior of English and SC with respect to AP LBE, as well as the relevance of DP for AP LBE, is thus straightforwardly accounted for. In fact, the AP/NP analysis provides us with a more principled account of the different behavior of English and SC in the relevant respect than the alternative analyses discussed above, given the overwhelming independent support for the crucial assumption that only constituents can undergo movement.

Independent evidence for the A/N difference in the headedness of the traditional NP in English and SC would provide particularly strong evidence for the AP/NP analysis of AP LBE. There actually is independent evidence to this effect.

A strong argument for A headedness of English NP, noted by Abney (1987), concerns (46).

(46) too big of a house

The adjective appears to be assigning genitive Case to the following NP in (46), which is realized through *of*-insertion (see Chomsky 1986b on genitive Case-licensing), in accordance with the A-taking-NP-as-complement analysis. On the other hand, in SC *A* *always* agrees in Case with the noun, which gets its Case externally from outside of the traditional NP, indicating a Spec-Head Agreement configuration, in accordance with the N-as-the-head analysis.

Another argument regarding Case concerns the following contrast between English and SC.

(47) The real him/*he will never surface.

(48) a. Pravi on/*njega se nikad neće pojaviti.

real he.nom/him.acc refl never neg+will show-up

‘The real him will never show-up.’

- b. Vidjeli smo pravog njega/*on.
 seen are real him.acc/he.nom
 ‘We saw the real him.’

Where overt case morphology appears in English, as in (47), we can see that prenominal adjectives disrupt case assignment (the pronoun bears (likely) default accusative instead of the expected nominative), which can be more straightforwardly accounted for under Abney’s analysis, where the A can shield the pronoun from outside case assignment as an intervening head. As (48) shows, SC differs from English in the relevant respect, suggesting Abney’s analysis should not be applied to SC. Notice also that the case of the pronoun in SC changes in an accusative environment (see (48b)), which indicates that we are not dealing with a default case in the SC construction under consideration (i.e., a pronoun following an adjective does not bear a default case in SC. Notice also that the unacceptable variants of (48a-b) remain unacceptable even if we use the agreeing adjectival forms (*pravog njega* in (48a) and *pravi on* in (48b).)²⁹

Consider now the following ellipsis data.

- (49) *I hate political problems, but I hate social even more.

²⁹The pronoun bears nominative in the counterpart of (47) in Dutch, which should be an English-type language.

- (i) a. De echte ik/*mij bleef verborgen voor haar.
 the real I me remained hidden to her

This is actually not surprising. As noted above, the accusative in (47) is likely a default Case. It is indeed standardly assumed that accusative is the default Case in English. On the other hand, constructions like (ii) indicate that nominative is the default Case in Dutch (see also Schütze 2001).

- (ii) Ik/*mij intelligent?!
 I me intelligent

It is then possible that, as in English, the adjective disrupts Case assignment in Dutch (i), nominative on the pronoun in (i) being a default Case. That this is indeed the case is confirmed by Schütze’s (2001) observation that a pronoun modified by an adjective must bear nominative in Dutch in all syntactic positions (not just structural nominative positions), in contrast to SC.

(50) *Je déteste les problèmes politiques, mais je déteste les sociaux encore plus. (French)

I hate the problems political but I hate the social even more

(51) Ja mrzim političke probleme, a socijalne mrzim još više. (SC)

I hate political problems but social (I) hate even more

Under Abney's analysis, the impossibility of eliding a noun modified by an adjective in English (49) and French (50) can be interpreted as indicating that A cannot license the ellipsis of its complement NP.³⁰ The contrast between English and French (49) and (50) and SC (51) then provides evidence against the A-as-the-head analysis of SC.³¹

³⁰In Bernstein's (1993) terms, A⁰ selects for an overt N. (Note that Bernstein also argues that adjectives can occur with elided NPs only in the NP-over-AP pattern. There are, however, interfering factors with some of the Romance data she discusses from our perspective (see the next note).)

³¹According to Valois (1991:191-195), there is a small group of adjectives in French that in a highly restricted set of contexts can occur with what seems to be a non-overt noun. Valois suggests that such cases should be treated differently from cases like (50). Anyway, there is a clear difference in the productivity of adjectives occurring with non-overt nouns between French and SC.

Notice also that analyzing Romance N-A order such as the one in the first conjunct of (50) as involving N-movement above the adjective, as in Cinque (1994) and Longobardi (1994) among others, does not raise any interfering factors, given Lasnik's (1999) demonstration that elements that normally have to move in overt syntax do not have to move if they remain in an ellipsis site. (Lasnik shows that a verb that normally must move outside of its VP can stay within the VP if the VP undergoes ellipsis. He also shows (with respect to VPs) that a phrase whose head moves out of it can be an ellipsis antecedent for a phrase whose head remains in place.)

It is worth noting that Bernstein (1993) argues NP ellipsis is possible with a number of adjectives in several Romance languages. However, she argues NP ellipsis in such cases is licensed by special morphology, her word marker which is in Spanish and Italian phonologically realized as *o* or *a* and which is not present in English, rather than the adjective itself (the word marker takes the NP to be elided as its complement on Bernstein's analysis). This makes the cases in question irrelevant for our purposes. (Also irrelevant are Bernstein's deadjectival nouns and the definite article+*pro* constructions, which only superficially resemble NP ellipsis constructions according to Bernstein.)

Note also that, as expected, the counterpart of (51) is acceptable in Russian (*Ya nenavižu političeskiye probl'emy, no sotsial' niye ya nenavžu yeš'o bol' šč*) and unacceptable in Macedonian (*Gi mrazam političkite problemi, no socijalnite mrazam ušte poveќе*). My Bulgarian informants disagree on the status of its Bulgarian counterpart (*Mrazja političeskite problemi, no socialnite mrazja ošte poveče*), some, but not all of them, finding it degraded. It is possible that one of the strategies Bernstein discusses regarding Romance, noted above, is available for the latter group of speakers (the same may hold for German and Dutch, which often allow "NP ellipsis"). In fact, in light of these

Notice also that, as the following examples from Valois (1991) show, NP ellipsis in English can take place in the presence of NP-adjuncts, in contrast to adjectival modifiers.

- (52) a. I like John's pictures from three years ago, and I also like Bill's from last year.
b. I like John's picture by this photographer, and I also like Bill's by his sister.

This fact provides strong evidence for the AP/NP analysis, which treats SC adjectival modifiers and NP-adjuncts in English in essentially the same way – they are both covered by NP, exhibiting the NP-over-AP/adjunct pattern (recall that the NP-over-AP pattern can be instantiated by locating adjectives either in SpecNP or by adjoining them to NP), but differently from adjectives in English, which exhibit the AP-over-NP pattern, i.e. they are not covered by NP.

Abney (1987:333) observes that in English, prenominal adjectives can determine the type of the noun phrase in a way that postnominal adjectives cannot, which follows if prenominal adjectives actually head the NP. To illustrate this, consider the contrast in (53).

- (53) a. I've known a dog smarter than Fido.
b. ??I've known a smarter dog than Fido.

When not embedded under a modal or a negative element, *know* selects non-predicative noun phrase as its object (see Bresnan 1973). The predicative nature of the prenominal comparative “percolates” to the noun phrase, in contrast to the postnominal comparative. Given that determining the features of the enclosing phrase is a property typical of heads, it follows that in English, prenominal A heads the “NP”. Significantly, SC contrasts with English in the relevant respect.

- (54) a. Znao sam pametnijeg psa od Fida.
known am smarter dog than Fido
'I've known a dog smarter than Fido.'
b. Znao sam psa pametnijeg od Fida.

strategies, the possibility of nominal ellipsis in the presence of an adjective in DP languages would not necessarily provide evidence against the current analysis. In other words, languages like German and Dutch are not necessarily problematic.

Given Abney's reasoning, these data should be interpreted as indicating that, in contrast to English, the prenominal A does not head the "NP" in SC. The data thus provide additional evidence for the NP-over-AP analysis for SC.³²

Abney (1987:340) observes that superlatives must precede descriptive adjectives in English. (Comparatives behave like superlatives in the relevant respect.)

- (55) a. the big fancy car
b. *the big fanciest car
c. the fanciest big car

Abney gives a selection-based analysis of these data: The superlative takes AP as its complement, not the other way round. (Note that under Abney's analysis, multiple AP constructions involve A's taking APs as complements.) Significantly, SC differs from English in the relevant respect.

- (56) a. ?velika najskuplja kola
big most-expensive car
b. najskuplja velika kola

Given Abney's analysis of the English data, the contrast can be accounted for if no complementation relation is involved between the relevant elements in SC. (Note that under the NP-over-AP analysis, multiple APs are located in multiple specifiers of NP.)³³

Admittedly, some of the arguments for the different behavior of English and SC regarding the position of AP are not very deep and/or are based on phenomena that are ill understood. However, the sheer number of arguments (more precisely, the fact that arguments for the A-as-the-

³²Prenominal comparatives are acceptable in the context in question in Russian, as expected. However, they are also acceptable in Bulgarian, which raises a potential problem. I speculate that the different behavior of English and Bulgarian, both of which are classified as AP-over-NP languages, may follow from the fact that, as is well-known, the DP system of Bulgarian is quite different from the English DP system and/or the fact that, in contrast to English, adjectives in Bulgarian often move outside of their base-generated position within AP (see section 3.2.1.).

³³As expected, Macedonian patterns with English in the relevant respect. My Russian and Bulgarian informants do not agree on the status of (56a) in their languages. However, most of my Bulgarian informants reject the Bulgarian counterpart of (56a), and most of my Russian informants find the Russian counterpart of (56a) acceptable.

head analysis of English routinely fail in SC, where the data are exactly opposite of what is predicted by this analysis) provides evidence that the AP/NP analysis is on the right track. Probably the strongest argument for different behavior of English and SC-type languages in the relevant respect comes from certain data regarding the ban on double AP LBE, which I have left unexplained so far. (The argument concerns a contrast between SC and Bulgarian, an English-type language.) I turn to it in the next section.

3.2.1. Double adjective LBE

Recall that, as shown in (30) ((30b) is repeated in (57)), adjectival LBE in multiple A-as-a-modifier constructions (i.e. double AP LBE) is disallowed, in contrast to simple adjectival LBE, as in (29), and adjectival LBE in A-as-the-head constructions, as in (35).

