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CH 42 Extraction from Complex NPs and Detachment

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Review

Extraction from Complex NPs and Detachment*

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Ross (1967) examined a number of contexts from which extraction is disallowed, referred to as islands. One of these islands is the Complex NP Constraint, where complex NP is a noun modified by a clause. The constraint can then be informally stated as in (1).

(1) Extraction from complex NPs is disallowed.

Extraction is disallowed both from relative clauses (2) and clausal complements of nouns (3).

(2) *Who_i did you see dogs that bit t_i?

(3) *Who_i did you hear rumors that a dog bit t_i?

The goal of this paper is to re-examine the status of (1), putting it into a broader perspective by tying the Complex NP Constraint to two other constraints on extraction out of NPs, thus showing that (1) is part of a broader phenomenon. More specifically, we will see that the Complex NP Constraint can be unified with the ban on extraction of adjuncts out of NPs, which is given in (4) and illustrated by (5), and the ban on deep extraction out of NPs (6), i.e. the ban on extraction of complements of nouns whose maximal projection itself functions as a nominal complement. This ban is illustrated by (7). The example in (7) contrasts with the example in (8), which shows that nominal complement extraction is in principle possible (I am ignoring here the dummy preposition *of*, hence treating the trace as the nominal complement).

(4) Adjunct extraction out of NPs is disallowed.

(5) *From which city_i did you see [girls t_i]?

(6) Deep extraction of nominal complements is disallowed.

(7) *Who_i did you see enemies of [friends of t_i]?

(8) Who_i did you see [friends of t_i]?

While due to the nature of this volume the primary goal of this paper is descriptive, in addition to establishing a generalization that unifies (1), (4), and (6), a phase-based analysis of the generalization will be discussed which accounts for the data that are covered by (1), (4), and (6) as well as a good deal of crosslinguistic variation regarding various types of extractions out of NPs. Since the paper deals with the issue of extraction out of NPs, the discussion will also involve addressing the issue of the precise landing site of successive cyclic A'-movement out of NPs: we will see that such movement proceeds via NP-adjunction rather than SpecNP. We will also see that theta-marking affects the phasal status of NP.

The paper is organized as follows: In section 1 I will summarize some of the previous accounts of (1), which cannot be extended to other constructions discussed in this paper. In section 2 I will show that (1), (4), and (6) can be unified, thus establishing a larger generalization that covers all these constraints. In this section I will also discuss several cases of *detachment*, where “parts” of a complex NP may not be base-generated together. In section 3 I discuss several additional paradigms which also involve movement out of NPs and which are subject to crosslinguistic variation, situating them within a phase-based account of extraction out of NPs. Section 4 is the conclusion.

1. On the Accounts of the Complex NP Constraint

Before summarizing the accounts of (1) it should be noted that there are certain contexts where (1) does not hold.

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(9) ?The money which I am making the claim that the company squandered amounts to \$400,000.

(Ross 1967: 139)

Such cases are lexically conditioned and have been treated in the literature in terms of complex predicate (*make the claim*) formation/N-V reanalysis/N-incorporation (see for example Chomsky 1975, 1980, Kayne 1981, Cinque 1990, Davies and Dubinsky 2003; see also Kearns 1998 for a dissenting view). I will not be concerned with such cases here.

Returning to the cases where extraction out of complex NPs is disallowed, as in (2)-(3), Ross (1967) accounts for such cases by positing the constraint in (10).

(10) No element contained in a sentence dominated by a noun phrase with a lexical head noun may be moved out of that noun phrase by a transformation.

Chomsky (1973) provides a Subjacency account of (1) which has an advantage in that it sees (1) as part of a broader phenomenon, i.e. it unifies (1) with the ban on extraction from several other contexts (like *wh-islands*). The gist of the subjacency account is that movement cannot cross two bounding nodes, where the bounding nodes are NP and CP (updated to the current framework). Extraction out of a complex NP crosses NP and CP, in violation of Subjacency.¹

(11) *Who_i did you hear [_{NP} rumors [_{CP} that a dog bit t_i]]?

It should, however, be noted that what is at work in (2), which involves extraction out of a relative clause, an adjunct, is not NP-specific. It is well-known that extraction out of adjuncts is quite generally banned (though see Truswell 2011 for some exceptions); i.e. such extraction is banned even if the adjunct modifies a verb, rather than a noun.

(12) *Who_i did you see a dog [after it had bit t_i]

In light of this, there have been attempts to reduce (3) to (2), thus subsuming (1) under the general ban on extraction out of adjuncts (see here especially Takahashi 1994). In this respect, it is worth noting that Stowell (1981) argues that tensed nominal complements such as the one in (13a) are actually appositives, i.e. he claims that that the relation between the noun and its tensed clausal complement is not the same as the relation between the corresponding verb and the tensed clausal complement—it is one of apposition rather than θ -role assignment—primarily based on his observation that examples like (13a) can be paraphrased as in (13b), with an identity relation holding between the nominal and its complement. However, Safir (1985) shows that Stowell's argumentation does not work in all cases. For example, (13c) has a consequent reading, where the proposition of the complement is the consequence of the content of the nominal. Safir further observes that while the nominal from (13c) can be related to an 'appositive' clause as in (13d), (13c) can also be related to an 'additional appositive' in a copular sentence as in (13e), whereas nominals with 'true' appositive complement clauses cannot be, as shown by (13f).

- (13) a. John's claim that he would win
 b. John's claim was that he would win.
 c. John's proof that the fly is a mammal amused the experts.
 d. The proof was that the judge was late.
 e. The clearest proof that John was guilty was that the judge was late.

¹Chomsky (1977) explored the possibility that IP counts as a bounding node. Crossing the matrix IP in (11) then results in extraction across another bounding node.

f. *The claim that John was guilty was that he might have had a strong motivation to commit the crime.

In (13e), the post-copular clause acts like the subject of the verb from which the nominal is derived, and the state of affairs in the nominal complement clause corresponds to the verb complement clause (cf. *That the judge was late proved that John was guilty*). Safir takes this to indicate that the nominal complement clause in (13c) is an argument since it bears the same relation to the nominal as it does to the corresponding verb. Safir notes a number of nominals that behave like *proof* in the relevant respect (i.e. regarding (13e)), both deverbal and non-deverbal (for example *indication, confirmation, sign, signal, evidence*). Since these nominals are also subject to (1), we are led to the conclusion that not all clausal nominal complements can be treated in terms of apposition and that (1) cannot be fully subsumed under the ban on extraction out of adjuncts.²

Consider now the Barriers (Chomsky 1986a) account of the Complex NP Constraint. Relative clause cases like (2) are rather straightforward.

