Phases beyond clauses

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Abstract: It is agued that there is crosslinguistic variation regarding what counts as a phase in the traditional Noun Prase (TNP) which tracks independent crosslinguistic variation regarding the categorial status of the TNP assumed under the DP/NP parameter, on which languages without articles lack DP. In particular, it is argued that DP is a phase in DP languages, and NP is a phase in NP languages. However, in a few cases where an additional phrase is projected above NP in NP languages, this additional phrase becomes a phase instead of the NP. The real source of the parametric variation in question then concerns the amount of structure projected in a TNP, not phasehood, since the highest projection in a TNP always counts as a phase. The tests for phasehood developed for the TNP are also applied to APs and PPs, leading to the conclusion that all major phrases, NP, AP, PP, and VP, project phases, with the exact phasal projection depending on the amount of functional structure above the major phrases. Many of the diagnostics for the locality of movement that are used in the paper are crucially affected by the structural/inherent case distinction, inherent case being less constrained than structural case with respect to a number of movement phenomena. Based on this it is argued that the inherent/structural case distinction has a structural reflex, i.e. that inherent case and structural case should be treated in a different manner structurally.

Keywords: anti-locality, AP, case, left-branch extraction, NP, numerals, phase, PP

1. Introduction

The theory of phases has focused on clausal structure, which can be considered to be an extension of VP, hence the standard assumption that CP and *v*P count as phases. Other major phrases have attracted much less attention in the literature on phases, with NP getting more attention than AP and PP. This paper focuses on NP, in particular, the phasal approach to the locality of movement as applied to the extraction out of NPs. It will be shown that the diagnostics employed in this paper to determine the phasal status of NPs also have consequences for APs and PPs, which have rarely been discussed in the literature in terms of phases. The central diagnostic concerns left-branch extraction, which we will see can be used as a powerful tool for determining the phasal status of NPs as well as APs and PPs, the main testing ground being Serbo-Croatian.[1] The discussion in the paper has consequences for a number of additional phenomena, especially the internal structure of NPs (and PPs) and the distinction between structural and inherent case. Regarding the latter, it will be shown that inherent case is less constrained than structural case with respect to a number of movement phenomena, which I will argue indicates that the two should be treated in a different manner structurally.

The overall picture regarding phasehood we will end up with is that all major phrases (NP, AP, PP, VP) project phases, with the exact phasal projection depending on the amount of functional structure above the major phrases under the assumption that the highest projection in the extended projection of a major phrase counts as a phase. This is in line with the dynamic approach to phases, where the phasal status of X can be affected by the syntactic context in which X is found. The centerpiece of the discussion in this respect is the traditional Noun Phrase (TNP).[2] It is agued that there is crosslinguistic variation regarding what counts as a phase in the TNP which tracks independent crosslinguistic variation regarding the categorial status of the TNP assumed under the DP/NP

[1]The first relevant discussion of left branch extraction can be found in Uriagereka (1988). I will in fact rely here on an important observation regarding left branch extraction made in Uriagereka (1988), see sec. 2.1.

[2] I will use the term TNP to refer to noun phrases without committing myself to their categorial status (NP or DP).

parameter, which posits a difference in the structure of the TNP in languages with and languages without articles, the latter lacking the DP layer. In particular, it is argued that DP is a phase in DP languages, and NP is a phase in NP languages. However, in a few cases where an additional phrase is projected above NP in NP languages, this additional phrase becomes a phase instead of the NP. The real source of the parametric variation in question then concerns the amount of structure projected in a TNP, not phasehood, since the highest projection in a TNP always counts as a phase.

Since the difference in the categorial status of TNPs posited under the DP/NP parameter directly affects extraction out of TNPs, which in turn sheds light on the phasal status of TNPs, in section 2 I will briefly sum up several issues regarding the DP/NP parameter. In section 3, I will use left-branch extraction and related constructions as the diagnostic tool for determining the phasal status of TNPs. In section 4 these diagnostics will be applied to PPs and APs. Section 5 is the conclusion.

2. The NP/DP parameter

It is standardly assumed that languages without articles have a null D. Thus, the difference between English (1) and Serbo-Croatian (SC) (2) is standardly assumed to be PF-based, the only difference between English and SC being that D is phonologically null in SC.

(1) The stone broke the window.

(2) Kamen je razbio prozor.
stone is broken window

In Bošković (2008a) I argue against this position. I argue that there is a fundamental structural difference in the TNP of English and article-less languages like SC based on a number of wide-ranging syntactic and semantic phenomena that correlate with the presence or absence of articles; they are given in (3) below.[3] A number of additional phenomena are noted in Bošković (2010a). I give a few of them

[3] See Bošković (2008a, 2010a) for detailed discussion (which due to space considerations I cannot go into here), including illustrations of the generalizations in (3)-(4) and the precise definitions of the phenomena referred to in these generalizations (e.g. what is meant by scrambling in (3)c is long-distance scrambling of the kind found in Japanese). Notice also that what

in (4); for additional generalizations see Bošković (2009a, 2010a), Boeckx (2003), Cheng (in preparation), Despić (in preparation), Herdan (2008), Marelj (2008), Migdalski (2010), among others.

(3) **Generalizations** (see Bošković 2008a and references therein)

a. Only languages without articles may allow left-branch extraction as in (6).

b. Only languages without articles may allow adjunct extraction from TNPs as in (14).

c. Only languages without articles may allow scrambling.

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

e. Only languages with articles may allow clitic doubling.

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

g. Head-internal relatives display island sensitivity in languages without articles, but not in languages with articles.

h. Polysynthetic languages do not have articles.

i. Only languages with articles allow the majority reading of MOST.

j. Article-less languages disallow negative raising (i.e strict clause-mate NPI licensing under negative raising); those with articles allow it.

(4) **Additional generalizations** (see Bošković 2010a and references therein)

a. Negative constituents must be marked for focus in article-less languages.

b. The negative concord reading may be absent with multiple complex negative constituents only in negative concord languages with articles.

c. Radical pro-drop is possible only in article-less languages.

d. Number morphology may not be obligatory only in TNPs of article-less languages.

e. Elements undergoing focus movement are subject to a verb adjacency requirement only in

matters for these generalizations is the presence of a definite article in a language since Slovenian, a language which has indefinite but not definite article, patterns with article-less languages regarding these generalizations, see Bošković (2009b).

languages with articles.

f. Possessors may induce an exhaustivity presupposition only in languages with articles.

g. The sequence of Tense phenomenon is found only in languages with articles.

These generalizations, which are syntactic and semantic in nature, indicate there is a fundamental difference in the TNP of languages with articles and languages without articles that cannot be reduced to phonology (overt vs. null articles). Furthermore, Bošković (2008a, 2010a, in preparation) and Bošković and Gajewski (in press) show the generalizations can all be deduced (see sec. 3 for the deductions of (3)a,b) if languages that lack articles lack DP altogether. (For other 'no DP' analyses of at least some such languages, see Fukui 1986, 1988, Corver 1992, Zlatić 1997, Chierchia 1998, Cheng and Sybesma 1999, Willim 2000, and Baker 2003, among others.) Moreover, the NP/DP analysis provides a uniform account of these differences, where a single difference between the two language types is responsible for all of them (this will be illustrated for two generalizations from (3) in sec. 3).

In what follows I will therefore take the NP/DP parameter for granted. Two generalizations regarding this parameter that are of direct interest to us here since they will be used as a tool for probing the phasal status of TNPs are (3)a,b. I turn to these generalizations in the next two sections. I will first provide some empirical motivation for the generalizations. I will discuss their relevance for the phasal status of TNPs in sec. 3 after a brief discussion of the structural position of relevant elements in sec. 2.3

2.1. Left branch extraction

It is well-known languages differ in whether or not they allow left-branch extraction (LBE), as in (5)-(6)

(5) *Expensive$_i$ he saw [t_i cars]

(6) Skupa$_i$ je vidio [t_i kola] (SC)

expensive is seen car

Uriagereka (1988), Corver (1992), and Bošković (2005b) observe that there is a correlation between

articles and the availability of LBE and establish the generalization in (7).[4]

(7) Only languages without articles may allow LBE examples like (6).

To illustrate, Bulgarian and Macedonian, which are the only two Slavic languages with articles, differ from other Slavic languages (e.g. SC, Russian, Polish, Czech, Ukrainian, and Slovenian) in that they disallow LBE, as illustrated for Macedonian in (8).Also relevant is Romance: Latin, which did not have articles, differs from Modern Romance languages, which have articles, in that it had LBE. Mohawk, Southern Tiwa and Gunwinjguan languages also allow LBE and lack articles (see Baker 1996).[5]

(8) *Novata$_i$ (ja) prodade Petko [t$_i$ kola]. (Macedonian)

new it sold Petko car

A particularly strong argument is provided by Finnish. As discussed in Laury (1997), colloquial Finnish has developed an article. Significantly, Franks (2007) reports that LBE (i.e. (9)) is allowed only in literary Finnish, which does not have articles.

(9) Punaisen ostin auton. [literary Finnish]

red$_{ACC}$ buy$_{PST.1SG}$ car$_{ACC}$

(10)?*Punaisen ostin (sen) auton. [spoken Finnish]

red$_{ACC}$ buy$_{PST.1SG}$ the$_{ACC}$ car$_{ACC}$

Also relevant is Ancient Greek, which underwent a change from an article-less to an article language. Thus, while Homeric Greek was an article-less language, Koine Greek was a full-blown article

[4]Like most of (3)-(4), (7) is a one-way generalization; it doesn't say LBE will be allowed in all article-less languages. There are other requirements on AP LBE, in addition to the lack of articles. One of them is agreement between the adjective and the noun (see Bošković 2005a, 2009d). The lack of such agreement is the reason why LBE is disallowed in e.g. Chinese.

[5]I focus here on AP LBE, ignoring possessor extraction. The reason for this is that several accounts of the ban on AP LBE in DP languages leave a loophole for possessor extraction to occur in some DP languages (see Bošković 2005b:4). Thus, Hungarian, which has articles, allows possessor extraction, but disallows AP LBE, which is what is important for us (see, however, den Dikken 1999, who suggests Hungarian possessor extraction may involve a left dislocation-type configuration).

There are many types of TNP splits crosslinguistically (e.g. German *was für* split). It is beyond the scope of this paper (or any single work) to provide a comprehensive account of all types of TNP splits. Rather, I confine my attention to LBEs like (5) and adjunct extractions like (12). As usual, future work will show whether the overall picture argued for here based on such cases can be maintained or appropriately modified when constructions not examined here are taken into consideration.

language. Taylor (1990) investigated what she refers to as split wh-phrases (involving extraction of just the wh-word out of a wh-phrase) and split NPs in Ancient Greek. While not all split wh-phrases/NPs involve LBE, many of them do, which makes Taylor's results very significant in the current context. Taylor's corpus contains 68% of split wh-phrases and 25% of split NPs for Homeric Greek, which was an article-less language, while the corpus for Koine Greek, an article language, contains only 15% of split wh-phrases and 0% split NPs. This quite strongly confirms the LBE generalization.

2.2. Adjunct extraction from TNPs

Consider now extraction of adjuncts from TNPs, which is, as is well-known, disallowed in English (Huang 1982, Chomsky 1986a, Stowell 1989, Lasnik and Saito 1992, Culicover and Rochemont 1992).

(11) Peter met [$_{NP}$ girls from this city]

(12) *From which city$_i$ did Peter meet [$_{NP}$ girls t_i]?

Noting that SC and Russian allow adjunct extraction from TNPs while Bulgarian doesn't, Stjepanović (1998) argues for (13). As further illustration, Slovenian, Polish, Czech, Ukrainian, Hindi, and Bangla, which all lack articles, pattern with SC and Russian, while Spanish, Icelandic, Dutch, German, French, Brazilian Portuguese, Arabic and Basque, which have articles, pattern with English and Bulgarian.[6]

(13) Only languages without articles may allow adjunct extraction out of TNPs.

(14) Iz kojeg grada$_i$ je Petar sreo [djevojke t_i] (SC)
from which city is Peter met girls

(15) *Ot koj grad$_i$ Petko [sreštna momičeta t_i]? (Bulgarian, Stjepanović 1998)
from which city Petko met girls

(16) *Frá hvaða borg sérð þú stelpur? (Icelandic)
from which city see you girls

[6]That the generalization holds in Spanish is demonstrated in Ticio (2003) (see also Fortmann 1996 for German); Ticio also provides tests for determining NP adjunct status, which should be run for any potential counterexamples to (13).

2.3. D-like items in article-less languages

Traditional D-items do not exhibit the behavior that is associated with D-items in article-less languages. Since the issue will be relevant for the discussion of LBE in sec. 3 (the items in question undergo LBE, see (22)) I will discuss it briefly with respect to SC. Although SC lacks articles, it does have lexical items that correspond to English *that*, *some*, and possessives like *John's*. However, such items behave like adjectives in SC both morphologically and syntactically (Zlatić 1997, Bošković 2008a). In contrast to English D-items, they clearly have the morphology of adjectives, as illustrated in (17)-(18). They also occur in typical adjectival positions like the predicate of a copula (19) and allow stacking up (20).