(57) *Lijepe je on vidio visoke djevojke.
 beautiful is he seen tall girls
 ‘He saw beautiful tall girls.’

In this section I provide an explanation for the impossibility of double AP LBE. I will continue to assume the NP-over-AP pattern for SC-type languages, instantiated through a multiple specifiers structure, as illustrated in (58).³⁴

(58) [NP AP [AP [N' N]]]

To account for the ban on double AP LBE, I appeal to McGinnis’s (1998a,b) Principle of Lethal Ambiguity, which says that two elements equidistant from a target K are lethally ambiguous for attraction by K if they are featurally non-distinct.³⁵ Since multiple Specs of the same head are

³⁴The analysis to be proposed can be maintained if APs are adjoined to NP in SC-type languages.

³⁵McGinnis shows that the principle has considerable empirical motivation. Thus, it explains why Romance reflexive clitics must be generated as the external argument, with the internal argument raising to subject position, as in passive structures (see Kayne 1988, Marantz 1984 and Pesetsky 1995), evidence for which is provided by the fact that *se* occurs with the auxiliary *be* in (i), which shows that (i) involves movement from object to subject position (see Burzio 1986 and the contrast in (ii)), and the fact that in *se* constructions, the embedded “subject” in French causatives bears

equidistant (see McGinnis 1998a,b), given the structure in (58), (57) involves Lethal Ambiguity.³⁶ Neither AP can then be attracted from outside of the NP in (57). The impossibility of double adjective LBE is thus accounted for. (The reader can verify that the account of (57) readily extends to **lijepe je on visoke djevojke vidio* and **lijepe je on visoke vidio djevojke*.)

Interestingly, (57) improves significantly if *lijepe* is contrastively focused (bearing strong contrastive stress), as in the following context:

the object, accusative Case instead of the usual dative Case (marked by à; à+le=au) reserved for subjects, indicating that the embedded “subject” is not a real subject in the *se* construction (see (iii)).

(i) Pierre s' est/*a frappe.

Pierre himself is/has hit

‘Pierre hit himself.’

(ii) a. Pierre t' a/*est frappé.

Pierre you has/is hit

‘Pierre hit you.’

b. Pierre était/*avait frappé.

Pierre was/had hit

‘Pierre was hit.’

(iii) a. Jean le fait révéler au/*le juge.

Jean it makes to-reveal to+the/the judge

‘Jean is making the judge reveal it.’

b. Jean fait se révéler le/*au juge.

Jean makes himself to-reveal the/to+the judge

‘Jean is making the judge reveal himself.’

(French)

The gist of McGinnis’s account of the external argument requirement on *se* is the following: Suppose *Pierre* is the external argument, and *se* the internal argument in (i). Since, like other object clitics, *se* must undergo object shift (i.e. move to the accusative Case-checking position) on its way to its final SS site, after *se* undergoes object shift, *se* and *Pierre* are located in the Specs of the same head, namely *v*, thus giving rise to a Lethal Ambiguity configuration, which blocks further attraction of these elements. The problem does not arise if *Pierre* is the internal argument and *se* is the external argument, since *Pierre* does not undergo object shift on its way to its final SS position (see McGinnis 1998a,b for additional evidence for Lethal Ambiguity).

³⁶Through agreement with the same noun (recall that an adjective and the noun it modifies agree in Case and ϕ -features), the adjectives end up agreeing with each other, which I take to mean they are featurally non-distinct.

(59) A: I think that Marko said he saw ugly tall girls.

B: Ma, ne, lijepe je on vidio visoke djevojke, ne ružne.

no beautiful is he seen tall girls not ugly

This is not surprising under the Lethal Ambiguity account. In the derivation in question, *lijepe* undergoes focus movement (SC is a focus-movement language, see Bošković 2002b and Stjepanović 1999), which means it bears the [+focus] feature. It is plausible that this feature makes it featurally distinct from *visoke*, which is not contrastively focused. Since Lethal Ambiguity holds only for featurally non-distinct elements, this makes Lethal Ambiguity irrelevant to the derivation of (57) under consideration. (Below, for ease of exposition I will disregard the focus-movement derivation below.)

Notice that double AP LBE is also possible when a wh-phrase is involved.

(60) Koje je Petar novo auto upropastio?

which is Petar new car ruined

‘Which new car did Peter ruin?’

This is expected under the current analysis, since the [+wh] feature makes the fronted adjective featurally distinct from the non-fronted adjective, just like the [+focus] feature does in (59), making Lethal Ambiguity irrelevant. In fact, given the claim made in Bošković (2002b) and Stjepanović (1999) that SC wh-phrases may undergo focus movement rather than wh-movement (in the context in question), (60) may be another instance of the saving effect of focus on double AP LBE, hence accountable in exactly the same way as (59).

It is also worth noting that the contrast between (59), where the adjective that is left-branch extracted undergoes focus movement, and (57), where the adjective that is left-branch extracted undergoes scrambling, can be interpreted as providing evidence that, as argued by Saito (1994) and Saito and Fukui (1998), scrambling is not driven by feature checking, i.e. checking of some kind of a scrambling feature (see, e.g., Grewendorf and Sabel 1999, Kitahara 1997, Müller 1997, Sabel this volume, and Sauerland 1999 for scrambling-feature checking).³⁷ If it were, the

³⁷There is another line of research which argues that traditional A' scrambling involves topic or focus movement (see, e.g., Miyagawa 1997 and Karimi 2003). As noted in Grewendorf (this volume), this line of research actually argues against the existence of scrambling as an independent operation.

scrambling feature should make the adjectives in (57) featurally non-distinct, which would render Lethal Ambiguity irrelevant in (57), on a par with (59).

Notice also that (35), which was difficult to differentiate from (57) under Abney's analysis of the structural position of AP, is readily accounted for since the APs are not equidistant in (35) (see Chomsky 1995 for definitions of equidistance). ((61) gives the relevant part of (35).)

(61) [_{AP} [_{A'} A [_{NP} AP [_{N'} N]]]]

The proposed analysis thus accounts for the surprising contrast between (57) and (35). Crucial to the account was adoption of the traditional NP-over-AP structure for AP modification in SC, which provides strong evidence for the NP-over-AP analysis of adjectival modification, at least for SC. Another crucial aspect of the analysis was placing the adjectives in (57) in multiple specifiers of the *same* head. The analysis thus also provides evidence for this approach to adjectival modification.³⁸

³⁸The conclusion holds for the adjectives in (57) but not necessarily for all adjectives. Double AP LBE can in fact be used as a test for determining whether various adjectival modifiers in multiple adjectival constructions are Specs of the same head or different heads. The adjectives used in (57) belong to Quirk et al's (1972) class of general adjectives, which are more or less freely ordered. A question arises what happens when adjectives belonging to different classes are used in a double AP LBE configuration. Some examples of this type, especially those involving a general and a denominal adjective, are quite good (though generally still not fully acceptable), as (ia) shows. (Notice that denominal adjectives are placed closest to the noun; compare *neozbiljnog mašinskog tehničara* with **mašinskog neozbiljnog tehničara*. Ordering restrictions of this kind seem enforcable under either the Specs-of-different-heads or Specs-of-the-same-head analysis.)

- (i) a. ?Neozbiljnog je on otpustio mašinskog tehničara.
not-serious is he fired mechanical technician
b. *Mašinskog je on otpustio neozbiljnog tehničara.

Given the above discussion, (i) may be taken to indicate *neozbiljnog* and *mašinskog* are located in the Specs of different heads, not the same head, with *neozbiljnog* located in the Spec of the higher head. Alternatively, it is possible *mašinskog tehničara* in (ia) receives a compound-like treatment. (The compound analysis for *mašinskog tehničara* would not be obligatory; in particular, it would not be applicable to examples in which *mašinskog* is contrastively focused, undergoing focus movement.) Another possibility is that the feature make up of denominal adjectives is such

Since the AP-over-NP structure for AP modification does not involve lethal ambiguity (in fact, the AP-over-NP analysis assigns the same structure to traditional AP modification and A-as-the-head structures, i.e. both have the structure in (61)), the prediction is that in AP-over-NP languages, the presence of another adjective would not prevent an adjective from undergoing movement, in contrast to SC-type languages (i.e. NP-over-AP languages), where multiple adjectival modification gives rise to a lethal ambiguity configuration, freezing the adjectives in place. The prediction bearing out would provide strong evidence for the AP/NP analysis. However, the prediction seems to be untestable, since adjectives appear to be immobile in AP-over-NP languages for independent reasons. Thus, they cannot undergo LBE outside of the traditional NP for reasons discussed above. Fortunately, there is one construction where the prediction can be tested. The construction involves DP internal movement of adjectives in Bulgarian, an AP-over-NP language, as illustrated in (62).

(62) xubavi_i te t_i momičeta
 beautiful the girls
 ‘the beautiful girls’

Arnaudova (1996,1998), who applies Abney’s DP/AP-over-NP analysis to Bulgarian, analyzes (62) as involving A movement to D.³⁹ What we are interested in is what happens in double AP

that they are not featurally non-distinct from general adjectives. Since Lethal Ambiguity holds only for featurally non-distinct elements, *mašinskog* and *neozbiljnog* could then still be located in the Specs of the same head. (Under this analysis, the contrast in (i) could be accounted for if *mašinskog* must be located in the lower Spec and *neozbiljnog* in the higher Spec (of the same head) prior to movement, assuming crossing of the higher Spec results in a violation.)

³⁹For different Abney-style analyses (i.e. analyses that assume the AP-over-NP structure) of Bulgarian DP, see Caink (2000), Franks (1998), and Franks and King (2000: 332-334), among others. For alternative analyses that do not assume the AP-over-NP structure, see Fowler and Franks (1994), Giusti and Dimitrova-Vulchanova (1996), Schoorlemmer (1998), Stateva (2002), and Tomić (1996), among others.

There is a controversy in the literature concerning whether movement of the adjective in (62) involves head movement (i.e. adjunction to D) or phrasal movement (i.e. movement to SpecDP). The usual tests give conflicting results, (i), where an adjective takes a PP complement, providing strong evidence for the head-movement analysis, and (ii), where an adverb precedes the adjective, for the phrasal-movement analysis.