(14) *Who_i did you see [_{NP} dogs [_{CP} that bit t_i]]?

Assuming that the SpecCP of the relative clause is filled by a null operator, wh-movement of *who* has to skip the relative clause CP, which, being an adjunct, is a barrier (the CP also inherits barrierhood from its IP complement).³ Additionally, the CP makes the object NP a barrier (i.e. the object NP inherits barrierhood from the CP). Since wh-movement also crosses the object NP, two barriers are then crossed in (2), which yields a strong subjacency violation (adjunction voids barrierhood; however adjunction to the bolded NP and CP in (14) is not allowed due to the ban on adjunction to arguments and the ban on adjunction to adjuncts).

The nominal complement cases like (3) are, however, problematic for the Barriers system.

(15) *Who_i did you hear [_{NP} rumors [_{CP} that a dog bit t_i]]?

Since, like the NP, the CP here is a complement argument, neither CP nor NP is a barrier. Since wh-movement in (15) can stop in the complement clause SpecCP (which under standard assumptions is not filled by anything else), it ends up not crossing any barriers. To account for (15), Chomsky (1986a) makes the following assumption: "It may be that nouns assign oblique Case and that this imposes an inherent barrier to government". (Lasnik and Saito 1992 also adopt this account; see also Starke 2001 regarding the latter assumption.) CP in (15) is then a barrier, making the NP dominating it also a barrier. Wh-movement in (15) then also crosses two barriers, which yields a strong subjacency violation. The assumptions in question are, however, rather problematic, due to their stipulatory nature (why would inherent case impose a barrier to government?; for a suggestion see Lasnik and Saito 1992:194, who also note that their suggestion raises other problems) and also because it is not clear that clauses ever bear case. Additionally, for languages where nouns clearly assign case to their NP complements it has been shown that such case can be structural; see here Franks (1994) and Bošković (2013) for Slavic adnominal genitive, which quite clearly has the structural case status.⁴

²It is worth noting that Stowell explicitly argues that infinitival complements of nouns are true complements. Still, they also disallow extraction out of them, as in Chomsky's (1973:260) *Who_i will they obey/okey any requests [to kill t_i] or Li's (2003) **How_i does Bert have a plan [to fix the car t_i]. (It should be noted that there is some speaker variation with respect to object extraction out of infinitival islands, not only infinitival nominal complements but also for example wh-islands (as in (*)What_i do you wonder [whether to buy t_i]), which indicates that we are dealing with a general infinitival effect in such cases.)

³Roughly, phrases that are not complement arguments are inherent barriers. Additionally, the first maximal projection dominating a barrier is a barrier by inheritance. There is an exemption for IPs though: IPs cannot be inherent barriers but they can inherit barrierhood and other phrases can inherit barrierhood from IPs. Barrierhood is voided through adjunction.

⁴Slavic also has nouns that assign non-genitive case to their nominal complement. In such cases, nouns do assign an inherent case to their complement (see Bošković 2013). We will see in section 3.1. below that extraction out of

2. Subsuming the Complex NP Constraint

Having summarized some of the previous accounts of (1), in this section I will start establishing a new generalization regarding extraction out of NPs that subsumes the generalization in (1). The starting point will not involve extraction out of complex NPs (i.e. cases where a noun is modified by a clause), but the data in (7)-(8). Notice first that there is some controversy in the literature concerning examples like (8). Given that there are cases where extraction of nominal complements is disallowed, as in (16), Bach and Horn (1976) argue that in the acceptable examples of apparent N-complement extraction such as (17) the PP actually modifies the verb, not the noun, extraction out of nominal complements quite generally being banned.

(16) *Who did they destroy pictures of?

(17) Who did John write a book about?

Two of their arguments to this effect concern the fact that movement and pronominalization can affect *a book* without affecting the PP in (17).

(18) a. John wrote about Nixon an extremely wordy and difficult to read book.

b. What did you write your book about? I wrote it about Nixon.

Rodman (1977) (for relevant discussion see also Cattell 1979 and Chomsky 1977), however, shows that this argumentation does not extend to all relevant cases. For example, wh-movement is possible in (19). However, the NP in question does not pass the Bach and Horn movement and pronominalization tests.

(19) Which problems did you discover the solutions to?

(20) *I discovered them to problems number seven and nine.

(21) *I discovered to the problem an extremely complex and ridiculously unlikely solution.

(Rodman 1977)

In light of this, following Rodman (1977) I conclude that extraction of complements out of NPs is in principle possible.

The contrast between (18) and (20)-(21), however, brings up a point that has to be taken into consideration when examining extraction out of NPs: certain cases of extraction out of NPs may not be real in the sense that the relevant phrase may not actually be extracted out of the NP. One notorious and still debated case of this sort involves extraposition. While extraposition is often analyzed as involving rightward movement out of the NP (with a debate regarding when this movement occurs, see Taraldsen 1981), several works have argued that extraposed elements are not actually generated within the NP at all. Thus, Perlmutter and Ross (1970) and Gazdar (1981) note cases like (22), where there is no plausible source for the base-generation of the extraposed element within the NP (for non-movement analyses, see also Bennis 1986 and Culicover and Rochemont 1990; see also Kayne 1994 for a floating-quantifier style analysis of extraposition).

(22) a. A man came in and a woman left who were quite similar.

b. A man came in and a woman left who know each other well.

Note also that Taraldsen (1981) shows that extraction is possible from extraposed clauses in Norwegian even

inherently case-marked nominal complements is often easier than extraction out of structurally case-marked nominal complements (the same actually holds for the extraction of the complement itself), which goes against the spirit of the Barriers account of (15).

when such extraction is not possible out of their non-extrapolated counterparts (while English is often assumed to be different from Norwegian in this respect, this is not completely clear, see Kayne 1994:124.)

- (23) a. *Her er en bok_i som [ingen [som leser t_i]] blir lykkelig
 Here is a book that nobody that reads becomes happy
 b. Her er en bok_i som ingen blir lykkelig [som leser t_i].
 Here is a book that nobody becomes happy that reads

Also relevant is German split topicalization, where it appears that the noun/N' is extracted out of the NP (or NP is extracted out of the DP). Such cases do exhibit island effects (see van Riemsdijk 1989). However, there are also well-known problems with the subextraction analysis of such constructions—e.g. the fronted element corresponding to *books* in (24) is an independent DP that can even have its own article in appropriate cases (see van Riemsdijk 1989)—which have led to alternative analyses that do not involve subextraction from DP (see van Hoof 2006 for a survey of the literature).