(17) t*im* nek*im* mlad*im* djevojkama

those$_{FEM.PL.INST}$ some$_{FEM.PL.INST}$ young$_{FEM.PL.INST}$ girls$_{FEM.PL.INST}$

(18) t*ih* nek*ih* mlad*ih* djevojaka

those$_{FEM.GEN.PL}$ some$_{FEM.GEN.PL}$ young$_{FEM.GEN.PL}$ girls$_{FEM.GEN.PL}$

(19) Ova knjiga je moja

*this book is my

(20) ta moja slika

*this my picture

An interesting quirk of SC possessives is that they cannot be modified by adjectives (21). This follows if adjectives cannot modify adjectives given that SC possessors are actually adjectives.

(21) *bogati susjedov konj

rich neighbor's horse

Under the adjectival analysis of the items in question it is also not surprising that all these items undergo LBE, just like adjectives. Thus, (22) is acceptable, just like the adjectival LBE example in (6).

(22) Ova/Neka/Jovanova$_i$ je vidio [t_i kola]

this/some/John's is seen car

The items in question also have some freedom of word order. There is in fact a significant contrast with English here: While adjectives must follow D-items in English, they may precede D-items in SC.

(23) Jovanova skupa slika vs skupa Jovanova slika
John's expensive picture *expensive John's picture

(24) bivša Jovanova kuća vs Jovanova bivša kuća
*former John's house John's former house

The order of SC adjectives and D-items is, however, not completely free: both adjectives and possessives must follow demonstratives.

(25) ova skupa kola/?*skupa ova kola
this expensive car

(26) ova Jovanova slika/?*Jovanova ova slika
this Jovan's picture

These ordering restrictions follow straightforwardly from the semantics of the elements in question. Assuming that the semantics for possessives is modificational (see, e.g., Partee and Borschev 1998 ([[*John's*]] = $\lambda x.[R_i(John)(x)]$ where R_i is a free variable) and Larson and Cho 1999 ([[to John]] = $\lambda x.[POSS(j,x)]$) and given the standard assumption that adjectives are also of type <e,t>, and the rule of intersective Predicate Modification, compositional semantics does not impose any restrictions on the order of possessives and adjectives. However, the situation is different with demonstratives. Given the standard, Kaplan-style treatment of demonstratives (see Kaplan 1977), where demonstrative noun phrases pick out an individual of type e, i.e. where a demonstrative like *that* is a function of type <<e,t>,e>, once a demonstrative maps a nominal element to an individual, further modification by predicates of type <e,t> is not possible. Straightforward semantic composition thus allows possessives to be composed either before or after modifying adjectives, while demonstratives must be composed

after both adjectives and possessives.[7] This perfectly matches the actual facts regarding the ordering of the elements in question in SC.[8] Below, I will adopt an NP-adjunction analysis for all the items in (23)-(26). The fact that these items are not all freely ordered in SC is not problematic given that the unacceptable orders (and only the unacceptable orders) are anyway filtered out in semantics. [9]

Particularly strong evidence that SC possessives should be syntactically treated differently from English possessives, which also confirms that, like adjectives more generally, SC possessives are NP adjoined, is provided by certain binding contrasts noted by Despić (2009,in press). Consider (27)-(28).[10]

(27) a. Kusturica$_i$'s latest movie really disappointed him$_i$.

b. His$_i$ latest movie really disappointed Kusturica$_i$.

(28) a. * Kusturicin$_i$ najnoviji film ga$_i$ je zaista razočarao.

Kusturica's latest movie him is really disappointed

'Kusturica$_i$'s latest movie really disappointed him$_i$.'

b. * Njegov$_i$ najnoviji film je zaista razočarao Kusturicu$_i$.

his latest movie is really disappointed Kusturica

'His$_i$ latest movie really disappointed Kusturica$_i$.'

That there is no binding violation in (27) is not surprising under the standard treatment of English possessives, where these elements are located in SpecDP.[11] The ungrammaticality of (27) then provides evidence that this analysis should not be applied to SC. Despić observes that (27) can be

[7] The above discussion gives an outline of a semantic account of the ordering restrictions on SC determiners/possess/adjectives. Fleshing out its details would take us too far from the main goal of this paper. I merely note here that the account readily extends to non-restrictive adjectives under Morzycki's (2008) analysis, where non-restrictive adjectives are also treated as having type <e,t> and required to be interpreted inside the determiners.

[8]English ***expensive this car* and ***John's this picture* are actually much worse than the unacceptable SC examples in (25)/(26), which in fact follows if the English examples involve the above semantic violation as well as a syntactic violation (violations of the requirement that DP be projected on top of the TNP in English and whatever is responsible for the incompatibility of possessives and articles in English).

[9]It is worth noting here that in Bošković (2009c) I argue that the the order of adjectives with respect to each other also follows from semantic considerations.

[10](27)-(29) give a partial paradigm. For a detailed discussion of the full relevant paradigm, which would take us beyond the laying-out-the-background-assumptions nature of sec. 2, see Despić (2009, in press) (I have also simplified here Despić's treatment of English).

straightforwardly accounted for in the general approach outlined above, where DP is missing in SC and SC possessives are treated like adjectives. In particular, following Bošković's (2005b) treatment of adjectives, Despić treats SC possessives as NP adjuncts, an analysis that ensures that the possessive in (28) c-commands outside of the subject NP, which yields a Binding Condition B violation in (28)a and a Condition C violation in (28)b.[12]

Despić (2009, in press) also shows that demonstratives and adjectives do not change anything regarding binding relations in SC, as illustrated in (29), which provides very strong evidence that demonstratives, possessives, and adjectives should all be treated as multiple adjuncts of the same phrase. Since demonstratives and adjectives then do not introduce an extra projection, they do not prevent the possessive from c-commanding the co-indexed elements in (29).

(29) a. *[$_{NP}$ Ovaj [$_{NP}$ Kusturicin$_i$ [$_{NP}$ najnoviji [$_{NP}$ film]]]] ga$_i$ je zaista razočarao.
this Kusturica's latest movie him is really disappointed
'This latest movie of Kusturica$_i$ really disappointed him$_i$.'

b. *[$_{NP}$ Ovaj [$_{NP}$ njegov$_i$ [$_{NP}$ najnoviji [$_{NP}$ film]]]] je zaista razočarao Kusturicu$_i$.
this his latest movie is really disappointed Kusturica

c. *[$_{NP}$ Brojni [$_{NP}$ Kusturicini$_i$ [$_{NP}$ filmovi]]] su ga$_i$ razočarali.
numerous Kusturica's movies are him disappointed
'Numerous movies of Kusturica$_i$ really disappointed him$_i$.'

Given this much background regarding the structure of the TNP in SC, we are now ready to turn to the deduction of the LBE generalization in (7), which will also be extended to the adjunct extraction generalization (13) and provide an argument that movement out of DP must proceed via SpecDP.

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[11]More precisely, *Kusturica* in (27)a is standardly taken to be located in SpecDP, and *s* in D.

[12]Chinese and Japanese behave like SC in the relevant respect (see Bošković 2010a, Cheng in preparation), which provides strong evidence for the no-DP analysis of these languages. Note it is important the pronoun in (28)-(29) is not contrastively focused, since contrastive focus affects binding relations (the pronoun in (28)a is actually a clitic, hence cannot be contrastively focused; this, however, weakens the binding violation, since binding violations are a bit weaker with clitics).

3. Back to left branch extraction: The phase analysis

In Bošković (2005b) I gave two deductions of (7).[13] Here, I will focus on the one that is based on Chomsky's (2000, 2001) PIC, according to which only the Spec of a phase is accessible for phrasal movement outside of the phase, which means XP movement from phase YP must proceed via SpecYP. On a par with Chomsky's (2000) claim that CP but not IP is a phase, I suggested in Bošković (2005b) that DP is a phase, but NP isn't.[14] Given the PIC, XP can then move out of DP only if it first moves to SpecDP. This is simply a phase update of the standard assumption which goes back to Cinque (1980) that movement out of DP must proceed via SpecDP. There are two more ingredients of the analysis of LBE from Bošković (2005b): the traditional claim that AP is NP-adjoined (see sec. 2.3) and the anti-locality hypothesis (the ban on movement that is too short), which is deducible from independent mechanisms and argued for by many authors (e.g. Bošković 1994, 1997, Saito & Murasugi 1999, Ishii 1999, Abels 2003, Grohmann 2003a,b, Grohmann & Haegeman 2003, Ticio 2003, Boeckx 2005, Jeong 2006).[15] Like most other approaches, the version of anti-locality adopted in Bošković (2005b) requires

[13]I refer the reader to Bošković (2005b) for arguments that examples like (6) involve AP subextraction.

[14]For phases in TNPs, see also Gutiérrez-Rexach & Mallen 2001, Ticio 2003, Svenonius 2004, Matushansky 2005, Hiraiwa 2005,Compton & Pittman 2007,Reintges & Liptak 2006, den Dikken 2007, Heck et al 2008, Krammer 2009. Matushansky's work is particularly interesting in this context, since she examines how DP fares regarding a number of phasehood tests. The discussion in this paper will be, however, confined to one (probably the least controversial) diagnostic for phasehood, namely, the locality of movement. Below, I will address some interfering factors Matushansky raises in this context. Here, I only briefly note another issue she raises for the DP-as-a-phase approach. She notes that in many languages adjectives and nouns are case marked, which is a problem for the DP-as-a-phase approach: the complement of DP should be inaccessible to a DP external case licensor given the PIC. She, however, also suggests two solutions to this problem: (i) Case spreading inside DP is a result of an operation like concord that applies after spell out; (ii) Case licensing is done through case checking, not case valuation. A DP then has a case feature, which can spread through DP (there are various options here), even before DP undeergoes case checking with an outside case licensor. I add here two other possibilities: in Pesetsky & Torrego's (2007) system, D with an unvalued case feature can still enter Agree with a DP internal element with an unvalued case feature, which then become instances of the same feature. A result of this is that once D's case feature is valued by a DP external case licensor, all DP internal elements that have entered into Agree with D should receive the same case value as D **(**since these are all instances of the same feature, the PIC should not matter here). Finally, the issue in question doesn't even arise under Bošković's (2007) claim that the PIC constrains Move but not Agree.

[15]Among other things, anti-locality (the term is due to K. Grohmann) accounts for the ban on short subject topicalization and zero subject null operator relatives (Bošković 1994, 1997), the *that*-trace effect (Ishii 1999), the ban on movement of the phase head complement (Abels 2003), and extraction of arguments out of DPs (Grohmann 2003a, Grohmann and Haegeman 2003, Grohmann and Panagiotidis 2004, Ticio 2003). A particularly important work in the context of anti-locality is Grohmann (2003a), who develops a full-blown theory of anti-locality and places it within a broader theoretical context, arguing that it follows from bare output conditions.

Move to cross at least one full phrasal boundary (not just a segment).[16] AP then cannot move to SpecDP in (30)a due to anti-locality (phases are in bold).[17] Given the PIC, it also cannot move directly out of DP ((30)b). Anti-locality/PIC thus ban AP LBE in English. Note that they do not ban all movement from DPs: *Who do you like [$_{DP}$ t friends of t]* is still allowed.

(30) a. *[**$_{DP}$** AP_i [$_{D'}$ D [$_{NP}$ t_i [$_{NP}$… b. *AP_i [**$_{DP}$** [$_{D'}$ D [$_{NP}$ t_i [$_{NP}$…

The impossibility of adjunct extraction out of TNP in English (cf. (12)) can be accounted for in exactly the same way as the impossibility of AP LBE, given that NP adjuncts are also adjoined to NP. Moreover, the PIC/anti-locality problem does not arise in SC, which lacks DP. The phase analysis thus accounts both for the impossibility of AP LBE and adjunct extraction out of English TNPs, as well as the availability of both of these extractions in SC, given the DP/NP parameter.

Another aspect of the above analysis, not noted in Bošković (2005b), should be pointed out. The analysis provides an argument that movement out of DP must proceed via SpecDP since requiring this step of movement was crucial in the above account of the ban on LBE and adjunct extraction out of DP in English. Providing an argument that movement out of DP must proceed via SpecDP is important given that cases that are standardly offered as arguments for successive cyclic movement via SpecDP involve interfering factors, as pointed out by Matushansky (2005), who in light of this questions the very existence of successive cyclic movement via SpecDP. Examples like (31) are standardly given in

[16]Following (but slightly modifying) the early approaches to anti-locality from Bošković (1994, 1997) and Saito and Murasugi (1999), which were stated in terms of conditions on chain links, Bošković (2005b:16) adopts the following definition, which blocks movement within the minimal domain of the same head (see Chomsky 1995:178 for the definition of minimal domain).
(i) 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.

support of the claim that movement out of DP must proceed via SpecDP: (31) indicates that a filled SpecDP blocks movement out of DP just like a filled SpecCP blocks movement out of CP (see (32)a). However, Matushansky notes that given that possessed DPs have the existence presupposition, (31) is ruled out independently by the Specificity Condition, which blocks movement out of specific (existence-presupposing) DPs even when their SpecDP is not filled, as in (32)b.