(i) a. kupena-ta ot Petko kniga

examples. Recall that in SC, adjectives in such examples are equidistant from the target of movement, hence immobile, given Lethal Ambiguity. This is not the case in Bulgarian, an AP-over-NP language. Significantly, an adjective can undergo movement in the Bulgarian construction in question even in the presence of another adjective, which provides a confirmation of the current analysis.

- (63) *xubavi_i te t_i visoki momičeta*
 beautiful the tall girls
 ‘the beautiful tall girls’

Recall that Bulgarian, which does not allow LBE, patterns with English with respect to the structure of NP, more precisely, DP in the languages in question. As a result, (63) does not involve lethal ambiguity. The fact that the AP/NP analysis provides us with a principled account of the contrast between SC and Bulgarian with respect to the mobility of an adjective in the presence of another adjective, as well as the SC internal contrast with respect to the mobility of an adjective in the presence of another adjective between traditional adjectival modification and traditional adjective-as-the-head structures, provides strong evidence for the AP/NP analysis.

To summarize the discussion so far, I have considered several accounts of crosslinguistic

- bought-the by Petko book
 ‘the book bought by Petko’
 b. **kupena ot Petko-ta kniga*
 c. *vernij-at na Vera muž*
 truthful-the to Vera husband
 ‘the husband truthful to Vera’
 d. **veren na Vera-ta muž*
 (ii) a. *mnogo xubavi-te knigi*
 very nice-the books
 ‘the very nice books’
 b. **mnogo-te xubavi knigi*

(iia) can be reconciled with the head-movement analysis by assuming, following Bošković (2001:237), that (iia) is derived by first forming a complex head *mnogo xubavi* through head movement and then moving the complex head to D (see also Arnaudova 1998, who suggests that *mnogo* undergoes separate movement to SpecDP).

variation regarding LBE. The most principled account is provided by the AP/NP analysis, on which the ban on LBE in English-type languages follows from the ban on movement of non-constituents, a problem that does not arise in SC-type languages, where LBE does not involve non-constituent movement. When it comes to the position of adjectives in the traditional NP, we have seen that there is evidence for crosslinguistic variation in the relevant respect, some languages having the NP-over-AP structure, others having the AP-over-NP structure. Which structure a language will have depends on the presence/absence of DP in it, the lack of DP leading to the NP-over-AP structure. Obviously, I was not able to deal with all the issues concerning the structure of NP within the confines of this paper. In fact, at our present level of understanding, whichever analysis one takes with respect to the issue of the structural status of NP/AP/DP within the traditional NP for any given language, a host of open questions will inevitably remain. I hope to return to some of them in future work.

3.4. The scrambling analysis

In this section, I explore an alternative to the DP/NP analysis of LBE. The alternative is based on the conjecture that the right way to divide LBE and non-LBE languages does not depend on the presence/absence of DP, but the possibility of scrambling. More precisely, whether or not a language allows LBE depends on whether or not it allows scrambling, only scrambling languages allowing it.⁴⁰ In this respect, note that Slavic languages that allow LBE, such as Russian, SC, Polish, and Czech, are all scrambling languages. Regarding Bulgarian, which disallows LBE, although Bulgarian displays some freedom of word order, its word order is noticeably more rigid than in SC, a closely related language, which I interpret as indicating Bulgarian has no scrambling. As for Romance, modern Romance languages do not have scrambling and disallow LBE. Latin, on the other hand, had scrambling and allowed LBE. English is another example of a non-scrambling language disallowing LBE.⁴¹

⁴⁰Note we are not dealing here with a two-way correlation, scrambling being a prerequisite, but not sufficient for allowing LBE. As noted below (76), interfering factors may conspire to ban LBE even in languages that allow scrambling.

⁴¹I am taking the term scrambling to mean extreme freedom of word order. Superficially, freedom of word order is characterized by gradualness. (The reason for this is that a number of mechanisms can at least to some extent give the appearance of free word order.) The above correlation between LBE and scrambling is based on the conjecture that

In tying scrambling and LBE I am essentially going back to Hale’s (1983) observation that discontinuous constituency is a property of scrambling languages, given that examples of discontinuous constituency often involve LBE. The LBE/scrambling correlation can be easily captured under base-generation analyses of scrambling such as Bošković and Takahashi (1998) (BT), which base-generates “scrambled” elements in their surface non- θ -positions and moves them to their θ -positions in LF, θ -theoretic considerations driving the movement (see Fanselow 2001 for another base-generation analysis). Before showing how the LBE/scrambling correlation can be captured under BT’s analysis, in the next section I briefly summarize it.

3.4.1. Bošković and Takahashi’s analysis of scrambling

BT’s analysis of scrambling was intended to address certain problems that arise under the classical analysis of Japanese scrambling, which considers scrambling in Japanese to be an optional overt movement operation that applies for no reason at all (see, e.g., Fukui 1993, Saito 1992, 1994, and Saito and Fukui 1998). In minimalist terms, the scrambling movement of *sono hon-o* in (64) does not involve any feature checking, which raises an obvious problem for Chomsky’s (1986b, 1995) conception of movement as a last resort operation, applying only when necessary.

- (64) [_{IP} Sono hon- o_i [_{IP} John-ga [_{CP} [_{IP} Mary-ga [_{VP} t_i katta]] to] omotteiru]]
 that book-ACC John-NOM Mary-NOM bought that thinks
 ‘That book, John thinks that Mary bought.’

BT propose an analysis of scrambling that replaces the optional overt movement of the classical account that violates Last Resort with an obligatory LF movement that conforms with Last Resort. They propose the scrambled element in (64) is base-generated in its SS position. If it were to remain there in LF the derivation would crash because *sono hon-o* would not be Case- and θ -licensed. *Sono hon-o* therefore lowers in LF to a position where it can receive Case and a θ -role. The movement is obligatory in the sense that if it does not take place, the derivation would crash.⁴²

LBE languages will fall further on the freedom of word order scale than those that do not allow LBE (but see note 40).

⁴²The analysis relies on the possibility of movement into θ -positions. As discussed in BT, the abandonment of DS (cf. Chomsky 1993) has left the door wide open for this theoretical possibility. In fact, since Bošković (1994), probably the first minimalist attempt to legitimize movement into θ -positions, there has been a battery of works arguing for

(65) a. SS: [_{IP} Sono hon-o [_{IP} John-ga [_{CP} [_{IP} Mary-ga [_{VP} katta]] to] omotteiru]]

b. LF: [_{IP} John-ga [_{CP} [_{IP} Mary-ga [_{VP} sono hon-o katta]] to] omotteiru]

BT give a number of arguments for this analysis. Thus, the analysis explains the otherwise puzzling undoing property of scrambling (radical reconstruction in Saito's terms; for relevant discussion, see Saito 1992 and Tada 1993, among others). Consider (66), where *daremo-ni* must have narrow scope. (I indicate the position where *daremo-ni* is interpreted with *e*. Under BT's analysis, this is the landing site of LF lowering, whereas under the classical analysis this is the launching site of overt movement.)

(66) Daremo-ni dareka-ga [Mary-ga *e* atta to] omotteiru. $\exists > \forall; * \forall > \exists$

everyone-DAT someone-NOM Mary-NOM met that thinks

'Everyone, someone thinks that Mary met.'

(Bošković and Takahashi 1998)

Why can't the scrambled element take scope in its SS position? The puzzling fact is immediately explained under BT's analysis: *daremo-ni* must lower in LF to the position where it is θ - (and Case) marked. Since it necessarily lowers into the embedded clause, it cannot scope over *dareka-ga*.

It is worth noting here that the undoing effect provides strong evidence against attempts to analyze scrambling as focus or topic movement (see, e.g., Bailyn 2001, Miyagawa 1997, and note 37). What the undoing effect shows is that semantics does not 'know' about scrambling (at least long-distance scrambling, which is what we are concerned with here), i.e. for semantics, scrambling does not exist. Now, if scrambling were focus movement, we would be dealing here

movement into θ -positions and/or that θ -roles are features (the assumption naturally leads to endorsing movement into θ -positions). The reader is referred to Boeckx (in press), Bošković (1997), Ferreira (2000), Hornstein (1998, 1999, 2001), Hoshi (in press), Kang (2002), Kayne (2003), Kim (1997), Lasnik (1999), López (2001), Manzini and Roussou (2000), Rodrigues (2002), Roehrs (2002), Saito and Hoshi (2000), Saito (2001a), Stateva (2002), and Watanabe (1999), among others. Empirically, this has been a very fruitful line of research whose accomplishments are yet to be comprehensively addressed by those who would like to maintain the stipulatory ban on movement into θ -positions. BT's analysis also crucially relies on not positing a ban on lowering. The reader is referred to BT for arguments against such a ban, which would be massively redundant with respect to independently needed conditions. (Thus, BT note that all overt lowering and all lowering of operators or, more precisely, elements that are forced to leave traces by independent principles of the grammar are ruled out independently of a ban on lowering.)

with focus movement that semantics does not know about. This raises an obvious problem that has to be addressed by the focus movement analysis.⁴³ Until the problem is addressed in a satisfactory manner, it is difficult to see the focus movement analysis as a viable alternative.

Returning to BT, among other things, BT's analysis also accounts for the inability of adjuncts to undergo scrambling, illustrated by Saito's (1985) (67). (Following BT, I ignore quasi-argument adjuncts, which Murasugi 1991 argues are actually arguments, and short-distance scrambling of adjuncts, since in the latter case it is not clear whether we are dealing with scrambling or with base-generation even under the overt movement analysis of scrambling.)

- (67) a. Mary-ga [John-ga riyuu-mo naku sono setu-o sinziteiru to] omotteiru.
 Mary-NOM John-NOM reason-even without that theory-ACC believes that thinks
 'Mary thinks that John believes in that theory without any reason'
 b. *Riyuu-mo naku Mary-ga [John-ga *e* sono setu-o sinziteiru to] omotteiru.