- (24) Bücher hat er einige gekauft.
 books has he several bought
 'He bought several books.'

In what follows I will focus on the cases that more clearly involve extraction out of NP/DP. Given Rodman's (1977) conclusion based on the contrast between (18) and (20)–(21) that extraction out of NP is in principle possible (as in (19)), why is it then disallowed in (7)?⁵ Comparing (7) and (8), the following generalization suggests itself.⁶

⁵ The deep/simple extraction contrast can be accounted for in Chomsky's (1973) system since wh-movement in (ib) crosses two bounding nodes, namely two NPs, while wh-movement in (ia) crosses only one bounding node. (Note that (ia) raises a problem for Chomsky 1977, where IP works as a bounding node (see footnote 1), as a result of which wh-movement in (ia) crosses two bounding nodes, NP and IP. Chomsky 1977 suggested that such cases involve extraposition out of the NP, followed by wh-movement, with each movement crossing only one bounding node.)

- (i) a. Who_i did you see [_{NP} friends of t_i]?
 b. *Who_i did you see [_{NP} friends of [_{NP} enemies of t_i]]?

Lasnik and Saito (1992:194) observe that the Barriers system can also account for the simple/deep extraction contrast given Chomsky's (1986a) stipulations that nouns assign oblique case and that oblique case imposes an inherent barrier to government. Given this assumption, [_{NP} friends of t] in (7) is a barrier, hence wh-movement in (7) crosses a barrier. However, below I will introduce additional data regarding adjunct extraction as well as languages where nominal complement extraction is not possible. Since the subadjacency and the Barriers account do not extend to these cases, in this section I will start developing a new account of the deep/simple extraction contrast in (7)/(8).

⁶I assume that in P-stranding examples like (8) and (19), the noun is involved in theta-marking the extracted element/its trace, which would fit well with some form of the reanalysis approach to P-stranding (see Hornstein and Weinberg 1981 as well as Stepanov's 2012 approach, on which such examples do not even contain a PP projection in their surface structure; see also Grimshaw 1990, where the preposition essentially transmits the theta-role assigned by the noun).

Dutch is relevant here and may indicate that we are dealing with an N-specific issue. While Dutch allows P-stranding, within NPs P-stranding is highly lexically restricted (which is not surprising under a reanalysis-style account)—it is in fact restricted to one preposition, *van* (see van Riemsdijk 1997 and references therein; this work also contains an interesting discussion of a construction where the stranded *van* is not N-adjacent, which van Riemsdijk analyzes as involving *van*-PP movement out of the NP prior to the stranding); note that (iii) is acceptable but, as noted by van Riemsdijk, in contrast to the PP in (ii), the PP in (iii) is analyzable as a direct dependent of the verb (see also the discussion of (17).)

- (i) Daar heb ik het voorwoord van gisteren teruggestuurd.
 there have I the preface of yesterday sent-back
 'That I have returned the preface of yesterday.'
 (ii) *Waar heb je een argument tegen ontkracht?
 what have you an argument against refuted

(25) Only elements that are theta-marked by N_x can be extracted from NP_x .

(25) can be re-stated as follows:

(26) NP is an island for elements that its head does not theta-mark.

(26) straightforwardly captures the contrast between (7) and (8). Ignoring the dummy preposition *of* (see also footnote 6), the *wh*-phrase is theta-marked by the head noun of the only NP it is extracted from in (8). In (7), the *wh*-phrase is theta-marked by the head of the lower NP it is extracted from. However, it is not theta-marked by the head of the higher NP. *Wh*-movement in (7) then violates (26). (26) thus captures the contrast between (7) and (8).

I now turn to the generalization in (4), discussed by Huang (1982), Chomsky (1986a), Culicover and Rochemont (1992), and Bošković (2013), among others. As noted in these works and illustrated by (5), repeated here as (27), extraction of adjuncts out of NPs is disallowed.

(27) *From which city_i did you see [girls t_i]?

Notice, however, that the generalization in (4) is also subsumed by (26). Since adjuncts are quite generally not theta-marked, examples like (27), in fact all cases that are covered by the generalization in (4), involve extraction out of an NP of an element that is not theta-marked by the head of the NP in question, hence all such cases violate (26). I then conclude that the ban on extraction of adjuncts out of NPs, given in (4), can be eliminated, its effects following from the broader generalization in (26), which subsumes both (4) and (6).

That theta-relations/argumenthood indeed matter here is confirmed by an observation by Davies and Dubinsky (2003). The observation can also help us pin-point the relevant factor, a task which however will not be performed here. Thus, Davies and Dubinsky observe that complement extraction is possible with complex event nominals and result nominals, but not with concrete nominals.

(28) What did they observe/hear about/remember/decry the production of?

(29) Who were the Phillies hoping for a victory/some victories over?

(30) *Which neighbor did Shelly chain some dogs of to a tree?

They assume that complex event nominals (for example *-ing* nominals, *examination* in ‘process’ reading) have argument participants in the lexical conceptual structure (LCS), e.g. the LCS of *examination* is of the form ‘examination N (Ev (x(y)))’⁷, result nominals (for example *victory*, *examination* in the ‘result’ reading, *book* in the ‘informational’ reading) have non-argument participant in the LCS (e.g. the LCS of *examination* here is of the form ‘examination N , (R = x) such that y examines x’)⁸, while concrete nominals (for example *dog*, *book* in the ‘physical’ reading) have no participant in the LCS (e.g. the LCS of *dog* is of the form ‘dog N , (R)’). In light of this, Davies and Dubinsky argue that extraction of nominal complements depends on the extracted element being linked to an argument in the LCS of the noun. I will not be concerned here with a more fine-grained statement of what exactly is involved in extraction out of NPs, simply referring to it as theta-marking.

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- (iii) ‘What have you refuted an argument against?’
 Waar heb je een argument tegen bedacht?
 where have you an argument against thought-up
 ‘What have you thought up an argument against?’

⁷ This is obtained by the mapping of the argument participants of the verbal base to the argument participants of the derived nominal, that is, ‘examine V , (x(y)) + -ation N , (Ev)’, where Ev is an event argument.