(31) *Who did you buy John's portrait of?

(32) a. *Who did you wonder why Mary kissed?

b. *Who did you buy a specific/particular/certain/the portrait of?

There is another interfering factor here. Matushansky notes the *v*P phase must allow multiple Specs (even independently of the Spec*v*P where the subject is generated and the Spec*v*P where object shift lands), since it is possible to do multiple wh-movement out of *v*P. Bošković (2007) shows multiple movement out of a CP headed by *that* is also possible, which indicates *that* also allows multiple Specs, based on casess like *On which table does Joe wonder what to tell Sue that she should put*, where both *on which table* and *what* must move out of the most embedded CP. Based on this, Bošković (2008b) argues the multiple Spec option is in principle available for all phasal heads. Bošković (2008b) shows even +wh C in principle allows multiple Specs; however, A'-movement from an interrogative SpecCP, which must occur in (32)a given the PIC (*who* must move via the embedded clause SpecCP), is ruled out for independent reasons concerning the freezing effect of operator-variable creating movements (Bošković 2008b, Epstein 1992, Müller & Sternefeld 1993, Rizzi 2006), which cannot feed each other

[17]Under this analysis, if there were an additional functional projection in the object TNP (5) the adjective would need to be adjoined to that projection. (One could then in principle allow for the possibility of a mixed DP language that would disallow AP LBE and allow adjunct extraction if the adjunct is still assumed to be NP adjoined (see the discussion of adjunct extraction below). However, English, the only DP language that will be examined in some detail in this paper, whose focus is on NP languages, does not require making such a distinction.) At any rate, following Bošković (2005b), I will assume here a simple [$_{DP}$ [$_{NP}$]] structure for English DPs like the one in (5) (for relevant discussion, see also sec. 5). (Note also that I assume that *all* in *all the students* is adjoined to DP, an analysis argued for extensively in Bošković 2004, Benmamoun 1999 and Sportiche 1988, which means that **expensive he saw all the cars*, an example brought up by an anonymous reviewer, can be ruled out in the same way as (5). It should, however, be noted that the example in question is actually ruled out independently via the Specificity Condition (see the discussion below).)

(roughly, under Bošković's (2008b) analysis movement to an operator position like interrogative SpecCP (or SpecToP/SpecFocP) checks off the operator feature of the moving phrase, making the phrase inactive for any other instance of operator movement). These concerns don't apply to movement from Spec*v*P, Spec of the CP headed by *that*, or SpecDP, since these are not positions where a phrase is semantically interpreted as an operator (see Bošković 2008b for relevant discussion). What is important for our purposes is that given the above discussion, the multiple Spec option should be available for the D head in (31); *who* should then be able to use this option to move via SpecDP in spite of the presence of a possessor in SpecDP. In other words, the presence of a possessor should not block movement via SpecDP, hence (31) cannot be ruled out due to a violation of the requirement of successive cyclic movement via SpecDP. In light of such concerns, Matushansky (2005) argues (31) must be ruled out independently of the alleged requirement that movement out of DP must proceed via SpecDP (and is in fact ruled out by the Specificity Condition), hence the ungrammaticality of (31) does not provide evidence for this requirement. Matushansky in fact questions the existence of successive cyclic movement via SpecDP more generally, due to the lack of independent evidence for such movement.

Notice, however, that the interfering factors that arose with respect to (31), namely the Specificity Condition and the availability of the multiple Spec option, do not arise regarding LBE and adjunct extraction out of DPs; they are simply irrelevant in these cases. The current account of the ban on LBE and adjunct extraction out of DPs may then be taken as an argument that movement out of DP indeed must proceed via SpecDP, an important point given the paucity of independent evidence to this effect.

3.1. Phases in NP languages

Above I have summed up Bošković's (2005b) account of the generalizations in (7) and (13) and pointed out that the account provides evidence that movement out of DP must proceed via SpecDP. As noted above, on a par with Chomsky's (2000) claim that CP but not IP is a phase, I assumed in Bošković

(2005b) that DP is a phase, but NP isn't. However, I would like to propose here a modification of this aspect of my earlier analysis of LBE, which turns out to have wide-ranging consequences.

Interestingly, SC disallows deep LBE, i.e. LBE out of a complement of a noun (the same holds for Polish, Czech, and Russian; see Corver 1992 for Polish and Czech). Thus, while the possessor can undergo LBE in (33)c, it cannot undergo LBE in (33)b, where the NP in which it originates functions as a complement of another noun.[18]

(33) a. On je vidio [$_{NP}$ [$_{N'}$ prijatelja [$_{NP}$ njegove [$_{NP}$ majke]]]].

he is seen friend$_{ACC}$ his$_{GEN}$ mother$_{GEN}$

'He saw a friend of his mother.'

b. *Čije$_i$ je on vidio [$_{NP}$ [$_{N'}$ prijatelja [$_{NP}$ t_i [$_{NP}$ majke]]]]?

whose$_{GEN}$ is he seen friend$_{ACC}$ mother$_{GEN}$

'Whose mother did he see a friend of?'

c. cf. Čiju$_i$ je on vidio majku?

whose$_{ACC}$ is he seen mother$_{ACC}$

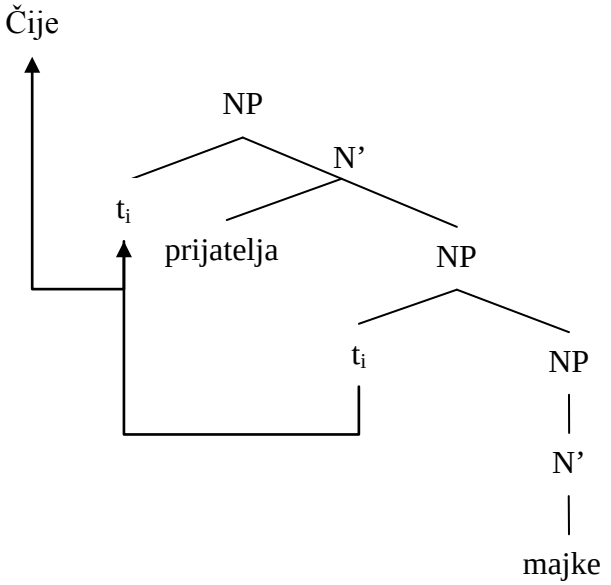
What this shows is that an NP above an NP from which LBE takes place (LBE-ing NP) has exactly the same effect on LBE as a DP above an LBE-ing NP does in English; they both block LBE. In other words, the higher NP in SC (33)b blocks LBE just like DP blocks LBE in English. Notice now that this parallelism can be easily captured if NP is a phase in NP languages.[19] (33)b can then be accounted for in exactly the same way as (5), with the higher NP blocking LBE for the same reason that DP does it in the English example: The PIC forces movement out of the higher NP to proceed via the Spec of this NP. This step of movement, however, violates anti-locality.

[18] The higher noun is accusative in (33). However, the case of the higher noun does not matter here; nothing in the paradigms discussed in sec. 3.1 and 3.2 changes if the higher noun bears case other than accusative.

[19] I focus here on NP languages.DP languages are discussed in sec 3.3.2.2.Pending this I assume NP is not a phase in English.

(34) *Čije$_i$ je on vidio [$_{NP}$ t_i [$_{N'}$ prijatelja [$_{NP}$ t_i [$_{NP}$ majke]]]]?

whose$_{GEN}$ is he seen friend$_{ACC}$ mother$_{GEN}$



Significantly, we find the same state of affairs with adjunct extraction: deep adjunct extraction is blocked, just like deep LBE, which is not surprising if the two are to be accounted for in the same way, as argued above. The parallelism can in fact be taken as an argument for a uniform analysis.

(35) ?*Iz kojeg grada$_i$ je Petar kupio slike [djevojke t_i]

from which city is Peter bought pictures girls

'From which city did Peter buy pictures of girls?'

We have seen that the current proposal that NP is a phase in article-less languages enables us to account for the impossibility of deep LBE and deep adjunct extraction out of TNPs in SC, a language that otherwise allows such movements. Strong independent evidence that the proposal that NP is a phase in NP languages is on the right track concerns Abels's (2003) generalization that the complement of a phase head is immobile. As an illustration, Abels observes an IP that is dominated by a CP, a phase, cannot undergo movement (36). (Abels shows the VP complement of the *v* phase head is also

immobile). As noted by Abels, this follows from an interaction of the PIC and anti-locality, with the PIC requiring IP movement through SpecCP (IP_i **[$_{CP}$** [$_{C'}$ C t_i]] is ruled out by the PIC), and anti-locality blocking such movement because it is too short (**[$_{CP}$** IP_i [$_{C'}$ C t_i]] is ruled out by anti-locality).[20]

(36) *[John likes Mary]$_i$ Peter believes that t_i

Now, if NP is indeed a phase in NP languages, as proposed above, we would expect that an NP complement of a noun cannot undergo movement. This surprising prediction is borne out. Zlatić (1997) shows genitive complements of nouns indeed cannot be extracted in SC. Some of her examples are given below. (Note SC in principle allows extraction out of subject TNPs with possessives; see (39)a.)

(37) a. *Ovog studenta sam pronašla [knjigu t] (Zlatić 1997)
this student$_{GEN}$ am found book
'Of this student I found the book.'

b. *Koga si pronašla [knjigu t]
who$_{GEN}$ are found book
'Of whom did you find the book?'

c. *Koga je [(Marijin) opis t] bio autentičan?
who$_{GEN}$ is Marija's description been authentic

[20]Notice that from this perspective (see here Matushansky 2005), the impossibility of moving a complement of D, as in (i) (note that the Specificity Condition is not relevant to (i)), can be interpreted as an argument for the phasal status of DP.
(i) *Books$_i$ he bought [$_{DP}$ some t_i]
Notice, however,that German allows such examples (the process in question is standardly refered to as split topicalization.) In principle, this could be accounted for if German TNPs have a bit more structure than English TNPs (which can be quite easily argued for), in which case examples like (i) in German would not have to involve movement of the complement of D, but a lower phrase. I will not, however, endorse this analysis here given that the subextraction analysis of German split topicalization faces numerous, well-known problems (roughly, the main problem is that the fronted element corresponding to *books* in (i) seems to be an independent TNP which can even have its own article). There are in fact a number of analyses of such constructions in German that do not involve subextraction from DP (for a survey of German split topicalization which includes the non-subextraction analyses, see van Hoof 2006; see also Roehrs 2006 for yet another non-subextraction analysis). At any rate, it is beyond the scope of this paper to determine the proper analysis of German split topicalization, which does not seem to involve subextraction (in fact, since the scope of split topicalization is not completely clear in German, this makes German (and any other language that would have German-style split topicalization) an unreliable testing ground for the phenomena under consideration in this paper). More generally, a detailed examination of examples like (i) crosslinguistically is beyond the scope of this paper since it would require discussion of a number of phenomena that are not of direct relevance to our concerns given that such examples may have various non-movement sources in some languages (one such source involves NP ellipsis in the in-situ "remnant" DP, which is available in some languages), and in some languages such examples are analyzable in terms of the quantifier float construction (with *some* a floating quantifier).

'Description of whom (by Mary) was authentic?' (Zlatić 1994)

The impossibility of deep LBE, deep adjunct extraction, and the immobility of genitive complements of nouns thus all fall into place if NP is a phase in article-less languages. They are ruled out in exactly the same way. The reason why, in contrast to DP languages, NP languages allow LBE and adjunct extraction out of TNPs is then not a difference in the phase status of the TNP, where TNP would not be a phase in NP languages at all (as argued in Bošković 2005b); rather, the difference is that the relevant elements are generated at the edge of the TNP phase in NP languages. On the other hand, they have to move to that position in DP languages, which yields an anti-locality violation. When they are forced to move to the phase edge, as in the case of deep LBE and adjunct extraction, the anti-locality violation resurfaces in NP languages as well. The NP/DP phasal difference between article and article-less languages thus accounts not only for the different behavior of DP and NP languages with respect to LBE and adjunct extraction, but also for the fact that the differences are nullified with deep extraction.