Under the assumption that scrambling is an optional movement operation applying without any driving force, the ungrammaticality of (67b) on the relevant reading is puzzling. Why is it that, in contrast to arguments, adjuncts cannot scramble? Under the BT analysis, the puzzling fact is readily explained. Under this analysis, the adjunct is base-generated in its SS position in (67b) and must lower to the embedded clause in LF to modify the embedded predicate. Note, however, that the adjunct is fully licensed in its SS position. In contrast to *sono hon-o* in (64), which has Case and θ -features that are not licensed in its base-generated, SS position, the adjunct in (67b) possess neither a Case feature nor a θ -role that could motivate its LF movement. Since there is no reason for the adjunct to lower into the embedded clause in LF Last Resort prevents it from moving.

There are actually exceptions to the impossibility of adjunct-scrambling. Thus, the adjuncts in (68)-(69) can undergo scrambling. (The contrast between (67b) and (68) was noted by Mamoru Saito (p.c.).)

- (68) ?Naze Mary-ga [_{CP} *e* John-ga sono setu-o sinziteiru ka] sitteiru.
 why Mary-NOM John-NOM that theory-ACC believes Q knows

⁴³The problem also arises under the topic movement analysis. Notice also that focus generally facilitates wide scope, which, as noted above, is completely unavailable for the scrambled NP in (66).

‘Mary knows why John believes in that theory.’ (Bošković and Takahashi 1998)

(69) Kyuuni-sika Mary-ga [_{CP} John-ga e nakidasa-nak-atta to] itta.

suddenly-NPI Mary-NOM John-NOM start-to-cry-neg-past that said

‘Mary said that John only suddenly started crying.’ (Boeckx and Sugisaki 1999)

Note that the adjunct in (68) has a *wh*-feature that can be licensed only in the embedded SpecCP and the adjunct in (69) is a negative polarity item (NPI), whose licensing negation is located in the embedded clause. The correct descriptive generalization concerning scrambling of adjuncts is that adjuncts can undergo scrambling iff there is a formal requirement on them that can be satisfied only in a lower clause. The generalization immediately follows under the BT analysis: the formal requirement is necessary to drive LF lowering. Thus, in contrast to the adjunct in (67b), the adjuncts in (68)-(69) do have a formal feature that cannot be checked in their base-generated, SS position, namely the +*wh* and the NPI feature. The adjuncts in (68)-(69) have to lower into the embedded clause to check these features. BT’s analysis thus accounts both for the contrast between arguments and non-*wh*/non-NPI adjuncts as well as the contrast between *wh*- and NPI-adjuncts and non-*wh*/non-NPI adjuncts with respect to scrambling, both of which remain unaccounted for under the standard analysis. More generally, the BT analysis straightforwardly captures the otherwise mysterious generalization that a phrase that undergoes scrambling (be it an argument or an adjunct) must have a formal requirement that can be satisfied only in a lower position.

As discussed by BT, the LF lowering analysis captures several additional otherwise puzzling properties of Japanese scrambling. Among other things, it accounts for the fact that movement out of scrambled elements is possible although extraction out of heads of non-trivial chains is otherwise disallowed (cf. Takahashi 1994 and Ormazabal et al 1994), the fact that LF scrambling is disallowed, and a surprising failure of numeral float in certain constructions where radical reconstruction is blocked by independent factors (more precisely, the fact that a short-distance scrambled element that floats a numeral cannot bind an anaphor). Oku (1998a,b) shows that BT’s analysis also explains why Japanese freely allows argument drop in spite of the absence of standard subject and object agreement.

3.4.2. Scrambling and LBE

Returning to LBE, let us consider how the LBE/scrambling correlation can be captured under

BT's analysis, which base-generates "scrambled" elements in their surface non- θ -positions and moves them to their θ -positions in LF, θ -theoretic considerations driving the movement (see also Bošković 2002c for an analysis along these lines for discontinuous constituents in Old English, which are shown to be subject to θ -restrictions that are easily explained under BT's analysis). Given Higginbotham's (1985) θ -identification analysis of adjectives (see also his autonomous θ -marking), on which an adjective and a noun it modifies enter into a θ -relation, adjectives can also move in LF for θ -theoretic reasons. Under BT's analysis, the LBE example *Visoke on gleda djevojke* would then have the SS in (70), with no relevant overt movement taking place. The adjective then undergoes lowering in LF to the position where it is interpreted (71), θ -considerations (more precisely, θ -identification) driving the movement. (Depending on how the θ -requirement on A/N combinations is precisely stated it is actually possible that the noun would move in LF to the adjective, instead of the adjective moving to the noun, in which case the LF of (70) would be *Visoke djevojke on gleda*. I ignore this possibility below.)

(70) SS: *Visoke on gleda djevojke.*

tall he watches girls

(71) LF: *On gleda visoke djevojke.*

BT's analysis of scrambling, based on LF movement driven by θ -theoretic considerations, thus provides a straightforward way of capturing AP LBE, given Higginbotham's θ -identification analysis of adjectives.⁴⁴ LBE of determiners can also be easily captured, given Higginbotham's θ -binding analysis of determiners, on which a determiner and its noun enter into a θ -relation. Θ -motivation behind LF assembling of elements affected by LBE is also straightforward in the case of possessives.

Turning to deep LBE, from the perspective of the scrambling analysis (21b) can be accounted for by appealing to economy, i.e. by assuming the adjective lowers to the closest noun with which it can undergo θ -identification. More precisely, I assume that if an adjective can undergo θ -identification within NP1 with N1, it is not allowed to look deeper into NP1 for another

⁴⁴Under this analysis we can actually assume that (at least) AP LBE as an upward overt movement is universally blocked. Since the scrambling derivation discussed above is unavailable in English, English not being a scrambling language, LBE is then completely disallowed in English.

N to undergo θ -identification with.⁴⁵ From this perspective, the improved status of (22) also follows since the problem that arises in (21b) does not arise in (22). As for the ban on double AP LBE, the lethal ambiguity account of the ban can be maintained under the analysis of LBE presented in this section if we assume a version of Chomsky's (1995:356-357) approach to equidistance, on which an element that is in the minimal domain of a head (*visoke* in (57), the head being *djevojke*) would essentially count as equidistant with an element that is moving to the minimal domain of the same head (*lijepe* in (57)).

Notice now that under BT's analysis we simply need a formal reason to place the scrambled element in LF in the position where it is interpreted. Strictly speaking, the reason does not have to be θ -related. E.g., licensing the agreement relation between the adjective and the noun could also plausibly drive LF movement of the adjective. In this respect, note that in SC, the adjective and the noun agree in case and ϕ -features (gender and number). Some evidence that this version of the BT analysis, which does not depend on Higginbotham's view of θ -relations within NP (i.e. on assuming a θ -relation between adjectives and nouns; see note 47), may be on the right track is provided by discontinuous constituents from Warlpiri. Consider (72)-(73).

(72) *kurdu- jarra- rlu ka- pala maliki wajilipi- nyi wita- jarra- rlu.*
 child dual erg pres dual dog chase nonpast small dual erg
 'The two small children are chasing a dog.'

(73) *maliki ka- pala wajilipi- nyi kurdu wita- jarra- rlu.*
 dog pres dual chase nonpast child small dual erg (Hale 1981)

The two small children is discontinuous in (72), but not in (73). Only in (72), both parts of the split NP must have the number and case endings. On the analysis under consideration, we can account for the paradigm by assuming that the number/case agreement is in principle optional in Warlpiri. However, it is forced in (72), where it is needed to drive LF assembling of the split NP under BT's analysis. The current analysis thus explains why we find more morphology (i.e. richer agreement) when a noun and an adjective that modifies it are discontinuous than when they are not.

Particularly illuminating in this respect are SC (74)-(75), which also exhibit the richer-agreement-when-separated pattern that receives a straightforward account under the current

⁴⁵Note, however, that, as discussed by BT, we do not want to impose relativized minimality, which is defined on c-command (in contrast to the case under consideration, which involves domination), on scrambling lowering.

analysis.

(74) a. Čičinu je on Tominu kolibu srušio.
uncle's(fem.acc.sg) is he Tom's(fem.acc.sg) cabin(fem.acc.sg) torn-down
'He tore down uncle Tom's cabin.'

b. *Čiča je on Tominu kolibu srušio.
uncle(masc.nom.sg) is he Tom's(fem.acc.sg) cabin(fem.acc.sg) torn-down

(75) a. *On je srušio čičinu Tominu kolibu.

b. On je srušio čiča Tominu kolibu.

(74) shows that the split of *uncle* and *Tom* is possible only when *uncle* and *Tom* (and *cabin*) agree in case and ϕ -features, although when the split does not take place, *uncle* and *Tom* cannot agree, as illustrated in (75).⁴⁶ The agreement pattern in (74) is not surprising under the analysis suggested above, where the agreement is necessary to drive LF lowering of *uncle*.

It is worth noting that under the agreement analysis, Japanese is not expected to allow LBE since it lacks adjectival agreement. In fact, assuming an extension to APs of the different treatment of NPs in scrambling and non-scrambling languages proposed below, which seems straightforward,⁴⁷ under the agreement analysis we would expect to find adjectival LBE only in scrambling languages in which adjectives agree (though not necessarily in all of them, see the discussion below (76)).

3.4.3. Scrambling and the categorial status of Noun Phrases

Let's see where we are now. So far, we have established two generalizations regarding LBE:

⁴⁶Note that nominative on *čiča* in (75b) is a default case and that *čičinu* and *Tominu* are morphologically adjectives.

⁴⁷We would need to posit a functional category above AP in non-scrambling languages, on a par with NP, which is dominated by DP in such languages. This would suffice to implement the agreement analysis under the approach to scrambling from section 3.4.3. On the other hand, if (81) is adopted (generalized in such a way that it applies to adjectives, i.e. θ -identification), it would also be crucial that adjectival agreement involves case agreement. Note that under the former analysis, but not under the latter analysis, there would be no need to adopt Higginbotham's view of adjectival modification.

- (76) a. Only scrambling languages may allow LBE.
b. Only non-DP (i.e. NP) languages may allow LBE.