⁸ The argument structure of the verbal base is related to the argument structure of the noun, but it is not incorporated into it, unlike the case of complex event nominals.

We are now ready to return to the Complex NP Constraint. Consider the examples in (2)-(3), repeated here as (31)-(32), which illustrate the Complex NP Constraint.

- (31) *Who_i did you see dogs that bit t_i?
 (32) *Who_i did you hear rumors that a dog bit t_i?

In both of these cases we are dealing with wh-movement out of an NP where the element that undergoes wh-movement in question is not theta-marked by the head of the NP in question. (31) and (32), and the Complex NP Constraint from (1) more generally, can thus be subsumed under the broader generalization in (26). I conclude therefore that the Complex NP Constraint (1), the ban on adjunct extraction out of NPs (4), and the ban on deep extraction out of NPs (6) can all be subsumed under the broader generalization in (26). In fact, an astute reader should have noticed that the Complex NP Constraint is but another instance of deep extraction out of an NP, i.e. (6) (modified to *Extraction out of nominal complements is disallowed*). In both (3) and (7) an argument is extracted out of a complement of a noun: such extraction is apparently disallowed regardless of the categorial status of the nominal complement, i.e. whether the nominal complement is a CP or an NP/PP. There is then really nothing special about nouns modified by clauses; they in fact behave in the same way as nouns modified by NPs/PPs: they both disallow deep extraction.⁹ What I have argued above is that the reason for this is not the length of movement, i.e. not the depth of extraction. Rather, the reason for this is that such cases involve extraction out of an NP of an element that is not theta-marked by the head of the NP. That the depth of extraction is irrelevant here is confirmed by the ban on adjunct extraction out of NPs, i.e. cases like (5). Such cases do not involve deep extraction, i.e. in such cases the NP from which the extraction takes place does not take a complement. However, in such cases the element extracted from the NP is also not theta-marked by the head of the NP from which it is extracted.

I conclude therefore that the Complex NP Constraint should be eliminated. Its effects can be subsumed under a larger constraint which covers all cases of deep extraction out of NPs (the Complex NP Constraint is one such case) and simple extraction of adjuncts out of NPs. The constraint in question states that extraction out of an NP is possible only if the extracted element is theta-marked by the head of the NP in question.

3. Phases and crosslinguistic variation

I now move to a phasal account of the constraint in (26), which will be situated within a broader context concerning certain crosslinguistic variation regarding extraction out of NPs for which (26) alone will not suffice. We will see that a phase-based account which has a phasal version of (26) as one of its ingredients can account for all the data discussed in this section as well as the data discussed in sections 1-2.

⁹Below I will discuss several additional deep/simple extraction contrasts that follow from an appropriately modified version of (26). Taraldsen (1981) observes a deep/simple extraction contrast from extraposed clauses in Norwegian that does not straightforwardly follow from the generalization in (26). Thus, while (for an unclear reason) Norwegian is exceptional in that extraction is possible in (i), it is not in (ii) (note Taraldsen argues (i) involves vacuous extraposition, given his claim that extraction out of non-extraposed relatives is disallowed in Norwegian, see (23)).

- (i) Per_i kjenner jeg [ingen [som liker t_i]].
 Peter know I nobody that likes
 (ii) *Per_i kjenner jeg [ingen [som tror [at du liker t_i]]].
 Peter know I nobody that thinks that you like

However, it appears that the contrast in (i) is not a simple instantiation of the simple/deep extraction contrasts discussed in the text but a different phenomenon. Thus, even adding an embedding outside of the relative clause and the NP in question leads to degradation.

- (iii) *Per_i tror jeg ikke at du kjenner [noen [som liker t_i]].
 Peter think I not that you know anybody that likes

Notice first that, in contrast to English, Serbo-Croatian (SC) allows extraction of possessives, an instance of Ross's (1967) left-branch extraction.

- (33) Čiju_i je on vidio [**t_i majku**]?
 whose is he seen mother
 'Whose mother did he see?'

Significantly, SC disallows deep left-branch extraction, i.e. extraction of possessors that modify a noun whose maximal projection functions as a complement of another noun (see Corver 1992).

- (34) *Čije_i je on vidio [**prijatelja** [_{t_i} majke]]?
 whose is he seen friend mother
 'Whose mother did he see a friend of?'
- (35) cf. On je vidio [prijatelja [njegove majke]].
 he is seen friend his mother
 'He saw a friend of his mother.'

The contrast between (33) and (34) appears to provide further confirmation of (26). While the bolded noun theta-marks the possessor in (33), it does not theta-mark it in (34). As a result, its maximal projection functions as an island for possessor movement in (34) but not in (33), in accordance with (26). However, there is evidence that theta-marking is not the right notion here: the same contrast is found with adjective extraction in SC (see Bošković 2013).

- (36) Pametne_i on cijeni [_{t_i} prijatelje]
 smart he appreciates friends
- (37) ?*Pametnih_i on cijeni [prijatelje [_{t_i} studenata]]
 smart he appreciates friends students
- (38) On cijeni [prijatelje [pametnih studenata]]
 he appreciates friends smart students
 'He appreciates friends of smart students.'

Adjectives are not theta-marked by nouns, so we might expect not only (37), but also (36) to be unacceptable, on a par with English (27). (36) is indeed unacceptable in English, which can be captured by (26).

- (39) *Smart_i he appreciates [t_i friends]

So why is then SC (36) (or for that matter (33), given that English (40) is ill-formed) acceptable?

- (40) *Whose_i did he see [t_i mother]?

In fact, constructions like (27) are also acceptable in SC.

- (41) Iz kojeg grada_i je Petar sreo [djevojke t_i]
 from which city is Peter met girls
 'From which city did Peter meet girls?'

Furthermore, a simple/deep extraction contrast arises in this case as well (see Bošković 2013).

- (42) *Iz kojeg grada_i je Petar kupio slike [djevojke t_i]
 from which city is Peter bought pictures girl
 ‘From which city did Peter buy pictures of a girl?’