3.2. Structural vs inherent case

The examples discussed above involve genitive complements of nouns. Adnominal genitive is the counterpart of verbal accusative; it is the standard case Ns assign to their complements which then does not need to be specified in the lexicon. I will therefore refer to it as structural case (see sec. 3.3.1 for indendent evidence for the structural case status of SC adnominal genitive). It is well-known that some Vs in SC assign non-accusative, lexically specified cases to their complements, which are referred to as inherent cases. Nouns behave like verbs in this respect, i.e. some nouns also depart from the standard pattern and assign an inherent, lexically specified case to their complement. Interestingly, in contrast to genitive nominal complements, nominal complements bearing inherent case allow deep LBE.[21]

(38) a. ?Kakvom$_i$ ga je uplašila pretnja [t_i smrću]?

what-kind-of him is scared threat death$_{INSTR}$

'Of what kind of death did a threat scare him?'

b. Kakvom ga je pretnja smrću uplašila?

Significantly, as Zlatić (1994) noted, nominal complements bearing inherent case can also be extracted.

(39) a. Čime$_i$ ga je [(Jovanova) pretnja t_i] uplašila?

what$_{INSTR}$ him is Jovan's threat scared

'The threat of what (by Jovan) scared him?'

b. Kome$_i$ je [otpor t_i] bio snažan?

who$_{DAT}$ is resistance been strong

'Resistance to whom was strong?'

c. Kome$_i$ je [davanje pomoći t_i] bilo korisno?

who$_{DAT}$ is giving help been useful

'The giving of help to whom was useful?' (Zlatić 1994)

Deep adjunct extraction also improves with inherently case-marked NPs.

(40) ?Iz kojeg grada$_i$ ga je uplašila pretnja [djevojkama t_i]

from which city him is scared threat girls

The correlation between the three phenomena, deep LBE, deep adjunct extraction, and extraction of nominal complements, thus still holds.

We have already seen how the phase analysis accounts for the pattern where deep LBE, deep adjunct extraction, and extraction of a nominal complement are disallowed, as in the case of adnominal genitive. What about inherent case complements, where these extractions are all allowed? One

[21]The improvement here is quite remarkable, given that (38) involves extraction out of a subject. Note also that, as noted by Starke (2001), extraction out of inherently case-marked phrases is often somewhat degraded in Slavic. This may be

possibility is to assume that inherent case assigning nouns are not phasal heads (for a suggestion regarding how this could be implemented and tied to independently motivated phenomena, see the talk version of this paper, Bošković 2010b). Rather than taking this step, I will pursue here an analysis on which it is not necessary to make a distinction between NPs headed by inherent and genitive case assigning nouns with respect to phasehood, i.e. I will pursue an analysis where they are both phases. I suggest that the difference between the former and the latter is that NPs headed by inherent case assigning nouns have more structure, which enables extraction out of such NPs to obey anti-locality. This additional structure can be located either on top of the inherent case assigning noun, or in its complement, i.e., either (41) or (42), with FP being the additional structure, would do here, provided that on the structure in (42) FP rather than NP counts as the phase (on the structure in (41) FP does not function as a phase). Both *his* and *his death* can move to the Spec of the higher phase, SpecNP in (41) and SpecFP in (42), without violating anti-locality (deep adjunct extraction is also allowed).

(41) **[**$_{NP}$ threat [$_{FP}$ F [$_{NP}$ his [$_{NP}$ death

(42) [$_{FP}$ F [$_{NP}$ threat [$_{NP}$ his [$_{NP}$ death

There are, however, reasons to prefer (41). First, Despić's test shows inherently case-marking SC TNPs pattern with genitive case-marking SC TNPs rather than English TNPs regarding c-command relations. Thus, (43) involves a binding violation. Under (42), it is necessary to assume the possessive is FP-adjoined (if it were NP-adjoined it wouldn't c-command out of the TNP), which means possessives would be in different positions in inherently and genitive case-marking NPs, FP-adjoined in the former and NP-adjoined in the latter. Under (41), possessors can have a constant position within TNPs.

(43) *Njeno$_i$ upravljanje fabrikom je nervirala Mariju$_i$

her management factory$_{INSTR}$ is bothered Marija$_{ACC}$

'Her$_i$ management of the factory bothered Marija$_i$.'

---

responsible for the residual awkwardness of (38)a (and (40)). What is remarkable, however, is that in spite of the interfering

(41) can also be easily tied to the often-invoked intuition that inherent case assignment should be tied to prepositionhood, with a preposition being involved in inherent case assignment. Pursuing this intuition, F can be considered a preposition-like element, something similar to English *of*. Alternatively, we can consider it to be a kind of a linker. Either way, the extra structure involved in inherent case-assignment is more tightly related to inherent case, which motivates its presence, in (41) than in (42) since in (41) the extra structure is present right above the inherently case-marked NP, while in (42) the additional structure is present above the higher noun, which itself can be structurally case-marked. I will therefore adopt (41) with F being a preposition/linker type element ((42) will become relevant below in the discussion of Russian genitive of quantification, a distinct construction which is argued to have a structure that is similar to (42) in the relevant respect).[22] During the discussion below, the reader should, however, bear in mind that I do not assume the linker/preposition-like F projection to be part of the extended projection of NP since its head is not a nominal element (see Grimshaw 1990).[23]

3.3. Genitive of quantification

3.3.1. Genitive of quantification in Serbo-Croatian

I now turn to numeral TNPs, a context referred to in the literature as Genitive of Quantification, where the numeral, which is itself a caseless frozen form, assigns genitive case to the following noun.[24]

(44) On kupuje pet kola

he buys five cars_{GEN}

---

factors, (38)a-b are clearly better than (33)b. (In other words, (38)a-b are otherwise expected to be worse than (33)b.)

[22]Under (41), complement NP movement must strand FP (moving FP to SpecNP would violate anti-locality). A potential issue here is that SC otherwise disallows P-stranding. This is in fact the reason why above I did not consider FP to be a full-blown PP. Anyway, since FP doesn't have to be considered a full-blown PP (i.e. a PP in every respect), the issue in question does not invalidate the account based on (41). (It should become obvious during sec. 4.1 that the linker-like element F doesn't behave like a real preposition with respect to phasehood given that phasehood is what determines P-strandability under the analysis in sec. 4.1. It is then not surprising F is strandable; in fact, it might even require stranding, see 3.3.2.2.)

[23]More precisely, I assume that due to its semantic vacuity (and non-nominal status) FP is simply ignored when calculating extended nominal projections. For expository reasons I will therefore omit FP from the structures during the discussion of extended nominal projections below.

[24]The reader should not take the discussion of SC numerals to apply to English, since SC numerals behave very differently from English ones. Note also that *jedan* 'one' behaves differently from higher numerals. *Jedan* is an adjective that does not assign genitive but agrees with the noun in case, in contrast to higher numerals, which never decline but assign genitive.

This construction has important consequences for our concerns. What makes it particularly interesting is Despić's (2009, in press) observation that this type of numerals bring in additional structure. In contrast to adjectives and demonstratives, genitive assigning numerals confine the c-command domain of possessives, allowing them to co-refer with other elements. (*Mnogo* in (45) also assigns genitive of quantification; for ease of exposition I will refer to the genitive-of-quantification assigning *mnogo* as a numeral.) This follows if the numeral projects a phrase on top of the NP, which I will refer to as QP.

(45) [$_{QP}$ Pet/Mnogo [$_{NP}$ Dejanovih$_i$ [$_{N'}$ prijatelja]]] je došlo na njegovo$_i$ venčanje
five/many Dejan's$_{GEN}$ friends$_{GEN}$ is came to his wedding
'Many/Five of Dejan's$_i$ friends came to his$_i$ wedding.'

Significantly, deep LBE from under the numeral as well as adjunct extraction and movement of the complement of the numeral are all allowed. (The three phenomena thus again show uniform behavior.)

(46) ?Skupih kola je kupio mnogo/pet.
expensive cars$_{GEN}$ is bought many/five

(47) Skupih je kupio mnogo/pet kola.

(48) ?Iz kojeg grada$_i$ je sreo pet [djevojaka t$_i$]?
from which city is met five girls
'From which city did he meet five girls?'

How can these facts be analyzed? There are two possibilities: either *five* does not head a phase (the no-phase analysis) or there is a phase with numerals but this context involves additional structure so that movement out of the numeral phase does not violate anti-locality (the phase analysis). Choosing between these options has important consequences. Note first that there is a controversy regarding the categorial status of genitive-of-quantification numerals. While most literature considers them to be functional elements (referred to as Qs), Zlatić (1997) considers them to be nominal (i.e. Ns; they in fact

used to be clear nouns historically. For numerals-as-nominal-elements analyses, see also Corver & Zwarts 2006, Hurford 1987, 2003, Ionin & Matushansky 2006, Ionin et al 2006). Regarding the choice between the phase and the no-phase analysis of numeral constructions, only the former is compatible with Zlatić's treatment of Qs as Ns, on which QP in (45) is actually an NP hence should count as a phase, given that NP is a phase in SC, as discussed above. Second, the data discussed so far, including the DP/NP difference in the phasehood of the TNP between DP and NP languages, are compatible with an intriguing possibility that the highest phrase in the extended projection of a TNP counts as a phase. Under this analysis, there is no real variation in phasehood between DP and NP languages; rather, the real source of variation lies in the amount of structure a TNP has in NP and DP languages. The reason why NP is a phase in NP languages is the bareness of TNP structure in NP languages, strong evidence for which is provided by Despić's binding tests. The genitive-of-quantification construction is rather important in this respect, given that in this case we do have evidence for the presence of additional structure in a SC TNP, in fact the evidence comes exactly from those tests that, as discussed in sec. 2, provide evidence for the bare structure of non-numeral TNPs. If the highest phrase in the extended projection of a TNP counts as a phase, then QP should function as a phase in SC. Under this analysis we then need to find a principled reason for the voiding of phasehood effects with genitive of quantification; we cannot simply assume QPs are not phases. The same holds for Zlatić's treatment of numerals. Notice, however, that under Zlatić's analysis the genitive-of-quantification construction has no relevance for the highest-projection-as-a-phase hypothesis since under this analysis we are dealing here with two separate NPs, not with one NP with additional functional structure. At any rate, under the phase analysis (this holds for both implementations of this analysis: the highest-phrase-as-a-phase analysis and Zlatić's NP analysis), we need to find a principled reason for the voiding of the usual phasehood effects since we cannot simply stipulate numeral phrases are not phases.

In this respect, note that if gen. of quantification can be treated as an inherent case the issue will be resolved: we will be dealing here with the broader pattern noted above for inherent case assigning Ns, which, as discussed above, can be treated in terms of a phase+additional structure analysis. Significantly, Franks (1994) convincingly argues on independent grounds that genitive assigned by numerals is indeed an inherent case in SC. Babby (1987), Franks (1994) and Bošković (2006) argue that, in contrast to structural case, which does not have to be assigned, inherent case has to be assigned (see Franks 1994, Bošković 2006 for explanation). As a result, when an inherent and a structural case assigner compete for case assignment to a single noun, the conflict can be resolved by assigning the inherent case and failing to assign the structural case; however, when two inherent case assigners compete the conflict can't be resolved.(44) represents the former scenario, with *buy* failing to assign its structural case. However, when a higher numeral occurs with a V assigning inherent case, the result is ungrammatical. Since both the numeral and the V are inherent case assigners, they both must assign case; this, however, is not possible in (50)-(51) since they compete for case assignment to a single noun.

(49) On pomaže ljudima.

he helps people$_{DAT}$

(50) *On pomaže pet ljudima.

he helps five people$_{DAT}$

(51) *On pomaže pet ljudi.

he helps five people$_{GEN}$

Based on such considerations, Franks (1994) argues SC genitive of quantification is an inherent case. (46)-(48) can then be accounted for in the same way as (38)-(40), with the extra projection linked to inherent case assignment present with numerals, on a par with (41). Nothing then goes wrong regarding the phenomena discussed above if the numeral heads a phase (recall QP is NP under Zlatić's analysis).

(52) [$_{QP}$ five [$_{FP}$ F [$_{NP}$ expensive [$_{NP}$ cars

In other words, we are simply dealing here with a broader pattern associated with the inherent/structural case difference, genitive of quantification assigning numerals patterning with inherent case assigning nouns because they both assign inherent case.

Note also that Franks's (1994) test for structural/inherent case distinction shows that SC adnominal genitive is indeed a structural case, as assumed above. Thus, just like verbal accusative can be overridden by genitive of quantification, which shows verbs that normally assign accusative don't have to assign case (in contrast to verbs that assign inherent case), adnominal genitive can be overridden by genitive of quantification. There is a context where adnominal genitive and genitive of quantification differ. With numerals 2-4, the noun gets genitive singular, instead of genitive plural (which is what happens with higher numerals). When these numerals occur with a noun that assigns genitive, the noun in the complement must get genitive singular, as in (53)b (in other words, the noun here gets genitive of quantification, not adnominal genitive). This shows that adnominal genitive does not have to be assigned, which in turn indicates adnominal genitive is a structural case, given that, as discussed above, inherent cases must be assigned. Furthermore, as in the case of verbs, nouns assigning inherent case cannot occur in the context in question ((53)c-d). These facts confirm that the genitive/non-genitive case distinction regarding nominal complements indeed involves structural/inherent case distinction.