Under the scrambling analysis, the fact that the LBE/NP correlation holds for the languages considered may be an accident, and the same may hold for the DP/NP analysis regarding the LBE/scrambling correlation. To tease apart the two analyses, we need to look for LBE languages that have scrambling and DP, or LBE languages that do not have either scrambling or DP. I emphasize here that non-LBE languages do not provide a conclusive test since interfering factors may prevent LBE even in the absence of DP and the presence of scrambling (see note 4. E.g., the presence of a possessive affix that is not syntactically generated on the possessor can ban LBE of possessives.) However, we would not have to consider one of the two correlations under consideration (the LBE/NP correlation and the LBE/scrambling correlation) an accident if we can establish an NP/scrambling correlation, where the presence of DP would correlate with the lack of scrambling, more precisely, where the lack of DP would be a prerequisite for scrambling. LBE, scrambling, and the categorial status of the traditional NP would then all be correlated. This option seems inherently more interesting than its alternative. In the absence of clear evidence to the contrary, I therefore posit the generalization in (77).⁴⁸

⁴⁸See also Bošković (2004) and Boeckx (2003b) for claims that scrambling languages do not have articles, which are the prototypical instantiation of D. Regarding Slavic and Romance, recall that scrambling Slavic languages have no articles, while Bulgarian has articles but no scrambling. Latin had scrambling and no articles and modern Romance languages have articles and no scrambling. Recall also that, following Corver (1992), I argued above that Slavic languages that have no articles have no DP. What about non-Slavic/Romance languages? Japanese, Korean, Hindi, Turkish, Chukchi, and Warlpiri all fit the above pattern in that they have scrambling and no articles (see also Fukui 1986 for a more general claim that Japanese has no DP), i.e. they have no independent lexical items functioning as articles. (I put aside here the controversial question of whether numeral *one* functions as an indefinite article in some languages.) These languages confirm that there is at least a strong tendency among scrambling languages to lack articles, which is predicted by (77). Note also that taking (77) seriously leads to the conclusion that German, which clearly has DP, does not have scrambling in the relevant sense of the term. German is traditionally considered to have scrambling. However, its “scrambling” differs in a number of respects from scrambling in, e.g., Japanese. Thus, German does not have the hall-mark case of scrambling, long-distance scrambling out of finite clauses (cf. Ross 1986), shows no evidence of the undoing effect associated with scrambling (in fact, its scrambling is claimed to always have semantic effects, see, e.g., Diesing 1992, Lenerz 1977, Moltmann 1991, Sauerland 1999, and Grewendorf this volume), and does not allow scrambling of *wh*-phrases (see, e.g., Fanselow 1990, Grewendorf and Sabel 1999,

(77) Scrambling Generalization 1: The scrambling/NP correlation
Only NP languages may allow scrambling. (+scrambling → -D)

Given (77), the presence of DP implies the impossibility of scrambling. In other words,

and Müller and Sternefeld 1993). German also disallows referential pro-drop, in contrast to other scrambling languages (cf. Hale 1983 and Oku 1998a,b; see the latter reference for an analysis of the correlation between the availability of scrambling and pro-drop). I assume, therefore, that German does not have scrambling in the sense of the term used in this paper. (In this respect, see Grewendorf (this volume), who also argues that German does not have scrambling. He provides convincing evidence that what has been traditionally considered to be scrambling in German actually involves topic/focus movement.) It is worth noting that authors who have tried to account for the many differences between Japanese and German scrambling under the assumption that we are dealing here with the same movement operation generally end up positing a crosslinguistic difference between Japanese and German scrambling that is not found with respect to any other movement operation (but see Grewendorf and Sabel 1999, whose analysis, however, does not extend to SC, which seems to be incorrectly expected not to allow long-distance scrambling under their analysis). Thus, Saito (2001b), who assumes that scrambling involves overt movement, suggests that Japanese scrambling is not feature-driven, while German scrambling is. Sauerland (1999) proposes that German scrambling is driven by checking of an interpretable feature, and Japanese scrambling by checking of an uninterpretable feature. Such differences are not found with respect to any other movement operation. E.g., there is no pair of languages X and Y such that wh-movement in X is driven by the +wh-feature, while in Y wh-movement exists but is not driven by the +wh-feature (or feature-checking at all); or such that wh-movement in X is driven by an interpretable +wh-feature, and in Y wh-movement is driven by an uninterpretable +wh feature (in other words, overt wh-movement in language X has semantic effects and overt wh-movement in language Y does not have semantic effects). Given this difference between Japanese/German scrambling and other movement operations, the natural conclusion regarding Japanese and German scrambling is that we are dealing here with totally different movement operations. In other words, differences between Japanese and German scrambling are too fundamental to treat them like the same movement operation.

It is also worth noting here that the term *scrambling* is often used in the literature for expository convenience when authors are not sure what kind of movement they are dealing with, or when they want to avoid committing themselves to the issue, or merely to indicate that the movement in question is different from other, better-known instances of movement regarding languages/phenomena considered. As a result, almost every well-studied language, e.g. English and Spanish, have been claimed to have scrambling although these languages do not have anything like Japanese scrambling. The ease-of-exposition use of the term scrambling (more precisely, the failure to recognize this usage, which characterizes a good deal of the relevant literature) raises a serious problem in crosslinguistic studies of scrambling. Obviously, what one is not sure about in one language does not have to be the same thing one is not sure about in another language.

scrambling languages do not have DP. (Note that we are not dealing here with a two-way correlation.) Can the generalization be deduced from independent assumptions?

Under BT's analysis, (77) entails that DPs, but not necessarily NPs, must establish a θ -relation as soon as possible, i.e. in overt syntax. This can be ensured given certain assumptions regarding lexical insertion and Last Resort. Chomsky (1995) assumes no aspect of lexical insertion, including pure Merge, is subject to Last Resort. On the other hand, Chomsky (2000) suggests pure Merge is subject to Last Resort, an assumption that leads to a considerable enrichment of the theory of selection. In Bošković (1997:37-39) I take a position that falls in between these two positions, namely, I suggest only pure Merge of functional elements is subject to Last Resort.⁴⁹ There are a number of appeals to economy of representation principles intended to ban unnecessary projections (see, e.g., Bošković 1997, Chomsky 1995, Franks 2000, Grimshaw 1993, Radford 1995, Safir 1993, and Speas 1994). Interestingly, they are all in actual practice applied only to functional elements, i.e. they are used to ban only unnecessary functional structure. We can make this "accident" more principled by taking my (1997) position that only pure Merge of functional elements is subject to Last Resort. Let us assume then that functional heads are indeed merged into the structure only if there is a reason for it. As discussed in Bošković (1997), the functional/lexical category distinction makes sense given that lexical elements determine what we want or choose to say, and functional elements merely help us build legitimate grammatical structures. In Bošković (1997) I appeal to the natural assumption that the latter (building legitimate grammatical structures), but not the former (what we want or choose to say), is subject to economy principles to justify subjecting only pure Merge of functional elements to Last Resort. Functional elements are then inserted into the structure only to the extent that they are necessary to build legitimate structures.⁵⁰ Another way to approach the issue at hand would be to assume that only functional categories are selected, a natural consequence of which would be to require only pure Merge of functional elements to be motivated by selectional requirements. The upshot of the above discussion is that pure Merge of a functional projection, but not pure Merge of a lexical projection, must have independent motivation. Given that the traditional NP is DP in non-scrambling languages, and NP in scrambling languages, pure-merging the traditional NP with X,

⁴⁹This is the effect of my (1997) analysis. I actually assumed all pure Merge is subject to Last Resort and provided a loophole to avoid requiring independent motivation for insertion of lexical elements. Note also that I am generalizing here the position I took with respect to lexical insertion to pure Merge in general.

⁵⁰Note that I assumed in Bošković (1997) that functional elements are not present in the numeration.

with X projecting, will have to have independent motivation in non-scrambling, but not in scrambling languages. Since scrambling is pure Merge under the BT analysis (see Saito 1994 and Saito and Fukui 1998 for a different perspective on this assumption), we thus derive the costlessness aspect of scrambling and capture the scrambling/NP correlation, deducing generalization (77). To illustrate (assuming scrambling involves non-feature checking adjunction to IP), a DP (traditional NP in non-scrambling languages) cannot be pure-Merged adjoined to IP without violating Last Resort, while an NP (traditional NP in scrambling languages) can be. A DP can still be pure-Merged in its θ -position given that such merger involves θ -feature checking.⁵¹ I conclude, therefore, that the correlation between the absence of DP and the availability of scrambling can be accounted for under the BT analysis of scrambling if pure Merge of functional, but not lexical elements, is subject to Last Resort, as argued in Bošković (1997).

3.4.4. Scrambling and case

Having shown how the scrambling generalization in (77) can be deduced, I now turn to another generalization regarding scrambling, which goes back to Sapir (1921) (see also Alexander 1990), showing where the generalization fits in the system developed above.

(78) Scrambling Generalization 2: The Scrambling/Case Correlation

⁵¹A number of issues arise that cannot be comprehensively discussed here. E.g., regarding clausal scrambling, in Bošković (2002d) I suggested following Stepanov (2001) that there is a DP/NP on top of CP, as a result of which CP scrambling works like DP/NP scrambling. As for PP scrambling, we can assume either that there is a parallel functional structure on top of PP in non-scrambling languages (which would not be surprising in light of a number of PP/CP parallelisms noted in Bošković in press c,e), or that PPs are actually NPs/DPs, Ps being Case-markers/particles (see BT:351 and Kang 2002). Note also that a BT-style derivation for non-scrambling languages on which a DP is inserted in SpecCP or a topic position, checking the +wh/topic feature in accordance with Last Resort, and then lowers in LF to its θ -position is ruled out given that, as argued by many authors (see, e.g., Epstein 1992, Lasnik and Uriagereka 1988, Lasnik and Saito 1992, Bošković 2003), a phrase located in an operator position at SS cannot undergo further LF movement (BT rule out the derivation in question by assuming that θ -features are strong in English, an assumption that can be eliminated in the current system, see note 55). As for scrambling languages, if overt upward LBE is universally blocked (see note 44), we can derive wh-LBE constructions via BT-style base-generation, followed by overt wh-movement and LF lowering of the copy in the “scrambled” position (I am modifying here BT’s analysis).