If only (36) and (41) are taken into consideration, a question arises if (26) is subject to crosslinguistic variation. If (26) applies in English but not SC, we can explain why SC (36) and (41) are acceptable while English (39) and (27) are unacceptable. Recall, however, that (26) is also responsible for the English internal contrast between (8) and (7), where simple extraction from an NP is acceptable and deep extraction is unacceptable. Exactly the same kind of contrast is found between SC (33) and (34), which suggests that (26) should be holding in SC too. In fact, if (26) is what is responsible for simple/deep extraction contrasts, the simple/deep extraction contrasts in (36)/(37) and (41)/(42) suggest that (26) should not be completely voided in SC; i.e. a version of (26) should hold in SC too. We then cannot simply say that (26) is subject to crosslinguistic variation, where the constraint would hold in English but not SC. We therefore need to modify (26) in such a way that it does not rule out SC (36) and (41) but we still need to be able to rule out (39) and (27). A contextual approach to phases where the highest projection in the extended domain of lexical heads functions as a phase (see Bošković 2013, 2014) enables us to do just that. Under that approach, (26) can be reformulated so that it holds only for simple/deep extraction contrasts, capturing the contrast between English (8)/(7) as well as SC (33)/(34), (36)/(37), and (41)/(42), with the contrasts between SC (36), (41), (33) and their English counterparts in (39), (27), and (40) being attributed to independent factors.

3.1. Phases in the Noun Phrase

There is another relevant contrast between SC and English where an acceptable instance of extraction from English yields an unacceptable result in SC. While nominal complements in English can undergo simple extraction (45), such extraction is not possible in SC (43) (see Bošković 2013, 2014, Zlatić 1997).

- (43) ?*Ovog studenta_i sam pronašla [NP sliku t_i]
 this_{GEN} student_{GEN} am found picture_{ACC}
 ‘Of this student I found the picture.’

(44) cf. Pronašla sam sliku ovog studenta.

(Bošković 2014)

(45) Of which city did you witness the destruction?

(Huang 1982, Chomsky 1986b)

Bošković (2014) shows that the unacceptability of SC (43) can be straightforwardly captured under the phasal approach to the locality of movement, given the Phase-Impenetrability Condition (PIC), which says that only the Spec of a phase is accessible for phrasal movement outside of the phase (so, XP movement from phase YP must proceed via SpecYP) and the anti-locality hypothesis (the ban on movement that is too short), which follows from independent mechanisms and has been argued for by many authors (for example Bošković 1994, 1997, Saito and Murasugi 1999, Ishii 1999, Abels 2003, Grohmann 2003, Ticio 2003, Boeckx 2007, Jeong 2006).¹⁰ The relevant version of anti-locality requires movement to cross at least one full phrasal boundary (not just a segment). What is important here is that a number of authors have argued that SC, a language that does not have articles, does not have the DP layer (see Corver 1992, Zlatić 1997, Bošković 2012, Marelj 2008, 2011, Despić 2011, 2013, Runić in press, Takahashi 2012, Trenkić 2004, among others).¹¹ The object in SC (43) is then a bare NP. Now, it is standardly assumed that DP functions as

¹⁰ Among other things, anti-locality captures 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 phasal complement (Abels 2003), and the patterns of extraction of arguments out of DPs (Grohmann 2003, Ticio 2003).

¹¹ Bošković (2012) makes this claim for article-less languages in general, based on a number of crosslinguistic generalizations where languages with articles and languages without articles systematically differ regarding a number of syntactic and semantic phenomena.

1 a phase. Bošković (2014) develops a more general contextual approach to phases where the highest
 2 projection in the extended domain of every lexical head functions as a phase. Under this approach, DP is a
 3 phase in English because it is the highest projection in the extended domain of NP. Significantly, NP should
 4 then function as a phase in SC. We then get a straightforward account of the ungrammaticality of (43). Given
 5 that NP is a phase, the complement has to move to SpecNP not to violate the PIC. However, this is an
 6 instance of complement-to-Spec movement, which violates anti-locality. Under this analysis, (43) is in fact
 7 just another instance of Abels's (2003) generalization that complements of phasal heads do not undergo
 8 movement. The problem does not arise in English (45), where DP rather than NP functions as a phase, DP
 9 being the highest projection in the extended domain of NP. The contrast between SC (43) and English (45) is
 10 thus accounted for. Significantly, the same holds for the contrast between SC (36) and (41) and English (39)
 11 and (27), given the assumption that nominal adjuncts and adjectives are NP-adjoined. Given that DP is a
 12 phase in English, the adjective and the adjunct in (39) and (27) have to move to SpecDP due to the PIC.
 13 However, since this movement crosses only a segment of a phrase, not a full phrase (see (46)), it violates
 14 anti-locality. If the adjective and the adjunct move out of DP without stopping in SpecDP, the anti-locality is
 15 satisfied but the PIC is violated (47). The problem in question does not arise in SC due to the lack of DP.¹²
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20 (46) *_{[DP AP/adjunct_i [D' D [NP t_i [NP....}

21 (47) *AP/adjunct_i [_{DP} [D' D [NP t_i [NP....

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 24 The DP/NP+contextual phases analysis (below I will refer to it simply as the contextual phases analysis) thus
 25 accounts for the SC/English contrasts with respect to simple extraction out of Traditional Noun Phrases (TNP,
 26 from now on I will use this term neutrally without committing myself to potential functional structure that
 27 may be present in the extended domain of an NP), in particular, the fact that, in contrast to English, SC
 28 allows AP left-branch extraction as well as extraction of nominal adjuncts, while, in contrast to SC, English
 29 allows extraction of nominal complements. We are left only with simple/deep extraction contrasts which
 30 arise in both English and SC. A phasal version of the Complex NP Constraint (more precisely, (26)) can in
 31 fact account for these contrasts.
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34 Recall the relevant patterns to be accounted for: in SC, deep adjunct extraction and deep left-branch
 35 extraction of both adjectives and possessors are disallowed, in contrast to simple adjunct extraction and
 36 simple left-branch extraction of these elements. In English, deep complement extraction is disallowed, in
 37 contrast to simple complement extraction. This means that all the extractions that are allowed in simple cases
 38 are disallowed in deep extraction cases. Since English displays the relevant contrast only in one case, let us
 39 first focus on SC, where the deep/simple extraction contrast is found with a number of cases, in particular
 40 with respect to extraction of adjectives, possessors, and adjuncts. In fact, all of these contrasts follow from
 41 the contextual phases analysis. Consider for example AP left-branch extraction: while the AP can undergo
 42 LBE in (48c), it cannot undergo LBE in (48b), where the NP in which it originates functions as a
 43 complement of another noun.
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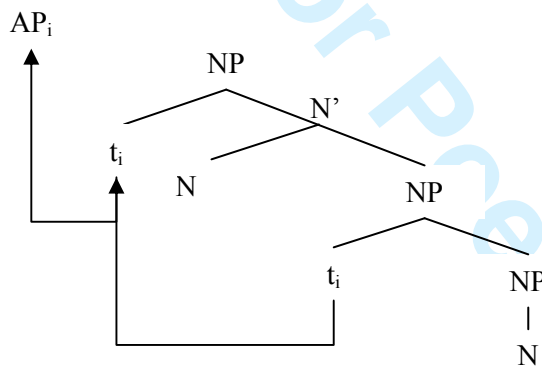
47 (48) a. On cijeni [_{NP} [_{N'} [prijatelje [_{NP} pametnih [_{NP} studenata]]]]]
 48 he appreciates friends_{ACC} smart_{GEN} students_{GEN}
 49 'He appreciates friends of smart students.'
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53 ¹² As expected under this account, adjectival LBE and NP-adjunct extraction are in fact quite generally disallowed in
 54 DP languages, see Bošković (2012) for a language survey (as noted there, languages can however differ regarding
 55 whether a particular PP is treated as an argument or an adjunct). As for (40), it can be quite straightforwardly ruled out
 56 independently of the current concerns, given the standard assumption that the possessor is located in SpecDP, while the
 57 possessive inflection 's is located in D. As a result, examples like (40) involve non-constituent movement (such cases
 58 are thus not in principle disallowed for all DP languages). Regarding SC possessors, note that see Zlatić (1997),
 59 Bošković (2012, 2013) and Despić (2011, 2013) show that syntactically and morphologically SC possessors in all
 60 respects behave like adjectives. These authors therefore also treat SC possessors as NP-adjuncts. (33) can then be
 analyzed in the same way as (36).