(53) a. opis knjiga
description book$_{GEN.PL}$

b. opis tri knjige
description three book$_{GEN.SG}$

c. *pomaganje pet ljudi
helping five people$_{GEN}$

d. *pomaganje pet ljudima

helping five people$_{DAT}$

To sum up, the genitive-of-quantification construction patterns with the inherent adnominal case construction rather than the adnominal genitive construction with respect to the locality diagnostics used in this paper. Since genitive of quantification is an inherent case, in contrast to adnominal genitive, this state of affairs confirms the relevance of the inherent/structural case distinction for the locality diagnostics employed here. In other words, we are simply dealing here with a broader pattern associated with the inherent/structural case difference, which I have argued has a structural reflex (i.e. it is structurally represented), genitive of quantification assigning numerals patterning with inherent case assigning nouns because they both assign inherent case, in contrast to genitive assigning nouns. Since the genitive-of-quantification construction can be treated like the inherent adnominal case construction, we can keep the implementation of the inherent/structural case distinction from sec 3.2, where inherent case contexts are phase contexts, but phasehood effects are voided due to the presence of additional structure, in line with the general approach where the highest projection within TNP counts as a phase (recall that Zlatić's Q-as-N analysis, where, in contrast to the QP analysis, genitive-of-quantification constructions involve two separate TNPs, also requires adopting the phase analysis).

3.3.2. Phasehood of TNPs: The highest projection is a phase

3.3.2.1. SC Q(N)Ps

We are now ready to examine more closely the two issues raised in sec. 3.3.1 regarding the phase analysis of numeral constructions. (In what follows, I confine my attention to SC. I discuss English from this perspective later in this section.) The first issue (under the QP account, where numerals do not introduce a separate NP) concerns the possibility that the highest phrase in a TNP domain counts as a phase and the second issue concerns the possibility that higher numerals are actually nouns, as in

Zlatić's analysis. Focusing on the first issue (and temporarily putting aside Zlatić's analysis), under the highest-phrase-as-a-phase analysis, in simple non-numeral TNPs NP functions as a phase in NP languages because NP is the highest phrase projected. In numeral constructions, then, QP should function as a phase, since QP is the highest projection. However, we have seen above that the phasehood diagnostics from sec. 3.1 do not work with numeral TNPs because numerals assign an inherent case in SC. It appears then that although all the data examined so far are compatible with the highest-phrase-as-a-phase hypothesis, we cannot conclusively test the hypothesis by examining the phasal status of the highest phrase in SC TNPs by taking advantage of the presence of an additional projection with numeral phrases (see, however, the discussion of Russian genitive of quantification below, which involves a projection on top of QP). We can, however, test it with respect to lower phrases. If only the highest phrase functions as a phase, NP should not work as a phase in SC when it is dominated by a QP. The QP+the-highest-phrase-is-a-phase analysis then makes a very interesting prediction: in contrast to non-numeral NPs, where NP functions as a phase, in numeral TNPs NP will not function as a phase. On the other hand, under Zlatić's numerals-as-Ns analysis, where the numeral introduces an additional TNP, with the phrase headed by the numeral being an NP, the NP following the numeral should still count as a phase, given that this NP is still the highest projection of its own TNP, the construction involving two separate TNPs on Zlatić's analysis. We now have a way of teasing apart the two analyses in question. More broadly, under the QP analysis, we have a way of teasing apart a dynamic approach to phases, where what counts as a phase is determined contextually (see Bobaljik & Wurmbrand 2005, Bošković 2005b, den Dikken 2007, Gallego & Uriagereka 2007a,b, Takahashi 2010, in press for various approaches that belong to this line of research), and a rigid, once a phase, always a phase approach, where phasehood of a phrase does not depend on the syntactic context in which it occurs (see Chomsky 2000,2001). Under the dynamic phasehood approach, a particular phrase

can function as a phase in one, but not in another context; such a situation cannot arise under the rigid phasehood approach, where a phase is always a phase (in all contexts), or never a phase (in any context). So, the options that we are trying to tease apart here have important theoretical consequences.

To be more specific, here is what we are testing. If the highest projection in a TNP counts as a phase (the dynamic approach), NP1 will work as a phase in (55), a representation of a non-numeral construction. However, QP, not NP1, should work as a phase in (54), a representation of a numeral construction, under this approach. On the other hand, if NP is always a phase, either because of Zlatić's Q-as-N analysis, where QP is another NP, or because NPs are always phases (the rigid phasehood approach), NP1 should function as a phase in (54) and (55). The crucial testing point is the phase status of NP1 in (54). We have already seen NP1 in (55), a non-numeral structure, functions as a phase. What we need to do now is apply those tests for phasehood to (54), where there is a numeral on top of NP1.

(54) **[$_{QP}$** [$_{NP1}$ [$_{NP2}$

(55) **[$_{NP1}$** [$_{NP2}$

Significantly, complement extraction improves here. Thus, (56)a is better than (56)b, which suggests that NP is not a phase in the QP context, as expected under the highest-phrase-is-a-phase approach.

(56) a. Ovog studenta sam pronašla [mnogo/deset knjiga t_i]

this student$_{GEN}$ am found many/ten books

b. *Ovog studenta sam pronašla knjige t_i

this student$_{GEN}$ am found books

However, deep left-branch extraction and deep adjunct extraction do not show improvement. (57) and (58) are as unacceptable as (33)b and (35).

(57) *Čije$_i$ je on upoznao mnogo [$_{NP}$ [$_{N'}$ prijatelja [$_{NP}$ t_i [$_{NP}$ majke]]]]?

whose is he met many friends mother

'Whose mother did he meet many friends of?'

(58) ?*Iz kojeg grada$_i$ je Petar kupio mnogo slika [djevojke t_i]

from which city is Peter bought many pictures girls

'From which city did Peter buy many pictures of girls?'

Our tests are thus giving us conflicting results here. What are we to make of this state of affairs? We could conclude the results are inconclusive, leaving the issue open. Or we can endorse the results of some of these tests, and assume interfering factors are involved with the others. This is the strategy I will pursue. Since in such situation it seems harder for interfering factors to make acceptable structures that are otherwise expected to be unacceptable than the other way round, I will endorse the results of the complement extraction test, which means NP is not a phase in the QP context. As discussed above, the difference in the phasal status of NP in the QP and the non-QP context can be captured if the highest phrase in TNP functions as a phase. Since in a QP context the highest phrase is QP rather than NP, NP doesn't function as a phase in this context even in an NP language like SC. As a result, the complement of *books* can be extracted in (56)a, where the NP headed by *books* is not a phase (the QP headed by *many/ten* works as a phase here), in contrast to (56)b, where the NP headed by *books* is a phase.

As discussed above, under this analysis, interfering factors must be involved in deep LBE and deep adjunct extraction examples like (57) and (58), which are unacceptable, contrary to what is expected. What could these interfering factors be? I will offer here a tentative speculation to this effect, leaving a more detailed account for another occasion.[25]

[25]What is proposed below in the main text will not affect inherently case-marked NPs. Note, however, that the status of the relevant extractions with inherently case-marked NPs is not completely clear. While deep LBE and deep adjunct subextraction are somewhat worse with inherently case-marked NPs that are accompanied with numerals than with the corresponding constructions without numerals, such subextraction with inherently case-marked NPs accompanied by numerals is still better than the corresponding subextractions with structurally case-marked NPs that are accompanied with numerals (compare (i) with (58)/(57)). It is not clear how this three-way distinction can be captured. Pending an account, I tentatively reduce it to a two-way distinction by giving more weight to the difference between extraction from inherently case-marked NPs with numerals and structurally case-marked NPs with numerals, a contrast which anyway seems sharper. (Nothing in the discussion to follow needs to be changed to accomodate inherently Case-marked NPs then.)

Following the line of research that originated with Chomsky and Lasnik (1993) and Takahashi (1994), and revived in Bošković (2002), Boeckx (2003), Chomsky (2008), among others, let us assume element X has to move through potential landing sites while undergoing successive cyclic movement. However, I will adopt here a stronger version of this analysis where the potential landing site is not simply defined in terms of the A/A' distinction, as in Chomsky and Lasnik (1993), Takahashi (1994). Thus, Müller and Sternefeld (1993) propose a system where adjoined elements move through adjoined positions, and Specs move through Specs. Pursuing the spirit of this line of research, but making it even stricter, I assume elements that start as NP adjuncts must move via NP-adjoined positions. This is not to say that they will not have other landing sites during successive cyclic movement; the claim is that they will not be able to skip NP-adjoined positions. In other words, since the NP-adjoined position is a typical position for such elements, they cannot move out of an NP without adjoining to the NP.

This has significant consequences for movement of possessors and adjectives out of TNPs in SC. Recall such elements are generated as NP adjuncts. This means they cannot move out of an NP without adjoining to it, i.e. they have to target every NP adjoined position on their way. So, in a structure like (59), where the possesor is generated in NP2 and then undergoes movement, the possessor has to adjoin to the higher NP (NP1) on its way to a higher position (only the relevant structure is shown).

(59) Possessor$_i$ **[$_{QP}$** t_i [$_{NP1}$ t_i [$_{NP1}$ [$_{NP2}$ t_i [$_{NP2}$

But then we have an account of (57) and (58). The possessor and the adjunct are generated as adjuncts to the lowest NP. They now have to adjoin to the higher NP during successive cyclic movement. This step of movement, however, violates anti-locality. This is then the reason why (33)b and (35) do not improve with an addition of a QP, as in (57) and (58). QP is simply irrelevant. It cannot help here

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(i) a. (?)?Iz kojeg grada ga je uplašilo mnogo pretnji [djevojkama t]?
from which city him is scared many threats girls$_{INSTR}$
'From which city did many threats scare girls?'
b. ??Kakvom ga je mnogo pretnji [t smrću] uplašilo?
what-kind-of him is many threats death$_{INSTR}$ scared

because the violation occurs even before the relevant element reaches QP. Notice also that this account of the ungrammaticality of (57) and (58) does not affect the case of complement extraction ((56)a). A complement will obviously not be forced to adjoin to NP, given the above discussion.

The above analysis accounts for the contrast between (56)a and (57)/(58), i.e. it accounts both for the improvement (in the QP context) with complement extraction and the lack of improvement with deep LBE and deep adjunct subextraction. The acceptability of complement extraction was interpreted as evidence that NP is not a phase in the QP context, with interfering factors that do note arise with complement extraction being responsible for the unacceptability of deep LBE/adjunct subextraction.

We then have here rather interesting evidence for the phasal status of QP in SC. While we were unable to find direct evidence for its phasehood of the kind discussed above with respect to English DP due to interfering factors, namely the inherent case status of the SC genitive of quantification, we have found indirect evidence for its phasehood by examing the effect that the phrase headed by the numeral has on the phasal status of the NP dominated by the numeral phrase. That the numeral phrase has such an effect provides evidence for the highest-phrase-as-a-phase approach, where addition of a phrase on top of X within the same extended projection can change the phasal status of X. It also provides evidence for the QP treatment of numerals and against Zlatić's Q-as-N analysis, where the numeral phrase should not affect the phasal status of NP since the numeral phrase itself is an NP, which means we are dealing with two separate TNPs in genitive of quantification contexts under the Q-as-N analysis

In the next section I turn to English. We will see that English provides additional (and stronger) evidence for the highest-phrase-as-a-phase approach. The following discussion of TNP phasehood in English can in fact be interpreted as evidence that the above analysis of SC QPs, where QP but not NP is a phase (in the QP context), is on the right track, given that English TNPs will abstractly receive the same treatment as SC QPs, which will be furthermore shown to have clear empirical motivation.

'Of what kind of death did many threats scare him?'

3.3.2.2. English genitive

Under the analysis we are pursuing the highest projection within a TNP counts as a phase. In an NP language like SC, which lacks DP, NP functions as a phase, except in the case of the higher numeral construction, where there is a QP on top of NP. Here, QP functions as a phase instead of NP. This proposal makes an interesting prediction for English. We have seen DP is a phase in a DP language like English. But what about NP? Is NP also a phase in English? The dynamic, highest-phrase-is-a-phase approach and the rigid, once a phase always a phase approach make different predictions for English. Under the latter, assuming there is no real crosslinguistic variation regarding phasehood, the only source of variation being the amount of structure within a TNP, given that NP is a phase in SC NP should also be a phase in English. On the other hand, English and SC should differ in this respect under the dynamic, highest-phrase-is-a-phase approach. We have already seen NP ceases to be a phase in the rare case when NP is dominated by higher TNP structure in SC. In English, NP is typically dominated by DP. In fact, the most natural interpretation of Bošković's (2008, 2010a) NP/DP parameter is that DP is always projected in English. NP should then never count as a phase in English. The dynamic and the rigid approach thus make different predictions regarding the phasehood of NP in English.