Only languages with overt case-marking may have scrambling. (+scrambling → +case)

(78) makes case a prerequisite for scrambling so that only case-marking languages can have scrambling. One way of interpreting (78) that would tie it to generalization (77) is to assume that in scrambling languages case does the job of D (see also Enç 1991, who observes that case in Turkish can encode semantic notions that are typically associated with D), e.g., by performing Higginbotham's (1985) θ -binding,⁵² which I assume is not possible in non-scrambling languages. Under this view, non-scrambling languages would have to have a DP (the open position of the noun would otherwise remain unbound), while the traditional NP could in principle be either an NP or a DP in scrambling languages, the NP option being forced in scrambling contexts, as discussed above. Interestingly, in scrambling languages that have both overtly case-marked and non-case-marked NPs, e.g., Japanese and Choctaw, only the former can scramble (see Saito 1983, 1985, and Alexander 1990 for Japanese and Alexander 1990 for Choctaw).⁵³

(79) a. John-ga dare(-o) nagutta no?

John-nom who-acc hit

'Who did John hit?'

b. Dare-o John-ga nagutta no?

c. *Dare John-ga nagutta no?

(Saito 1985:267)

(80) a. John-at Bill-(a) habli-tok.

John-nom Bill-obl kick-past

'John kicked Bill.'

b. Bill-a John-at habli-tok.

c. *Bill John-at habli-tok.

(Alexander 1990:174)

One way to interpret the above data is to assume that the traditional NP can, but does not have to, have the DP layer in Japanese and Choctaw. The DP option would be forced in examples where

⁵²Higginbotham posits an open position for nouns that is bound within the traditional NP. I leave working out details of the above proposal concerning θ -binding, a non-trivial issue, for future research.

⁵³The empirical situation is actually not completely clear in Japanese (see Fukuda 1993). It is possible that for some speakers case drop is a low level phenomenon applying after (78) (i.e. (81)). Note that in some scrambling languages, e.g. SC, the non-case marked option does not exist for morphological reasons: SC nouns do not have caseless forms.

case-marking is absent since due to the absence of a case-marker, the θ -position of the noun that needs to be bound within the traditional NP would remain unbound in such examples unless the DP projection is present (recall that D can bind the θ -position of a noun). However, the presence of the DP layer would make scrambling impossible for reasons discussed above, hence the ungrammaticality of (79c) and (80c).⁵⁴

Let me finally note that in Bošković (2002d) I also gave an alternative deduction of (77) which maintains the idea that an argument DP but not an argument NP must establish a θ -relation immediately, and which also deduces the scrambling generalization in (78). The alternative in fact makes a rather tight connection between the generalizations in (77) and (78). I will briefly summarize it below, leaving a detailed exploration of its ramifications for another occasion.

In the spirit of Cheng's (1997) clausal typing requirement, according to which all clauses must be typed at SS (a clause being typed as interrogative either with a question particle or by placing a wh-phrase in SpecCP, i.e. interrogative position), I proposed the *Argument Identification Requirement*.

(81) The Argument Identification Requirement

An argument must be identified at SS, i.e. overt syntax.

Argument identification is done either through overt case marking (the underlying assumption here is that overt case-marking does have some semantic import, as in many traditional grammars, see, e.g., Stevanović 1969 for SC, and Sigurðsson 2002, Uriagereka 2002, Butt and King in press, Svenonius in press, and Stjepanović in preparation), or by placing an argument in a θ -position. Given a further assumption that N, and not D, is the actual source of case (in some languages D can get case via low-level morphological case agreement/spreading which is irrelevant for our purposes), which means that NPs, but not DPs are case-marked in the syntax, we then capture both the NP/scrambling correlation and the scrambling/case correlation. In DP languages, an argument can be identified only by placing it in a θ -position in overt syntax, while in NP languages an argument can also be identified through case-marking, hence it does not need to be placed in a θ -

⁵⁴A question that arises now is whether non-scrambled case-marked NPs can be DPs in Japanese and Choctaw. If the case-marker must bind the open position of its noun this possibility would be excluded given that, as argued by Higginbotham (1985), the D also must be a binder in the relevant sense (according to Higginbotham, double binding of the noun's open position is not possible); otherwise, it would be allowed.

position in overt syntax. Under BT's approach to scrambling, it follows that only NP languages can have scrambling.⁵⁵ This analysis can also explain why Japanese subjects cannot scramble (cf. Saito 1985), given Saito's (1985) claim that they do not bear 'regular' case. Saito argues *-ga* is not the phonetic realization of abstract nominative case, which in our terms means *-ga* cannot identify an argument. It follows then that *ga*-marked phrases cannot scramble (on the impossibility of subject scrambling in Japanese, a somewhat controversial issue, see also Iseda 2004 and references therein).

4. Conclusion

The above discussion has hopefully brought us closer to understanding the nature of the mysterious phenomenon of left branch extraction. I have explored several analyses of the phenomenon as well as their consequences for the theory of locality, structure of NP, and scrambling. Concerning locality, I have made several proposals regarding how Chomsky's phase-based theory of locality can be applied to the NP level if crosslinguistic variation regarding left branch extraction is to be captured via locality of movement. Regarding the structure of NP, I have argued languages may differ with respect to the presence of DP in the traditional NP. Additionally, capturing crosslinguistic variation regarding left branch extraction may require positing crosslinguistic variation regarding the position of adjectives in the traditional NP, with some languages having the traditional NP-over-AP structure, others having Abney's AP-over-NP structure. Finally, I have established two generalizations regarding scrambling, namely, that only scrambling languages may allow left branch extraction and that only NP languages may allow scrambling. I proposed an account of these generalizations based on Bošković and Takahashi's analysis scrambling. The account led me to the conclusion that pure Merge of functional, but not lexical elements, is subject to Last Resort. I have also explored the role of case morphology in the phenomenon of scrambling, more precisely, the generalization that only languages with overt case marking may have scrambling, suggesting that in scrambling languages case does the job of D.

References

⁵⁵Note that under this analysis as well as the analysis from section 3.4.3, we can eliminate BT's stipulation that θ -features are weak in scrambling and strong in non-scrambling languages, which was necessary in BT's original system to differentiate scrambling and non-scrambling languages. Its effects are now deduced from independent mechanisms.

- Abels, K. 2003a. *[P clitic]!-Why? In *Investigations into formal Slavic linguistics. Contributions of the Fourth European Conference on Formal Description of Slavic Languages*, ed. P. Kosta, J. Błaszczak, J. Frasek, L. Geist, and M. Žygis, 443-460. Frankfurt am Main: Peter Lang.
- Abels, K. 2003b. Successive cyclicity, anti-locality, and adposition stranding. Ph.D. thesis, University of Connecticut.
- Abney, S. 1987. The English noun phrase in its sentential aspect. Ph.D. thesis, MIT.
- Alexander, M. 1990. Agreement configurations: grammatical relations in modular grammar. Ph.D. thesis, MIT.
- Arnaudova, O. 1996. The Bulgarian noun (adjective) movement to D. *University of Trondheim Working Papers in Linguistics* 28, 1-28.
- Arnaudova, O. 1998. Demonstratives and the structure of Bulgarian DP. *University of Trondheim Working Papers in Linguistics* 31, 1-12.
- Bailyn, J. 2001. On Scrambling: A reply to Bošković and Takahashi. *Linguistic Inquiry* 32:635-658.
- Bernstein, J. 1993. Topics in the syntax of nominal structure across Romance. Ph.D. thesis, CUNY.
- Boeckx, C. 2003a. *Islands and chains: Resumption as stranding*. Amsterdam: John Benjamins.
- Boeckx, C. 2003b. Free word order in minimalist syntax. *Folia Linguistica* 37:77-102.
- Boeckx, C. in press. Traces of argument structure. *Proceedings of the Texas Linguistic Society Meeting 1999*.
- Boeckx, C., and K. Sugisaki. 1999. Additional scrambling effect and the Principle of Minimal Compliance. *Proceedings of WCCFL* 18, 43-54.
- Bošković, Ž. 1992. Clausal selection, subjacency, and minimality. Ms., University of Connecticut.
- Bošković, Ž. 1994. D-structure, θ -criterion, and movement into θ -positions. *Linguistic Analysis* 24: 247-286.
- Bošković, Ž. 1997. *The syntax of nonfinite complementation: An economy approach*. Cambridge: MIT Press.
- Bošković, Ž. 1998. LF movement and the Minimalist Program. *Proceedings of NELS* 28, 43-57.
- Bošković, Ž. 2001. *On the nature of the syntax-phonology interface: Cliticization and related phenomena*. Amsterdam: Elsevier.
- Bošković, Ž. 2002a. A-movement and the EPP. *Syntax* 5: 167-218.
- Bošković, Ž. 2002b. On multiple wh-fronting. *Linguistic Inquiry* 33: 351-383.

- Bošković, Ž. 2002c. Split Constituents within NP in the History of English. In *Syntactic effects of morphological change*, ed. D. Lightfoot, 81-87. Oxford: Oxford University Press.
- Bošković, Ž. 2002d. Scrambling and left branch extraction. Presented at the Nanzan Workshop on Scrambling, Nanzan University.
- Bošković, Ž. 2003. On wh-islands and obligatory wh-movement contexts in South Slavic. In *Multiple wh-fronting*, ed. C. Boeckx and K. Grohmann, 27-50. Amsterdam: John Benjamins.
- Bošković, Ž. 2004. Topicalization, focalization, lexical insertion, and scrambling. *Linguistic Inquiry* 35: 613-638.
- Bošković, Ž. in press a. Review of *Topics in South Slavic syntax and semantics*, ed. by M. Dimitrova-Vulchanova and L. Hellan. *Journal of Slavic Linguistics*.
- Bošković, Ž. in press b. Two notes on right node raising. *University of Connecticut Working Papers in Linguistics*.
- Bošković, Ž. in press c. Be careful where you float your quantifiers. *Natural Language and Linguistic Theory*.
- Bošković, Ž. in press d. On the locality of left branch extraction and the structure of NP. *Studia Linguistica*.
- Bošković, Ž. in press e. Object shift and the clause/PP parallelism hypothesis. *Proceedings of WCCFL 23*.
- Bošković, Ž., and D. Takahashi. 1998. Scrambling and last resort. *Linguistic Inquiry* 29: 347-366.
- Bowers, J. 1987. Extended X-bar theory, the ECP, and the Left Branch Condition. *Proceedings of WCCFL 6*, 47-62.
- Bresnan, J. 1973. The syntax of the comparative clause construction in English. *Linguistic Inquiry* 4: 275-343.
- Burzio, L. 1986. *Italian syntax*. Dordrecht: Reidel.
- Butt, M., and T. King. in press. The status of case. In *Clause Structure in South Asian Languages*, ed. V. Dayal and A. Mahajan. Dordrecht: Kluwer.
- Caink, A. 2000. *University of Trondheim Working Papers in Linguistics* 34, 170-182.
- Cheng, L. 1997. *On the typology of wh-questions*. New York: Garland Publications.
- Chierchia, G. 1998. Reference to kinds across languages. *Natural Language Semantics* 6:339-405.
- Chomsky, N. 1964. *Current issues in linguistic theory*. The Hague: Mouton.
- Chomsky, N. 1986a. *Barriers*. Cambridge: MIT Press.