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- b. *Pametnih_i on cijeni [_{NP} [_{N'} [prijatelj_e [_{NP} t_i [_{NP} studenata]]]]]
 smart_{GEN} he appreciates friends_{ACC} students_{GEN}
- c. Pametne_i on cijeni t_i studente.
 smart_{ACC} he appreciates students_{ACC}

Recall how the counterpart of (48c), given in (39), is ruled out in English: Since DP is a phase, the AP must move through SpecDP. However, movement to SpecDP from the NP-adjoined position violates anti-locality. The problem does not arise in SC (48c) since the culprit, DP, is not present in SC. What the contrast between (48b) and (48c) 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 (48b) blocks LBE just like DP blocks LBE in English. Under the contextual phases analysis (48b) is in fact treated in exactly the same way as (39), with the higher NP blocking LBE for the same reason that DP does it in the English example: Since NP is the phase in SC, 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.

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- (49) *Pametnih_i on cijeni [_{NP} t_i [_{N'} [prijatelj_e [_{NP} t_i [_{NP} studenata]]]]]
 smart_{GEN} he appreciates friends_{ACC} students_{GEN}



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The analysis extends to the case of simple/deep extraction of possessors, where we find the same pattern. Given that possessors are NP-adjoined, the account of the deep/simple AP left-branch extraction extends without any changes to this case.

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- (50) 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} t_i [_{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 t_i majku?
 whose_{ACC} is he seen mother_{ACC}

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The same holds for adjunct extraction, i.e. the contrast between simple extraction in (51) and deep extraction in (52).

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- (51) Iz kojeg grada_i je Petar sreo [_{NP} [_{NP} djevojke] t_i]?
 from which city is Peter met girls
 'From which city did Peter meet girls?'
- (52) *Iz kojeg grada_i je Petar kupio [_{NP} t_i [_{N'} slike [_{NP} [_{NP} djevojke] t_i]]]?
 from which city is Peter bought pictures girl
 'From which city did Peter buy pictures of a girl?'

The impossibility of deep LBE and deep adjunct extraction out of TNPs in SC, a language that otherwise allows such movements, thus follows from the phasehood of NP in SC. The reason why, in contrast to DP languages like English, an NP language like SC allows LBE and adjunct extraction out of TNPs is not a difference in the phasal status of the TNP, where TNP would not be a phase in NP languages at all; rather, the difference is that the elements in question are generated at the edge of the TNP phase in NP languages. In DP languages, they have to move to that position, which yields an anti-locality violation. When they are forced to move to the phasal edge, as in the case of deep LBE and deep adjunct extraction, the anti-locality violation emerges in NP languages as well.

In the above examples, nominal complements bear genitive. Adnominal genitive is the counterpart of verbal accusative in SC; it is the standard case nouns assign to their complements which then does not need to be specified in the lexicon, in other words it is a structural case. Some verbs in SC assign non-accusative, lexically specified cases to their complements. Following standard practice, I will refer to them as inherent cases. Nouns behave like verbs in this respect; some nouns also assign inherent, lexically specified cases to their complement. Interestingly, as noted in Bošković (2013), nominal complements bearing inherent case behave very differently from structurally case-marked nominal complements. They allow all the extractions discussed above: complement movement, deep LBE (of both adjectives and possessors) and deep adjunct extraction.¹³

- (52) a. Čime_i ga je [(Jovanova) prijetnja t_i] uplašila?
 what_{INSTR} him is Jovan's threat scared
 'The threat of what (by Jovan) scared him?'
 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)
- (53) a. ?Kakvom_i ga je uplašila prijetnja [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 prijetnja smrću uplašila.
- (54) ?Iz kojeg grada_i ga je uplašila prijetnja [djevojkama t_i]
 from which city him is scared threat girls (Bošković 2013)

The correlation between the three phenomena, deep LBE, deep adjunct extraction, and extraction of nominal complements, thus still holds. But why are they all allowed in inherent case contexts? Bošković (2013) suggests 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 (FP represents this additional structure in (55)). Both *his* and *his death* can move to the Spec of the higher phase, SpecNP in (55), without violating anti-locality.

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

Bošković relates (55) 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,

¹³As noted by Starke (2001), extraction from inherently case-marked phrases is often somewhat degraded in Slavic. This may be responsible for the residual awkwardness of (53)a and (54) (note also that (53) involves extraction from a subject). What is important is that in spite of the interfering factors, (53)a-b are clearly better than (48b)/(50b).

Bošković notes that F can be considered a preposition-like element, something similar to English *of*. Alternatively, it can be considered to be a kind of a linker.¹⁴ What is important for our purposes is that the additional structure enables complement extraction, deep LBE, and deep adjunct extraction from NPs whose head assigns inherent case to its complement not to violate anti-locality.