Let us then examine whether NP works as a phase in English, in addition to DP. As discussed above, the LBE and the adjunct extraction test cannot be conducted in English, such extractions always being banned in English due to the phasal status of DP. We are then left with complement extraction. If the complement of a noun can be moved in English, NP cannot be a phase. If, on the other hand, the complement of a noun cannot undergo movement, the conclusion will be that NP is a phase in English. (If NP is a phase in English, just as in SC, movement of a nominal complement will have to proceed via SpecNP, which will violate anti-locality. Recall that such extraction is indeed unacceptable in SC.)

Let us then consider English *of*-genitive phrases from this perspective.[26] While there is a preference for stranding *of* (see below for a reason for this), there are fully acceptable cases where the whole *of*-complement moves, as in the examples in (60), taken from the literature.

(60) a. Of which city did you witness the destruction? (Huang 1982, Chomsky 1986b)

b. Of whom do government employees see pictures every day? (Bach and Horn 1976)

The acceptability of examples like (60) can then be taken to indicate NP is not a phase in English.There are, however, some interfering factors. It seems that English adnominal genitive should be considered the counterpart of SC adnominal genitive; it is a regular case assigned by nouns that does not need to be specified in the lexicon. This is in contrast to what we find with SC nouns like *pretnja* 'threat'. However, Chomsky (1986b) considers English *of-genitive* to be an inherent case. If Chomsky is correct in this conjecture, examples in (60) may be irrelevant, given that even in SC, NP-phasehood effects are voided with inherent case. More precisely, on the inherent case treatment of adnominal genitive in English the grammaticality of (60) would not necessarily provide evidence that NP is not a phase in English; i.e. it would not tell us anything conclusive about this issue.

There is, however, a scenario where (60) is still relevant. Assume English adnominal genitive is indeed an inherent case, as Chomsky (1986b) proposed. I have argued above that inherent case comes with additional structure, which I simply referred to as FP. The question is then how *of* should be treated on this analysis. A natural move would be to consider *of* the realization of F. I have argued above that in SC FP does not get pied-piped in the cases of nominal complement movement. If there is a more general preference not to separate F from the inherent case assigning noun, which does not seem implausible, we can then account for the preference to strand *of*, which is in some cases quite strong to the point that non-stranding cases sound degraded. (Ross 1986:123 even noted non-stranding is disallowed in his dialect, though he later gave acceptable examples of this type (p. 148).) At any rate,

[26]Since it is not easy to determine the status of the English *of*-genitive with respect to the criteria that are relevant to our

from this point of view, (60) is relevant to the issue of NP phasehood. If the whole FP is moved in (60), the movement would yield an (anti-)locality violation if the NP here were a phase: the PIC would force the *of*-phrase to move via SpecNP, which would incorrectly yield an anti-locality violation.

To conclude, if English adnominal genitive is a structural case, or if it is an inherent case with *of* being the realization of the F head, (60) provides evidence that NP is not a phase in English.

A scenario where the grammaticality of (60) is irrelevant to the issue under consideration concerns the analysis on which English adnominal genitive is treated as an inherent case, with *of* located in a position lower than F, rather than in F^0. There's actually another option: the N complement in (60) may simply be a PP, headed by *of*. On this analysis, the grammaticality of (60) again becomes relevant: since the examples involve movement of a nominal complement, the NP cannot work as a phase in (60) or the examples would be ruled out as (anti-)locality violations. There is, however, no need to rely on (60), where the categorial status of the extracted complement is not completely clear, to investigate this option. There are other clearer cases of PP nominal complements. Such complements can be moved, as shown in (61), which then provides evidence that NP is not a phase in English: if NP were a phase, PP complement movement in (61) would be blocked via the PIC/anti-locality conspiracy.

(61) ?To which problem did you discover (the) solutions?

One issue that arises here is the status of non-*of* PPs. While *of*-phrases seem like good candidates for actual complements it is less clear with other PPs whether they should be treated as adjuncts or complements. Recall, however, that English disallows adjunct extraction from TNPs (due to the phasehood of DP), so the very grammaticality of (61) provides evidence that the PP here is a complement (i.e. an argument rather than an adjunct). It is also worth noting here that Spanish counterparts of English adnominal genitive are extractable (*de qué ciudad presenciaste la destrucció*n is the counterpart of (60)a), given that some of the interfering issues that arose above

concerns, I will discuss below a range of available possibilities (see also Kayne 2002 for a very different treatment of *of*).

regarding English *of* may not be relevant in the case of Spanish *de* phrases.

I then conclude that NP is not a phase in DP languages like English and Spanish, as predicted by the dynamic phasehood approach on which the phase status of a phrase can depend on its syntactic context, the implementation of this approach for the case at hand being that the highest phrase in a TNP counts as a phase. Given that English NP is dominated by DP, NP then does not work as a phase in English, in contrast to NP languages like SC.

Returning now to SC, above I have only discussed extraction of NP complements of nouns. What about PPs? It turns out some phrases that could be treated as PP complements are extractable.

(62) ?Za koji problem si otkrio rešenja?
to which problem are discovered solutions
'To which problem did you discover (the) solutions?'

Should the grammaticality of (62) be interpreted as indicating that NP is not a phase in SC? This conclusion would leave the adnominal genitive data discussed above unaccounted for, hence I will not pursue it here. One could try to modify the above conclusion by assuming only NPs headed by case assigning nominals count as phases (see Bošković 2010b for an attempt along these lines, based on Takahashi's 2010, in press approach to phasehood, where case plays a crucial role in determining phasehood), where the case difference between adnominal genitive and examples like (62) could even have a structural reflex that could be responsible for the phase difference. There is, however, no need to take this step. It is actually not clear that PPs ever function as nominal complements in SC. In other words, it appears that in SC, a language where a noun can take a true NP complement, PPs simply do not function as nominal complements. Rather, they should be treated as adjuncts. Given that adjuncts can be extracted out of TNPs in SC, the grammaticality of (62) by itself is not an impediment to the adjunct treatment of the PP, as it was in English. There is, however, a simple test that can determine

the complement/adjunct status of the PP in question, which was in fact used by Ticio (2003) in her discussion of PP extraction from Spanish TNPs. If the TNP in (62) is embedded within an island, we should get a subjacency-strength violation if the relevant phrase is a complement, and an ECP-strength violation if the phrase is an adjunct. It turns out that the violation here is quite strong, on a par with ECP-strength violations, which provides evidence that the PP in question is an adjunct, not an argument (see (63)a; another relevant example is given in (63)b).[27] This in fact seems to be quite generally the case in SC, a language which allows NP nominal complements (in various Cases) and where the nominal complement/argument treatment seems to be reserved for NPs. (For relevant discussion, see also Starke 2001: chapter 5, who (simplifying somewhat) ties traditional argumenthood to NPhood, or, more precisely, being case-marked; notice that English may not differ from SC in the relevant respect if in a case-poor language like English some prepositions count as case-markers, which is not the case in a case-rich language like SC, where prepositions are prepositions.[28])

(63) a. **Za taj problem si ti zaspao [pošto je Ivan otkrio rešenja t]?

'To that problem, you fell asleep after Ivan had discovered (the) solutions?'

b. **O kojem novinaru si ti zaspao [pošto je Ivan pročitao članak t]?

'About that journalist, you fell asleep after Ivan had read an article?'

[27]Ticio conducts this test to show that some PPs that seem treatable as adjuncts but are extractable from TNPs in Spanish, a DP language which shouldn't allow such extraction, are in fact arguments. (In her cases, extraction of the PPs from islands yielded a subjacancy-strength violation.) It is worth noting here that, as discussed in Lasnik and Saito (1992), extraction of PP arguments from islands is a bit more degraded than extraction of NP arguments, though still much better than extraction of adjuncts. In this respect, note that the unacceptability of (63) is quite strong (on a par with extraction of adjuncts out of adjuncts in English, not extraction of NP or PP arguments); it cannot be captured simply by appealing to the additional PP effect, which may even be language specific. In fact, (63) is even worse than (i), which involves a double locality violation (recall that nominal complements in SC cannot be extracted even if the extraction does not take place out of a traditional island), which confirms the adjunct status of the extracted element in (63), given the well-known fact that extractions out of traditional islands yield stronger violations with adjuncts than with arguments.

(i) *Ovog profesora si zaspao [pošto je Ivan pročitao knjigu t]?

'This professor you fell asleep after Ivan had read the book.'

It is also worth noting a potential alternative analysis of (63). Following Bach and Horn (1976), the PP in at least (63)b may be directly modifying the verb, in which case it would not be part of the object NP. Furthermore,if the PP modifies the verb as an adjunct, the strong unacceptability of (63)b also follows.

[28] The most plausible candidates for PP nominal complements in English are in fact NPs in SC.

To summarize, the claim that NP is a phase in NP languages was situated within a broader theoretical context in this section. We have seen that, in contrast to NP languages like SC, NP is not a phase in DP languages like English. The facts then indicate that DP, but not NP is a phase in English, while NP is a phase in SC. This can be captured if the highest phrase within a TNP functions as a phase in both DP and NP languages, the highest phrase being DP in English and NP in SC. Additional evidence for this approach was provided by the SC genitive of quantification construction, where a QP is projected above NP even in SC. We have seen that due to the presence of QP, NP ceases to be a phase in SC in this context. In other words, QP voids the phasehood of NP in SC, just like DP voids the phasehood of NP in English. All of this indicates that it is the highest phrase in the traditional NP that functions as a phase, regardless of the categorial status of the TNP in a particular language (or construction). There is then no real crosslinguistic variation regarding phasehood in TNPs, the only variation lies in the amount of structure a TNP has in DP and NP languages. More generally, the above discusion favors a dynamic approach to phasehood, where the phase status of a phrase can be affected by the syntactic context in which it appears, over a rigid, once a phase, always a phase approach, where the syntactic context is irrelevant to the phasehood of a phrase. The test case came from NP, whose phasal status is affected by the syntactic context where it occurs in both English and SC.In English, due to the syntactic context in which it occurs (the presence of DP) NP never functions as a phase, while in SC NP sometimes functions as a phase, and sometimes it doesn't, depending again on its syntactic context.[29]

3.3.3. Genitive of quantification in Russian

I will now discuss genitive of quantification in Russian, which presents an interesting puzzle for the

[29]Although under the dynamic approach the phase status of an NP, e.g., depends on its syntactic context, no look-ahead is required to accommodate the variable status of NP regarding phasehood. X can either move to the edge of NP or not; if X does not move to the edge of NP and no additional TNP structure is inserted above NP, which means the first merger is with e.g. a V, with V projecting and turning NP into a phase, X will not be able to move out of the NP. If the structure requires movement of X the structure will simply crash. The problem will not arise if X does move to the edge of NP before merger with the verb. Moreover, under Chomsky's (2001) definition of the PIC, X in the complement domain of an NP phase is actually able to move to SpecVP (even SpecNP if the cycle is defined on phases) after the NP merges with the verb since PIC effects kick in only when a higher phase head, in this case *v,* is merged. No look-ahead problem then arises here.

current system. Russian behaves like SC regarding the paradigm from sec 3.1/2: deep LBE, movement of the nominal complement, and deep adjunct extraction are unacceptable in an adnominal genitive context, with improvement in inherent case contexts (see Bošković 2010b for the data). Regarding genitive of quantification, a context which I will focus on here because, as discussed below, it appears to raise a problem for the current analysis, Russian again patterns with SC with respect to the basic paradigm from sec 3.2.2 (the same holds for the data from sec 3.3.2.1). As (64) shows, deep LBE, deep adjunct extraction, and nominal complement extraction are all possible in this context, just as in SC.

(64) a. Dorogix on kupil pjat'/mnogo mašin.
expensive$_{GEN}$ he bought five/many cars$_{GEN}$
'Five/many expensive cars, he bought.'

b. Dorogix mašin on kupil pjat'/mnogo.
expensive$_{GEN}$ cars$_{GEN}$ he bought five/many
'Five/many expensive cars, he bought.'

c. Iz kakogo goroda on videl [pjat' devušek t]?
from which city he saw five girls

As in the case of SC, there are two possibilities here. Either QPs do not function as phases, or QPs function as phases but there is additional structure with QPs which makes it possible for extraction out of a QP not to violate anti-locality. The latter alternative is preferable, since it allows us to maintain the position, which was independently motivated in the previous section, that the highest phrase in the extended projection of NP counts as a phase crosslinguistically, in which case there is no real crosslinguistic variation in phasehood—the only variation lies in the amount of structure that TNPs have crosslinguistically, a variation that is also indepedently motivated. We have seen that the QP-as-a-phase analysis can be easily maintained for SC. In fact, there was independent evidence for it

since SC genitive of quantification is an inherent case. The lack of locality effects in the genitive of quantification context is then just another illustration of the structural vs inherent case difference, and can be captured in exactly the same way as the lack of locality effects with nouns that assign inherent case. Most importantly, given the above proposal that inherent case involves additional structure, it is not necessary to exempt inherent case assigning heads from phasehood; the lack of locality effects can be captured even if inherent case assigning nouns project phases, just like genitive assigning nouns. QPs can be treated in the same way as the former given independent evidence, provided by Franks (1994), that SC genitive of quantification is an inherent case. QPs can then be considered to be phases, in line with the approach where the highest phrase in the extended projection of NP counts as a phase.