- Chomsky, N. 1986b. *Knowledge of language: Its nature, origin, and use*. New York: Praeger.
- Chomsky, N. 1993. A minimalist program for linguistic theory. In *The view from building 20*, ed. K. Hale and S. J. Keyser, 1-52. Cambridge: MIT Press.
- Chomsky, N. 1994. Bare phrase structure. *MIT Occasional Papers in Linguistics* 5.
- Chomsky, N. 1995. *The minimalist program*. Cambridge: MIT Press.
- Chomsky, N. 1999. Derivation by phase. *MIT Occasional Papers in Linguistics* 18.
- Chomsky, N. 2000. Minimalist inquiries. In *Step by step: Essays on minimalism in honor of Howard Lasnik*, ed. R. Martin, D. Michaels, and J. Uriagereka, 89-155. Cambridge: MIT Press.
- Cinque, G. 1980. On extraction from NP in Italian. *Journal of Italian Linguistics* 5: 47-99.
- Cinque, G. 1994. On the evidence for partial N-movement in the Romance DP. In *Paths towards Universal Grammar: Studies in honor of Richard S. Kayne*, ed. G. Cinque, J. Koster, J.-Y. Pollock, L. Rizzi, and R. Zanuttini, 85-110. Georgetown: Georgetown University Press.
- Corbett, G. 1987. The morphology/syntax interface: Evidence from possessive adjectives in Slavonic. *Language* 63: 299-345.
- Corver, N. 1990. The syntax of left branch extractions. Ph.D. thesis, Tilburg University.
- Corver, N. 1992. Left branch extraction. *Proceedings of NELS 22*, 67-84.
- Diesing, M. 1992. *Indefinites*. Cambridge: MIT Press.
- Dikken, M. den. 1999. On the structural representation of possession and agreement: The case of (anti-)agreement in Hungarian possessed nominal phrases. In *Crossing boundaries: Advances in the theory of central and eastern European languages*, ed. I. Kenesei, 137-178. Amsterdam: John Benjamins.
- Doherty, C. 1997. Clauses without Complementizers: Finite IP-Complementation in English. *The Linguistic Review* 14: 197-220.
- Duffield, N. 1999. Adjectival modifiers and the specifier-adjunct distinction. In *Specifiers: Minimalist approaches*, ed. D. Adger, S. Pintzuk, B. Plunkett, and G. Tsoulas, 126-145. New York: Oxford University Press.
- Eng, M. 1991. The semantics of specificity. *Linguistic Inquiry* 22: 1-25.
- Epstein, S. 1992. Derivational constraints on A'-chain formation. *Linguistic Inquiry* 23: 235-259.
- Epstein, S., and D. Seely. 1999. SPEC-ifying the GF 'subject'. Ms., University of Michigan and Eastern Michigan State University.
- Fanselow, G. 1990. Scrambling as NP-movement. In *Scrambling and barriers*, ed. G. Grewendorf and W. Sternefeld, 113-140. Amsterdam: John Benjamins.

- Fanselow, G. 2001. Features, θ -roles, and free constituent order. *Linguistic Inquiry* 32: 405-438.
- Fanselow, G., and D. Ćavar. 2002. Distributed deletion. In *Theoretical approaches to universals*, ed. A. Alexiadou, 65-107. Amsterdam: John Benjamins.
- Fowler, G., and S. Franks. 1994. The structure of DP in Bulgarian. *Indiana Linguistic Studies* 7:58-68.
- Ferreira, M. 2000. Hyperraising and null subjects in Brazilian Portuguese. Ms., Universidade Estadual de Campinas.
- Franks, S. 1998. Clitics in Slavic. Presented at the Comparative Slavic Morphosyntax Workshop, Spencer, Indiana.
- Franks, S. 2000. A PF-insertion analysis of *that*. *Syntax* 3: 1-27.
- Franks, S., and Ž. Bošković. 2001. An argument for multiple spell-out. *Linguistic Inquiry* 32:174-183.
- Franks, S., and T. King. 2000. *A handbook of Slavic clitics*. Oxford: Oxford University Press.
- Franks, S., and L. Progovac. 1994. On the placement of Serbo-Croatian clitics. *Indiana Linguistic Studies* 7: 69-78.
- Fukuda, M. 1993. Head government and case marker drop in Japanese. *Linguistic Inquiry* 24:168-172.
- Fukui, N. 1986. A theory of category projection and its applications. Ph.D. thesis, MIT.
- Fukui, N. 1993. Parameters and optionality. *Linguistic Inquiry* 24: 399-420.
- Gavruseva, E. 2000. On the syntax of possessor extraction. *Lingua* 110: 743-772.
- Giorgi, A., and G. Longobardi. 1991. *The syntax of noun phrases: Configuration, parameters, and empty categories*. Cambridge: Cambridge University Press.
- Giusti, G. and M. Dimitrova-Vulchanova. 1996. Quantified Noun Phrase structure in Bulgarian. *Proceedings of Formal Approaches to Slavic Linguistics* 3, 123-144.
- Grewendorf, G. this volume. The discourse configurationality of scrambling.
- Grewendorf, G., and J. Sabel. 1999. Scrambling in German and Japanese: Adjunction vs multiple specifiers. *Natural Language and Linguistic Theory* 17: 1-65.
- Grimshaw, J. 1993. Minimal projection, heads, and minimality. Ms., Rutgers University.
- Grimshaw, J. 1997. Projection, heads and optimality. *Linguistic Inquiry* 28: 373-422.
- Grohmann, K. 2000. Prolific peripheries: A radical view from the left. Ph.D. thesis, University of Maryland.
- Grohmann, K. 2003. *Prolific domains: on the anti-locality of movement dependencies*. Amsterdam: John Benjamins

- Grohmann, K., and L. Haegeman. 2003. Resuming reflexives. *Nordlyd* 31, 46-62.
- Grohmann, K., and P. Panagiotidis. 2004. Demonstrative doubling in Greek. *University of Maryland Working Papers in Linguistics* 13:109-131.
- Grosu, A. 1974. On the nature of the Left Branch Condition. *Linguistic Inquiry* 5: 308-319.
- Hale, K. 1981. *On the position of Walpiri in the typology of the base*. Bloomington: Indiana University Linguistics Club.
- Hale, K. 1983. Warlpiri and the grammar of non-configurational languages. *Natural Language and Linguistic Theory* 1: 5-47.
- Higginbotham, J. 1985. On semantics. *Linguistic Inquiry* 16: 547-593.
- Hornstein, N. 1998. Movement and chains. *Syntax* 1: 99-127.
- Hornstein, N. 1999. Movement and control. *Linguistic Inquiry* 30: 69-96.
- Hornstein, N. 2001. *Move! A minimalist theory of construal*. Malden: Blackwell.
- Hoshi, H. in press. (Non)configurational θ -marking. *Proceedings of Linguistics and Phonetics 2002*, Charles University and Meikai University.
- Huang, J. 1982. Logical relations in Chinese and the theory of grammar. Ph.D. thesis, MIT.
- Ishii, T. 1999. Cyclic spell-out and the *that-t* effects. *Proceedings of WCCFL* 18, 220-231.
- Iseda, T. 2004. Nominative case particle *-ga* in focus related constructions in Japanese. Ms., University of Connecticut.
- Kang, B. 2002. The structure of Korean cleft construction and its theoretical implications. Ms., University of Connecticut.
- Karimi, S. 2003. On scrambling in Persian. In *Word order and scrambling*, ed. S. Karimi, 91-124. Cambridge: Blackwell.
- Kayne, R. 1988. Romance *se/si*. Presented at GLOW 11, Budapest, GLOW Newsletter 20.
- Kayne, R. 1994. *The antisymmetry of syntax*. Cambridge: MIT Press.
- Kayne, R. 2003. Pronouns and their antecedents. In *Derivation and explanation in the Minimalist Program*, ed. S. Epstein and D. Seely, 133-166. Oxford: Blackwell.
- Kennedy, C., and J. Merchant. 2000. Attributive comparative deletion. *Natural Language and Linguistic Theory* 18: 89-146.
- Kim, J-S. 1997. Focus movement and ellipsis in Korean and Japanese. *Proceedings of ConSole* 5, 169-182.
- Kitahara, H. 1997. *Elementary operations and optimal derivations*. Cambridge: MIT Press.
- Larson, R., and S. Cho. 1999. Temporal adjectives and the structure of possessive DPs.

Proceedings of WCCFL 18, 299-311.