In addition to accounting for the SC/English contrasts regarding simple LBE, simple adjunct extraction, and simple complement extraction out of TNP, the contextual phases analysis thus also accounts for the simple/deep extraction contrast with respect to LBE and adjunct extraction found in SC, as well the structural case contexts/inherent case contexts contrasts within SC.

3.2. More on the phasal status of NP

The contextual phases analysis accounts for almost all the data presented above. Only one contrast still remains unaccounted for, namely the simple/deep extraction contrast found with nominal complement extraction in English, repeated below.

(56) Who_i did you see friends of t_i?

(57) *Who_i did you see enemies of friends of t_i?

As it is, the contextual phases account of the SC deep/simple extraction contrasts does not extend to the English case. While movement from the edge of the lower TNP to the edge of the higher TNP inevitably violates either the PIC or anti-locality in SC, this is not the case with English (57). The edge of the lower TNP in English (57) is SpecDP, which is also the edge of the higher TNP in (57). In contrast to the TNP edge-to-edge movement in the SC cases, movement from SpecDP to SpecDP does not violate anti-locality.

(58) *Who_i did you see [_{DP} t_i [_{NP} enemies of [_{DP} t_i [_{NP} friends of t_i]]]]?

How can then (58) be accounted for, and the effects of (26) fully captured, in the phasal framework? The following re-statement of (26) in the phasal framework has the desired effect if we make a further assumption that N does not license a Spec, or if it does license one, it licenses it only when it theta-marks the element in this position (see for example Alexiadou 2005, Munn 1995, Radford 2000, who argue that possessors are generated in SpecNP; see also the discussion of (66), (69), and (70) for independent evidence to this effect).

(59) NP is a phase for elements that are not theta-marked by its head/within it.

(59) holds crosslinguistically, regardless of the DP/NP status of a language. Since NP is a phase, an element undergoing A'-movement out of an NP which is not theta-marked within that NP will have to pass through the edge of the NP, given the PIC. Since SpecNP is either an A-position, or it is not licensed (see above), this means that such an element will have to adjoin to the NP.

In light of this, consider the contrast between English (56) and (57). Since *who* is not theta-marked by the higher noun, the higher NP is a phase for *who* in (57). In order not to violate the PIC, *who* now has to pass through the edge of the higher NP, more precisely, adjoin to the higher NP, given the above discussion. Since DP is quite generally a phase, *who* still needs to move to the Spec of DP. This movement, however, violates anti-locality, for the same reason movement of the adjective/adjunct to SpecDP does it in (39) and (5). (In other words, (57), (39), and (5) are accounted for in essentially the same way.)

(60) *Who_i did you see [_{DP} t_i [_{NP} t_i [_{NP} enemies of [_{DP} t_i [_{NP} friends of t_i]]]]]]?

¹⁴Note that Bošković (2013) assumes that due to its semantic vacuity (and non-nominal status) FP is simply ignored when calculating extended nominal projections (but see Talić 2014 for an alternative view).

The problem does not arise in (56). Since *who* is theta-marked by *friends*, the NP headed by this noun is not a phase for *who*, hence *who* does not have to adjoin to this NP (the relevant part of (56) has in fact the same structure as the lower NP in (60)).

This account of (57) readily extends to Complex NP Constraint violations like (3), which the discussion in section 2 has suggested should be unified with (57).

(61) *Who_i did you hear [_{DP} t_i [_{NP} t_i [_{NP} rumors [_{CP} t_i that [_{IP} a dog bit t_i]]]]]]?

Furthermore, the deep/simple extraction contrasts from SC discussed above, namely (36)/(37), (33)/(34), and (41)/(42), also all follow from (59). Consider for example (36)-(37). Since the adjective is not theta-marked the direct object NP is a phase for the adjective in both of these constructions, which means that the adjective can only move out of this NP if it first moves to the edge of this NP, namely the NP-adjoined position. This has no effect on (36), where the adjective is base-generated at the phasal edge. But it does have effect on (37). The adjective, which is base-generated adjoined to the lower NP, has to also adjoin to the higher NP, a phase, which violates anti-locality. The account readily extends to the contrasts in (33)/(34) and (41)/(42).

(62) *Pametnih_i on cijeni [_{NP} t_i [_{NP} [prijatelj_e [_{NP} t_i [_{NP} studenata]]]]]
 smart_{GEN} he appreciates friends_{ACC} students_{GEN}

It is worth noting here that French *combien* extraction (see Obenauer 1976, 1984, Rizzi 1990, Butler and Mathieu 2004, Mathieu 2004, among others, on simple *combien*-extraction) is also sensitive to the deep/simple extraction distinction. Thus, (64) is worse than (63).

(63) Combien_i a-t-il consulté [_{DP} t_i de livres]?

‘How many did he consult of books?’

(64) ?*Combien_i a-t-il consulté [_{DP} (plusieurs/des) [_{NP} préfaces [_{DP} t_i de livres]]]]?

‘How many did he consult several/some prefaces?’

(65) a. cf. De livres, il a consulté plusieurs/des prefaces.

‘Of books, he consulted several/some prefaces.’

b. cf. De quels livres a-t-il consulté plusieurs/des préfaces?

‘Of which books did he consult several/some prefaces?’

While it is not completely clear how *combien* extraction should be analyzed, the data in (63)-(64) do look like another instantiation of the deep/simple extraction discrepancies discussed above and should be amenable to the same type of analysis. One possibility is to place *combien* in SpecDP. No problems with respect to the locality of movement then arises in (63), since *combien* undergoes extraction from the edge of the TNP phase. However, in (64), *combien* is forced to adjoin to the higher NP given (59). Movement to SpecDP, which is required by the PIC given that DP is a phase, is then ruled out by anti-locality. (63)-(64) are then accounted for in the same way as the English and SC simple/deep extraction contrasts in (56)/(57), (36)/(37), (33)/(34), and (41)/(42)—all these contrasts follow from (59).

Recall that in the account of English (58) and French (64), it was crucial that the *wh*-phrase adjoins to the higher NP, not moves to its Spec. There is independent evidence that nominals do not project specifiers, hence movement through the edge of NP has to proceed via NP adjunction. Consider the following SC construction.