At first sight, it appears Russian should not change the overall picture. As noted above, Russian patterns with SC both with respect to the structural vs inherent case assigning nouns paradigm, which can be handled in the same way as the SC paradigm, and genitive of quantification. The obvious step to take here would be to treat Russian and SC genitive of quantification in the same way, with QP functioning as a phase. This is, however, not easy to implement given Franks's (1994) claim that, in contrast to SC, genitive of quantification in Russian is a structural case. His claim is based on the fact that, in contrast to what we have seen above regarding SC, Russian genitive of quantification does not have to be assigned; it can in fact be overridden by an inherent case of the verb, as shown by (65).

(65) Ivan pomogaet pjati devočkam.
Ivan helps five$_{DAT}$ girls$_{DAT}$

Since structural case does not come with additional structure these data may then favor the no-QP phase analysis. The analysis could also be extended to SC. However, we could then no longer assume that the highest phrase in the extended projection of NP counts as a phase and the absence of relevant locality effects with SC genitive of quantification would not then simply fall out from the

independently motivated inherent case status of this case in SC. I will therefore explore the possibility of an alternative analysis, on which QPs are phases in both Russian and SC, which will allow us to maintain the highest-phrase-is-a-phase approach. The analysis, however, should not conflict with the indepedently motivated claim by Franks (1994) that genitive of quantification is an inherent case in SC, and a structural case in Russian. This means we cannot handle Russian (64) on a par with SC (46)-(48) since that would entail assuming Russian genitive of quantification is an inherent case. What is then the factor that voids the usual phasehood locality effects with Russian numerals?

Interestingly, there is independent evidence that Russian and SC genitive of quantification do not work in the same way. Above, I have tacitly assumed that the numeral assigns genitive of quantification in SC (which means the numeral is the head of QP). In fact, I do not know of any data that would be incompatible with this assumption in SC. Significantly, there is evidence that Russian genitive of quantification is not assigned by the numeral, but by another element below the numeral. As discussed by Franks (1994), there is a construction where the noun following the numeral bears genitive, but the numeral itself clearly has a non-genitive case (this situation never arises in SC). This is illustrated in (66), where *po* is a dative case assigner. (For the full *po* paradigm, see Franks 1994.)[30]

(66) Každyj učenik polučil po pjati rublej.
each student received distributor five$_{DAT}$ rubles$_{GEN}$
'Each student received five rubles.'

Based on such examples, Franks (1994), Bailyn (2004), and Bošković (2006) argue that in Russian the numeral itself does not assign genitive of quantification, which they argue is assigned by a null head below the numeral. (As discussed in Bošković 2006, the underlying assumption here is that the same element cannot function as a case assigner and a case assignee, a situation which is otherwise never

found (see also Stowell's 1981 Case Resistance Principle.) A structure along the lines of (67) can then be applied to Russian genitive of quantification, with the null Q functioning as the genitive assigner.

(67) $[_{\mathbf{XP}}$ numeral $[_{QP}$ Q $[_{NP}$ expensive $[_{NP}$ cars

But this structure is very similar to (42). The above discussion of (42) can then be applied to Russian numerals. We can continue to assume that the highest extended projection of a TNP is a phase, which in the case of (67) is the projection marked as XP, whose exact nature I leave open. Movement of the NP complement of Q, deep adjunct extraction, and deep LBE from under Q can still proceed without a violation of anti-locality. Furthermore, the structure in (67) is fully compatible with Franks's claim that Russian genitive of quantification is a structural case and the current claim that no additional structure is present right above a structurally case-marked NP, in contrast to inherently case-marked NPs.

Another aspect of the current analysis is worth noting here. I have assumed above that while SC numeral phrases are QPs (with the numeral heading the QP), Russian numeral phrases at least can have additional structure on top of QP, which I have referred to as XP, leaving its precise nature open. The difference was tied to the ability of Russian numerals to receive case from a TNP external case assigner, numerals in XP being accessible to an external case assigner. Note now that SC numerals never get case (see fn. 30), while I have argued in Bošković (2006) that Russian numerals have both cased and caseless forms (see also Franks 1994).[31] Taking seriously the connection between additional structure (XP) and accessibility to an outside case assigner would then lead to the conclusion that SC numeral phrases are always QPs while Russian numeral phrases can be either QPs or XPs, where XP dominates QP. Focusing on Russian for a moment, this is precisely what Franks (1994) argues for. In particular, Franks argues Russian numeral phrases can either be QPs or involve an additional phrase on top of

[30]While Russian numerals can bear case SC numerals are always caseless. Thus, SC *pet* 'five' has only one form, in contrast to Russian *pjat'*, which has different case forms. Russian and SC numerals also differ regarding agreement, which, like the case difference, can be tied to the categorial difference proposed below (the issue is discussed later in this section).

[31]Putting aside (66), where genitive of quantification is assigned it is not clear whether the numeral is caseless or nom/acc since these forms would be expected to look exactly the same morphologically, given the Russian case paradigm. In fact,

QP.[32] Franks's main concern was to account for the optionality of agreement with Russian numerals.

(68) Devjatnadcat' samolëtov pereleteli/pereletelo granicu.
nineteen planes$_{GEN}$ flew-across$_{PL/SG}$ border

Franks connected this with the amount of structure present in the numeral phrase: QPs cannot undergo agreement, while the phrase on top of QP (XP in current terms) undergoes agreement. The optionality of agreement was also the main concern of Bošković (2006). However, in contrast to Franks (1994), I argued that what is responsible for the optionality of agreement is not a difference in the categorial status of numeral phrases but case: Russian numerals have both case and caseless forms, where case forms undergo agreement and caseless forms do not undergo agreement (see fn. 31). The above suggestion then reconciles Franks's (1994) and Bošković (2006) proposals. Agreeing and non-agreeing numerals differ both in case properties and the amount of structure, where the two are directly related: XP is needed both for agreement and to make the numeral accessible for external case assignment.

Returning to SC, recall that SC numerals never get case, which I have interpreted as indicating that they are always QPs, with the numeral heading the QP. Significantly, SC numerals also fail to agree.[33]

(69) Devetnaest aviona je prešlo granicu/???su prešli granicu.
nineteen planes is flown-across$_{SG}$ border are flown-across$_{PL}$ border

Being QPs, SC numeral phrases then can never agree, while Russian numeral phrases optionally agree

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Bošković (2006) argues the numeral in the genitive of quantification context is ambiguous between a caseless and an acc/nom form, the ambiguity being revealed through the optionality of agreement with subject numerals (see below).

[32]For Franks this phrase is DP (he simply assumed this option for Russian).Given the above discussion, the phrase shouldn't be DP. The actual label doesn't really matter here; what matters is the amount of structure projected with Russian numerals.

[33]As discussed in Franks (1994), the plural in (69) is not fully unacceptable due to the possibility of apparently still degraded extragrammatical (semantic) agreement. Franks actually suggests SC numerals project additional structure (XP). However, he then basically stipulates SC numerals cannot agree, although for him they have the right kind of structure. It seems preferable not to adopt this analysis. If SC numerals are simply QPs it follows they cannot agree and cannot get case from outside case licensors, which are indeed their properties. Franks suggested SC numerals are XPs because he wanted to work in another factor, structural height. He showed that Russian numerals are lower on the non-agreeing option than on the agreeing option and that SC numerals pattern structurally with Russian agreeing numerals. I take this to indicate agreement should not be correlated with height, given that agreeing numerals in Russian pattern with non-agreeing SC numerals regarding structural height. The current analysis thus correlates case properties of numerals, the amount of structure they

(since they can be QPs or XPs). The conclusions we have reached here about the structure of numeral phrases in SC/Russian are thus compatible with Franks's (1994) system, which means the structures assumed here can be tied to the agreement patterns displayed by SC and Russian numeral phrases.[34]

4. Going beyond clauses and TNPs

I now turn to phrases other than TNPs, applying the above tests to them. As noted in sec. 1, most of the discussion of phases in the literature concerns clausal-level projections, CP and *v*P (which are actually extended projections of V). We have seen above that LBE and related constructions can be used as a rather powerful tool for determining the phase status of the TNP. The tests are also applicable to PPs and APs, phrases which are rarely discussed in terms of phases. The tests in question provide evidence for the phasehood of these phrases. I will first consider PP. (I will also briefly discuss VP in sec 5.)

4.1. PPs

Before applying the relevant tests, we need to determine whether the case assigned by Ps is structural or inherent. In a case rich language like SC, different prepositions assign different cases. It is generally assumed that prepositional cases are inherent. Surprisingly, Franks's (1994) test for structural/inherent case distinction reveals that prepositional cases in SC are structural. More precisely, prepositional cases behave like structural cases with respect to genitive of quantification in that they can be overridden by genitive of quantification (see Franks 2002). Thus, (70)-(71) pattern with (44) rather than (51).

(70) a. u Londonu/sobi

in $\text{London}_{\text{LOC}}$/$\text{room}_{\text{LOC}}$

b. u pet soba

in five $\text{rooms}_{\text{GEN}}$

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have, and their agreement properties, leaving aside the structural position of numeral phrases. However, since the structural position is important for locality effects, I will not try to examine here interactions between locality and agreement.

[34]It is beyond the scope of this paper to provide a full account of the complex behavior of numerals in SC and Russian. My point here is a modest one, simply to point out the similarity between what I have assumed here and Franks's (1994) seminal analysis,which makes it possible to import at least some of the accomplishments of Franks's analysis into the current system.

(71) a. prema Londonu/sobi

toward London$_{DAT}$ /room$_{DAT}$

b. prema pet soba

toward five rooms$_{GEN}$

The conclusion raises all kinds of interesting issues.[35] Putting them aside, since they go well beyond the scope of this paper, let us consider the predictions that the conclusion makes regarding the phenomena examined in this paper. The predictions are clear: Suppose PP is a phase in SC, which was in fact proposed by Abels (2003). Given that P assigns structural case, movement of the P-complement, LBE, and adjunct extraction from under P should all be disallowed. It is well-known that SC disallows P-stranding (72). As predicted, LBE and adjunct extraction are also disallowed ((73)/(74)).[36]

(72) *Njoj on hoda prema t.

her he walks toward

(73) *Veliku on uđe u [t sobu].

big he entered in room

(74) *Iz kojeg grada je on hodao prema [djevojkama t]?

from which city is he walked toward girls

PPs thus confirm the validity of the tests that were used to determine the phase status of TNPs, given that the three diagnostics established in sec. 3.1. pattern together with PPs, just like they do with TNPs. Furthermore, these diagnostics reveal that PPs are phases in SC.

I will now briefly consider English. Deep LBE and adjunct extraction are irrelevant for English,

[35]E.g., while all verbs assign the same structural case, prepositions apparently differ in this respect. It may then be necessary to lexically specify which case a particular preposition assigns, which means that lexical specification is not enough to consider a particular case inherent. In fact, the dative assigned by the Russian preposition *po*, discussed in sec. 3.1.3. (see (66)), clearly has to be considered a structural case since it is assigned in an ECM configuration (see sec. 3.1.3. and especially Franks 1994 for a detailed justification of this property of the case assigned by *po*).

[36]SC allows what in Bošković (2005b) I called extraordinary LBE, as in *U veliku on uđe sobu* 'In big he entered room'. I refer the reader to Bošković (2005b) for discussion of this construction, which doesn't affect the conclusions reached above.

since they are ruled out independently in English due to the presence of DP. The preposition stranding test is, however, relevant. It is well-known that, in contrast to SC, English allows P-stranding.

(75) What are you looking at?

It is beyond the scope of this paper to provide an account of the SC/English difference with respect to P-stranding. I will only note two obvious possibilities. One possibility is that PPs are not phases in English, which is what Abels (2003) argues for (but see Bošković 2004 and Ticio 2003). Under Abels's analysis, languages differ regarding the phasal status of PPs. In PPs-as-phases languages, movement out of a PP must proceed via SpecPP, which in the case of movement of the P complement yields an anti-locality violation, hence the ban on P-stranding in SC. The problem does not arise in English, where PP is not a phase for Abels, hence movement out of a PP does not need to proceed via SpecPP.

Another option is that PP is a phase in both SC and English, i.e. both P-stranding and non-stranding languages. The relevant difference would then be that English PPs have a richer structure than SC PPs (see, e.g. Svenonius 2010 for rich PP structure for English), which makes it possible for movement from a PP in English not to violate anti-locality.[37] It is interesting to note in this respect that Sener (2006) shows that in Turkish, which normally disallows P-stranding, P-stranding is allowed when there is evidence for a richer structure.Thus, P-stranding is disallowed in (76)a, containing a bare preposition, but allowed in (76)b, involving a complex preposition which also contains an agreement morpheme.