- Lasnik, H. 1999. *Minimalist analysis*. Oxford: Blackwell.
- Lasnik, H. 2001. Derivation and representation in modern transformational syntax. In *The handbook of contemporary syntactic theory*, ed. M. Baltin and C. Collins, 62-88. Oxford: Blackwell.
- Lasnik, H. and M. Saito. 1992. *Move α : Conditions on its application and output*. Cambridge: MIT Press.
- Lasnik, H. and J. Uriagereka. 1988. *A course in GB syntax*. Cambridge: MIT Press.
- Leko, N. 1999. Functional categories and the DP in Bosnian. In *Topics in South Slavic syntax and semantics*, ed. M. Dimitrova-Vulchanova and L. Hellan, 229-252. Amsterdam: John Benjamins.
- Lenerz, J. 1977. *Zur Abfolge nominaler Satzglieder im Deutschen*. Tübingen: Narr.
- Longobardi, G. 1994. Reference and proper names: A theory of N-movement in syntax and Logical Form. *Linguistic Inquiry* 25: 609-665.
- López, L. 2001. On the (non)complementarity of θ -theory and checking theory. *Linguistic Inquiry* 32: 694-716.
- Mahajan, A. 2003. Word order and (remnant) VP movement. In *Word order and scrambling*, ed. Simin Karimi, 217-237. Cambridge: Blackwell.
- Manzini, R., and A. Roussou. 2000. A minimalist theory of A-movement and control. *Lingua* 110: 409-447.
- Marantz, A. 1984. *On the nature of grammatical relations*. Cambridge: MIT Press.
- Marantz, A. 2001. Words. Presented at WCCFL 20, USC, Los Angeles.
- McCloskey, J. 1992. Adjunction, selection, and embedded verb second. Santa Cruz: Linguistics Research Center.
- McGinnis, M. 1998a. *Locality in A-movement*. Ph.D. thesis, MIT.
- McGinnis, M. 1998b. Reflexive external arguments and lethal ambiguity. *Proceedings of WCCFL* 16, 303-317.
- Miyagawa, S. 1997. Against optional scrambling. *Linguistic Inquiry* 28: 1-25.
- Moltmann, F. 1991. Scrambling in German and the specificity effect. Ms., MIT.
- Motapanyane, V. 1994. An A-position for Romanian subjects. *Linguistic Inquiry* 25: 729-734.
- Müller, G. 1997. Optional movement and the interaction of economy constraints. In *The role of economy principles in linguistic theory*, ed. C. Wilder, H.-M. Gärtner, M. Bierwisch, 115-

145. Berlin: Akademie Verlag.
- Müller, G., and W. Sternefeld. 1993. Improper movement and unambiguous binding. *Linguistic Inquiry* 24: 461-507.
- Murasugi, K. 1991. Noun phrases in Japanese and English: A study in syntax, learnability, and acquisition. Ph.D. thesis, University of Connecticut.
- Murasugi, K., and M. Saito. 1994. Adjunction and cyclicity. *Proceedings of WCCFL* 13, 302-317.
- Oku, S. 1998a. A theory of selection and reconstruction in the minimalist perspective. Ph.D. thesis, University of Connecticut.
- Oku, S. 1998b. LF Copy Analysis of Japanese Null Arguments. *Proceedings of the Chicago Linguistic Society* 34, 299-314.
- Ormazabal, J. 1991. Asymmetries on wh-movement and some theoretical consequences. Ms., University of Connecticut.
- Ormazabal, J., J. Uriagereka, and M. Uribe-Echevarria. 1994. Word order and wh-movement: Towards a parametric account. Presented at the 17th GLOW Colloquium, Vienna.
- Pesetsky, D. 1995. *Zero syntax*. Cambridge: MIT Press.
- Progovac, L. 1998. Determiner Phrase in a language without determiners. *Journal of Linguistics* 34: 165-179.
- Quirk, R., S. Greenbaum, G. Leech, and J. Svartik. 1972. *A grammar of contemporary English*. London: Seminar Press.
- Radford, A. 1995. Children: Architects or Brickies? *Proceedings of the 19th Annual Boston University Conference on Language Development* 1-19. Somerville: Cascadilla Press.
- Rappaport, G. 1998. The Slavic Noun Phrase. Presented at the Comparative Slavic Morphosyntax Workshop, Spencer, Indiana.
- Rodrigues, C. 2002. Morphology and null subjects in Brazilian Portuguese. In *Syntactic effects of morphological change*, ed. D. Lightfoot, 160-178. Oxford: Oxford University Press.
- Roehrs, D. 2002. Icelandic Case-fluctuation and movement into θ -roles. Ms., Indiana University, Bloomington and University of Connecticut.
- Ross, J. R. 1986. *Infinite syntax*. Norwood: Ablex Publishing.
- Sabel, J. 2002. A minimalist analysis of syntactic islands. *The Linguistic Review* 19: 271-315.
- Sabel, J. this volume. String-vacuous scrambling and output effects.
- Safir, K. 1993. Perception, selection, and structural economy. Ms., Rutgers University.

- Saito, M. 1983. Case and government in Japanese. *Proceedings of WCCFL 2*, 247-259.
- Saito, M. 1985. Some asymmetries in Japanese and their theoretical implications. Ph.D. thesis, MIT.
- Saito, M. 1992. Long distance scrambling in Japanese. *Journal of East Asian Linguistics* 1:69-118.
- Saito, M. 1994. Improper adjunction. *Proceedings of Formal Approaches to Japanese Linguistics* 1, 263-293.
- Saito M. 2001a. Movement and θ -roles: A case study with resultatives. Presented at the 2nd Tokyo Conference on Psycholinguistics, Tokyo.
- Saito, M. 2001b. A derivational approach to the interpretation of scrambling chains. Ms., Nanzan.
- Saito, M., and N. Fukui. 1998. Order in phrase structure and movement. *Linguistic Inquiry* 29: 439-474.
- Saito, M., and H. Hoshi. 2000. The Japanese light verb construction and the minimalist program. In *Step by step: Essays on minimalism in honor of Howard Lasnik*, ed. R. Martin, D. Michaels, and J. Uriagereka, 261-295. Cambridge: MIT Press.
- Saito, M., and K. Murasugi. 1999. Subject predication within IP and DP. In *Beyond principles and parameters*, ed. K. Johnson and I. Roberts, 167-188. Dordrecht: Kluwer.
- Sapir, E. 1921. *Language. An introduction to the study of speech*. New York: Harcourt.
- Sauerland, U. 1999. Erasability and interpretation. *Syntax* 2: 161-188.
- Schoorlemmer, M. 1998. Possessors, articles and definiteness. In *Possessors, predicates, and movement in the DP*, ed. A. Alexiadou and C. Wilder, 55-86. Amsterdam: John Benjamins.
- Schütze, C. 1996. Serbo-Croatian second position clitic placement and the phonology-syntax interface. *Proceedings of Formal Approaches to Slavic Linguistics* 3, 225-248.
- Schütze, C. 2001. On the nature of default Case. *Syntax* 4: 205-238.
- Sigurðsson, H. 2002. Non-nominative subjects in Icelandic. Ms., Lund University.
- Speas, M. 1994. Null arguments in a theory of economy of projection. In *University of Massachusetts Occasional Papers* 17, 179-208.
- Sproat, R., and C. Shih. 1991. The cross-linguistic distribution of adjective ordering restrictions. In *Interdisciplinary approaches to language*, ed. C. Georgopoulos and R. Ishihara, 565-

593. Dordrecht: Kluwer.

Stateva, P. 2002. Possessive clitics and the structure of nominal expressions. *Lingua* 112: 647-690.

Stepanov, A. 2001. Cyclic domains in syntactic theory. Ph.D. thesis, University of Connecticut.

Stevanović, M. 1969. *Savremeni srpskohrvatski jezik*. Beograd: Naučna knjiga.

Stjepanović, S. 1998. Extraction of adjuncts out of NPs. Presented at the Comparative Slavic Morphosyntax Workshop, Spencer, Indiana.

Stjepanović, S. 1999. What do second position cliticization, scrambling, and multiple wh-fronting have in common? Ph.D. thesis, University of Connecticut.

Stjepanović, S. in preparation. The distribution of numeral phrases in Slavic and implications for inherent case. Ms., West Virginia University.

Stowell, T. 1989. Subjects, specifiers, and X-bar theory. In *Alternative conceptions of phrase structure*, ed. M. Baltin and A. Kroch, 232-262. Chicago: University of Chicago Press.

Stowell, T. 1991. Small clause restructuring. In *Principles and parameters in comparative grammar*, ed. R. Freidin, 182-218. Cambridge: MIT Press.

Svenonius, P. in press. Icelandic Case and the structure of events. *Journal of Comparative Germanic Linguistics*.

Szabolcsi, A. 1983/1984. The possessor that ran away from home. *Linguistic Review* 3:89-102.

Szabolcsi, A. 1994. The noun phrase. *Syntax and Semantics, Vol. 27: The syntactic structure of Hungarian*, ed. F. Kiefer and K. Kiss, 179-274. New York: Academic Press.

Tada, H. 1993. A/A' partition in derivation. Ph.D. thesis, MIT.

Takahashi, D. 1994. Minimality of movement. Ph.D. thesis, University of Connecticut.

Ticio, E. 2003. On the structure of DPs. Ph.D. thesis, University of Connecticut.

Tomić, O. M. 1996. The Balkan Slavic nominal clitics. In *Approaching second: Second position clitics and related phenomena*, ed. A. Halpern and A. Zwicky, 511-536. Stanford: CSLI.

Torrego, E. 1987. On empty categories in nominals. Ms., University of Massachusetts, Boston.

Trenkić, D. in press. Definiteness in Serbian/Croatian/Bosnian and some implications for the general structure of the nominal phrase. *Lingua*.

- Uriagereka, J. 1988. On government. Ph.D. thesis, University of Connecticut.
- Uriagereka, J. 2002. *Derivations: exploring the dynamics of syntax*. London: Routledge.
- Valois, D. 1991. The internal syntax of DP. Ph.D. thesis, UCLA.
- Watanabe, A. 1999. Multiple θ -marking: A preliminary study. In *Linguistics: In Search of the Human Mind*, ed. M. Muraki and E. Iwamoto, 708-736. Tokyo: Kaitaku-sha.
- Wexler K. and P. Culicover. 1980. *Formal principles of language acquisition*. Cambridge: MIT Press.
- Willim, E. 2000. On the grammar of Polish nominals. In *Step by step: Essays on minimalism in honor of Howard Lasnik*, ed. R. Martin, D. Michaels, and J. Uriagereka, 319-346. Cambridge: MIT Press.
- Wurmbrand, S., and J. Bobaljik. 2003. Relativized phases. Ms., McGill University and University of Connecticut.
- Zlatić, L. 1994. An asymmetry in extraction from noun phrases in Serbian. *Indiana Linguistic Studies* 7: 207-216.
- Zlatić, L. 1997. The structure of the Serbian Noun Phrase. Ph.D. thesis, University of Texas at Austin.
- Zlatić, L. 1998. Slavic Noun Phrases are NPs, not DPs. Presented at the Comparative Slavic Morphosyntax Workshop, Spencer, Indiana.

University of Connecticut

Department of Linguistics, U-1145

Storrs, CT 06269

USA

zeljko.boskovic@uconn.edu