(76) a. * Biz $[_{NP}$ Pelin-in arkadaş-ı$]_i$ dün $[_{PP}$ t_i **için**] para topla-dı-k.

we$_{NOM}$ Pelin$_{GEN}$ friend$_{POSS}$ yesterday for money collect$_{PAST.1PL}$

[37]This could be tied to a difference in the nature of the case assigned by Ps. If English Ps assign inherent case, as Chomsky (1980, 1986b) and Hornstein and Weinberg (1981) suggested (but see Kayne 1984), we would expect English PPs to have a richer structure than SC PPs, allowing them to circumvent the ban on P-stranding. Obviously, this is a highly speculative remark since I don't know of any clear evidence for either structural or inherent case status of English prepositional case.

The conclusions reached here about the structure of SC PPs (which follow Abels's bare PP line of research) conflict with the conclusions reached by Radkevich (2010), which assigns SC PPs rich internal structure. I leave it open how to reconcile the two (note that the two lines of research are motivated by very different phenomena and theoretical concerns), merely noting that we are dealing here with a tension that is familiar from the CP and the IP domain (compare e.g Chomsky's 2000, 2001 position that only TP and CP are present above *v*P with the split IP and split CP analyses; for much interesting discussion (and criticism of the mainstream cartographic approach, which is not adopted in this paper) see Abels 2009).

'Yesterday, we collected money for Pelin's friend.'

b. Ben araba-nın$_i$ dün [$_{PP}$ t_i **ön-ün-de**] dur-du-m.

I_{NOM} car_{GEN} yesterday $in.front.of_{3SG.POSS.LOC}$ $stand_{PAST.1SG}$

'Yesterday, I stood in front of the car (not behind it).'

Sener (2006) applies to (76)a the anti-locality analysis adopted above for SC: Since PP is a phase, P-complement must move to SpecPP, which yields an anti-locality violation (see (77)a). He argues the problem does not arise in (76)b since PP has a richer structure here, as indicated by its morphological make-up. He posits three projections within the PP, as in (77)b. Assuming in line with the current system that the highest phrase within the extended PP projection counts as a phase, movement of the complement of the preposition then does not yield an anti-locality violation in this case (see (77)b).

(77) a. [$_{PP}$ NP_i [$_{P'}$ t_i] b. [$_{CplocP}$ NP_i [$_{AgrP}$ [$_{PP}$ t_i]]]

It is then possible that English, and P-stranding languages in general, have a richer PP structure than non-stranding languages (which doesn't have to be transparent morphologically the way it is in Turkish), as a result of which the anti-locality problem that arises with P-stranding in languages like SC does not arise in English.[38] This analysis departs from Abels (2003), who does not assume a structural difference between English and SC. He in fact assumes a bare PP structure for both, placing the relevant point of variation in the domain of phases: PP is a phase in SC, but not English. The above suggestion is, however, in line with the overall approach adopted here, which does not posit any crosslinguistic differences with respect to phasehood, the relevant locality differences resulting from structural differences, i.e. the amount of structure languages project witin particular phrases.

At any rate, as noted above, it is beyond the scope of this paper to account for crosslinguistic

[38]Note that, as observed by Hornstein and Weinberg (1981), a PP complement of P cannot be extracted in English, as in **[Behind which car] did they take a shot at him from t (*from Cinque 1990). If the additional structure is case/agreement related it may not be present when a P takes a PP complement. The example is then easily ruled out by the PIC/anti-locality.

Note that Sugisaki (2002) also proposes languages may differ in the amount of PP structure, tying this difference to P-stranding. However, on his analysis other factors are involved in the availaibility of P-stranding too (more precisely, head

variation with respect to P-stranding. What is important for our purposes is that the three diagnostics that were used above in the discussion of the phasal status of TNPs all work in the same way with PPs, which confirms the validity of these diagnostics and provides evidence that PPs are phases in SC.

4.2. Adjectives

I now turn to adjectives. First, the genitive of quantification test indicates that adjectives assign inherent case, given that genitive of quantification cannot override the case assigned by adjectives.

(78) a. lojalan studentima
loyal students$_{DAT}$
'loyal to students'

b. *lojalan pet studenata
loyal five students$_{GEN}$

We then make the following predictions: complement of an adjective should be movable, deep LBE should be allowed, and adjunct extraction should also be possible. The predictions are all borne out.

(79) ?Studentima je on [lojalan t]
students is he loyal

(80) Njegovim je on lojalan [t studentima]
his is he loyal students

(81) ?Iz kojeg grada je on lojalan [studentima t]
from which city is he loyal students

The reader should note that the three diagnostics that were used above to investigate the phasehood of TNPs again pattern together; however, while they all fail with PPs, they all work with APs. What does that tell us about the phasal status of APs? The relevant facts can all be accounted for if adjectives are treated just like inherent case assigning nouns, which seems natural given that adjectives also assign

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movement of P). Also, his analysis of P-stranding is quite different from the analysis adopted above. Sugisaki doesn't rely

inherent case. APs then work as phases; the reason why LBE, adjunct extraction, and complement movement are possible with APs is the richer structure that inherent case is associated with. The alternative would be to assume that APs are not phases; there would then be no reason to expect that the above movements should be blocked with APs. I will adopt here the first option for two reasons: (a) under this analysis all major phrases serve as phases in SC (i.e. NP, PP, and AP; see below for VP), which is a conceptually appealing conclusion; (b) the option requires adjectives to assign inherent case, which they indeed do; this option then links in a principled way two properties of APs, the behavior of APs with respect to locality and the fact that adjectives assign inherent case.

5. Conclusion and some theoretical consequences

We have seen that left-branch extraction and related constructions involving extraction out of nominal domains can be used as a very useful test for phasehood. More precisely, we have seen that deep left-branch extraction, deep adjunct extraction, and complement movement pattern together, they are either all allowed or all disallowed with SC TNPs as well as PPs and APs.[39] They are all crucially affected by the structural/inherent case distinction, given that whether they are allowed or disallowed depends on this distinction; more precisely, whether the relevant NP bears inherent or structural case, the phenomena in question being disallowed only with the latter. The general pattern then is that inherent case is less constrained than structural case with respect to extraction out of NPs.[40] Based on

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on anti-locality and bans A'-movement out of PPs quite generally, P-stranding involving remnant PP movement for him.

[39]There is only one exceptional configuration where they are divorced (for independent reasons), discussed in sec. 3.3.2.1.

[40]We may be dealing here with a more general pattern, where inherently case-marked NPs are quite generally less constrained with respect to locality of movement than structurally case-marked NPs. One relevant phenomenon in this respect concerns the scope of Japanese *dake* 'only'. Consider the data in (i-ii). ((i) is taken from Takahashi in press b)

(i) Taro-ga migime-dake-o tumur-e-ru.
Taro$_{NOM}$ right.eye-only$_{ACC}$ close-can-pres
'Taro can close only his right eye.' (*only > can, can > only)

(ii) Taroo-wa Daitooryoo-dake-ni a-e-ru.
Taro$_{TOP}$ president-only$_{DAT}$ meet-can-pres
'Taro can meet only with the president' (only > can can > only)

While the accusative in (i) must scope under *can*, the dative in (ii) can take wide scope. Takahashi (in press) successfully analyzes the lack of ambiguity in (i) in terms of a locality violation. His basic idea is that to scope over *can*, *dake* NP has to undergo QR (see also Bobaljik & Wurmbrand 2007). The long QR that is needed to get this reading yields a locality violation in (i) under Takahashi's analysis. Significantly, the violation apparently doesn't arise in (ii), where the NP bears

this I have argued that inherent/structural case distinction must be structurally represented. I have also provided a unified phase/anti-locality account of all these facts, where unacceptable extractions are ruled out via a PIC/anti-locality conspiracy because satisfaction of one of these requirements leads to a violation of the other requirement due to the conflicting nature of these requirements at phasal edges (roughly, the PIC requires movement to be short and anti-locality requires it to be long). I have argued that the difference between inherent and structural case is that the former involves additional structure, which enables inherently case-marked NPs to satisfy the PIC without violating anti-locality.

In addition to the inherent/structural case distinction, the current analysis has important consequences for the phasehood of traditional Noun Phrases (TNPs), as well as PPs and APs. I have provided a phase-based account of the ban on left-branch and adjunct extraction from English TNPs that was crucially based on the assumption that DP is a phase. Since (putting aside nominals that assign inherent case) NP has the same blocking effect on these movements in SC as DP does in English, it then follows that NP is a phase in SC. The crosslinguistic variation regarding what counts as a phase in the TNP tracks the independent crosslinguistic variation regarding the categorial status of TNPs, given that TNPs in article-less languages like SC lack DP, as argued in Bošković (2008a, 2010a): NP is a phase in NP languages, and DP is a phase in DP languages. The effects of DP phasehood are not observed in NP languages for a trivial reason, given that such languages lack DP. There is then no real variation with respect to phasehood here. With both language types the highest phrase in the TNP domain counts as a phase; it just happens that there is a difference regarding the structure of TNP, i.e. what counts as the highest phrase. In fact, we have seen that when additional structure is present above NP in NP languages, as in the case of numerals, which in SC project QP above NP, this additional structure determines phasehood. Thus, with numerals, QP, which is the highest phrase in the TNP

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inherent case and is able to take wide scope. Under Takahashi's analysis of (i) the contrast between (i) and (ii) can be taken as another argument that inherently case-marked NPs are less constrained regarding locality of movement than structurally case-marked NPs (it is beyond the scope of this paper to account for the contrast but see Bošković 2010b for a suggestion).

domain when numerals are present, works as a phase (and in Russian, which has an additional projection above QP, this higher projection works as a phase). The real source of variation then concerns the amount of structure TNPs have crosslinguistically, not phasehood of TNPs, since the highest projection in a TNP always counts as a phase. This is in line with the dynamic approach to phases, where the phase status of X can be affected by the syntactic context where X occurs.

I have argued that APs and PPs also function as phases, which leads to the conceptually appealing conclusion that all major phrases (VP, NP, AP, and PP) project phases, with the exact phasal projection depending on the amount of functional structure above the major phrases (see below for VPs).

Regarding TNPs, I have also provided evidence that movement out of DP in DP languages like English must proceed via SpecDP. Requiring this step of movement was crucial in the account of the ban on left-branch and adjunct extraction in English. Providing arguments that movement out of DP must proceed via SpecDP is important given that cases that are standardly offered as arguments for successive cyclic movement via SpecDP in the literature, like the impossibility of extraction across possessors, involve interfering factors, namely the Specificity Condition and the stipulation that, in contrast to other phasal heads, which allow multiple Specs, multiple Specs are not available for D.

I will conclude by noting an additional consequence of the discussion in this paper. Notice first that due to the presence of *v*P, which works as a phase, structural case assigning verbs allow movement of their complement: Such movement does not violate anti-locality (see (82)). The same holds for LBE and adjunct extraction out of the V complement (in languages where such extraction is possible).

(82) NP_i **[**$_{vP}$ t_i [$_{v'}$ [$_{VP}$ V t_i]]]

This means that there shouldn't be a small *n* or a small *p* in TNPs and PPs; otherwise, nominal and prepositional domains would pattern with verbal domains in the relevant respect. This is an important conclusion, in light of the fact that such projections are often posited for TNPs and PPs, mostly to

achieve a parallelism with VP. However, we have seen above that the three phrases in question do not display uniform behavior with respect to phenomena that are sensitive to the presence of *v*P/*n*P/*p*P.

Consider what would happen if an *n*P is posited for SC.[41]Given that *n*P is generally posited to obtain parallelism with *v*P, under this analysis it is natural to assume that *n*P, rather than NP, should function as a phase in SC (this would anyway be the highest projection within TNP in SC). To allow LBE and adjunct extraction in any context it would then be necessary to assume APs and adjuncts are *n*P rather than NP adjoined. (If the latter were the case even simple LBE like (6) and adjunct extraction like (14) would be blocked.) However, if these elements were *n*P adjoined deep LBE and deep adjunct extraction would be incorrectly ruled in even where they are unacceptable: the elements undergoing deep LBE and deep adjunct extraction in (33)b and (35) would cross a full phrase, namely the higher NP, on their way to the Spec of the *n*P dominating the higher NP (cf. NP_i [$_{nP}$ t_i [$_{NP}$ [$_{nP}$ t_i [$_{nP}$ [$_{NP}$), which means that movement to the phasal edge, Spec*n*P under this analysis, would not violate anti-locality.

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[41]The discussion also extends to *p*P. Note, however, that the problems about to be noted arise in SC, but not English. The following discussion then does not completely rule out the possibility that an *n*P (or a *p*P) could be posited in English, but not SC, perhaps as part of a more general difference in the structural richness of the TNP between article and article-less languages in the case of *n*P (note that Sugisaki 2002 argues languages may differ regarding the presence/absence of *p*P).

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