(66) a. On je vidio [_{NP1} opise [_{NP2} prijetnji [_{FP} [_{NP3} (surovom) smrću]]]].

he is seen descriptions_{ACC} threats_{GEN} cruel_{INSTR} death_{INSTR}

‘He saw descriptions of threats by cruel death.’

b. *(Surovom) smrću_i je on vidio [_{NP1} t_i [_{NP1} opise [_{NP2} t_i [_{NP2} prijjetnji [_{FP} [_{NP3} t_i]]]]]]]

In (66), the first noun takes a genitive complement, while the second noun takes an inherently case-marked complement. Recall that inherent case is associated with additional structure, which means that FP is present right above NP3. Interestingly, in contrast to (52), extraction of the inherently case-marked complement is unacceptable in (66b), which follows if successive cyclic movement through an NP edge indeed must proceed via NP-adjunction. Being the highest projections in their TNPs, both NP1 and NP2 are phases in (66), hence *smrću* must move through their edges. If *smrću* could move through SpecNPs nothing would go wrong in (66b). However, if this is not an option and *smrću* must adjoin to the NPs, as in (66b), then movement from the edge of NP2 (the NP2 adjoined position) to the edge of NP1 violates anti-locality.

Additional evidence for NP adjunction is provided by numeral constructions. Based on certain binding asymmetries, Bošković (2013, 2014) and Despić (2011, 2013) show that SC numerals (other than the adjectival numeral *jedan* ‘one’; this also holds for certain quantifiers like *mnogo* in (69)-(70)) project their own phrase above NP.¹⁵ As discussed in Bošković (2013, 2014), adnominal complement extraction improves in this context. Thus, (67a) is better than (67b).

- (67) a. ?Ovog studenta sam pronašla [_{QP} deset knjiga t_i]
 this student_{GEN} am found ten books
 ‘Of this student I found ten books.’
 b. ?*Ovog studenta sam pronašla [_{NP} knjige t_i]
 this student am found books

Given that the highest projection in the TNP counts as a phase, addition of QP on top of NP voids the phasehood of the NP: being the highest phrase in the TNP, QP rather than NP functions as a phase here.¹⁶

- (68) a. [_{QP} deset [_{NP1} knjiga [_{NP2} ovog studenta]]]
 ten books this student
 b. [_{NP1} knjiga [_{NP2} ovog studenta]]
 book this student

Since only QP functions as a phase in (67a)/(68a), NP2 does not need to move to the edge of NP1 in (67a)/(68a), in contrast to (67b)/(68b). As a result, the anti-locality violation from (67b)/(68b) is voided in (67a)/(68a). NP2 does need to move to SpecQP in (67a)/(68a), QP being a phase here. However, this movement conforms to anti-locality.

Significantly, as observed in Bošković (2013), in contrast to complement movement, addition of QP does not improve LBE or adjunct extraction.

- (69) *Čije_i je on upoznao mnogo [_{NP} t_i [_{NP} prijatelja [_{NP} t_i [_{NP} majke]]]]?
 whose_{GEN} is he met many friends_{GEN} mother_{GEN}
 ‘Whose mother did he meet many friends of?’
 (70) ?*Iz kojeg grada_i je Petar kupio mnogo [_{NP} t_i [_{NP} slika [_{NP} [_{NP} djevojke] t_i]]]
 from which city is Peter bought many pictures_{GEN} girl_{GEN}
 ‘From which city did Peter buy many pictures of a girl?’

¹⁵The following discussion is not intended to hold for English numerals, which behave very differently from SC numerals/quantifiers in question.

¹⁶As discussed in Bošković (2013) and Franks (1994), SC numerals assign inherent case to the NP that follows them. This means that FP is present above NP1 in (68a). However, since the presence/absence of the FP does not affect the discussion I omit it for ease of exposition.

This follows given that A'-movement out of an NP can only proceed via NP adjunction, not through SpecNP. Since the higher NP in (69)-(70) does not theta-mark the moving elements it functions as a phase for these elements, given (59). The elements then must adjoin to this NP. Since they start as adjuncts to the lower NP, the movement in question does not cross a full projection, violating anti-locality. We then have an account for why addition of a QP ameliorates complement extraction, but not deep LBE or deep adjunct extraction. The assumption that Ns do not license Specs (at least not for A'-movement), which means that A'-movement through the edge of NP must proceed via NP adjunction, and (59) were the crucial ingredients here.

In fact, all the contrasts discussed in section 3.1 (see the discussion of (36)/(37), (33)/(34), (41)/(42) earlier in this section) can be accounted for in essentially the same way under the analysis based on (59) as on the analysis based on the assumption that NP is a phase in NP languages because it is the highest projection within the TNP. (The only difference is that on the latter analysis A'-movement out of a TNP can still proceed via SpecNP; but see below). The latter analysis, however, does not extend to the English contrast in (56)-(57), which the analysis based on (59) does capture (the same holds for (64) and (3), a complex NP constraint violation, which we have seen should be unified with (57)). Examples in (69)-(70) also differentiate the two analyses; it is crucial that the moving elements adjoin to the higher NP in (69)-(70). While (59) forces this adjunction, the assumption that the highest phrase in a TNP functions as a phase does not: QP, rather than the higher NP, functions as a phase under this analysis. An obvious question then arises: can we then dispense with the latter analysis, dispensing with the assumption that NP is a phase in NP languages because it is the highest projection in the extended domain of N. All we would then have is (59), which would hold for all languages in the same way (DP and NP languages), and the assumption that DP is a phase. The categorial status of a TNP would then have no effect on its phasal status, which means that we would be giving up the assumption that the highest projection in a TNP functions as a phase. DP would then always be a phase, and NP would be a phase or not, depending on the effect (59) has on a particular construction—NP would not invariably serve as a phase with bare NPs in NP languages.¹⁷ This would be rather different from the phasal system where the highest projection in the extended domain of a lexical head functions as a phase. It turns out, however, that (59) alone cannot capture all effects of NP phasehood in NP languages. In particular, if we replace the assumption that NP is always a phase in NP languages (because it is the highest projection in the TNP) by (59) we lose the account of the ungrammaticality of (43), i.e. the contrast between (43) and (45). Under the former analysis, (43) is straightforward: Since NP is a phase, the nominal complement must move to SpecNP/adjoin to NP, which violates anti-locality (in other words, (43) is an instance of Abels's generalization that phasal complements are immobile). This account is lost under (59). Since the head of the NP theta-marks its complement, under (59) the direct object NP is not a phase, hence the complement does not need to move to its edge. Another problem is (66). If we dispense with the assumption that the highest projection in the extended domain of N counts as a phase even when DP is absent, neither NP1 nor NP2 will work as a phase in (66) (by virtue of being the highest TNP projections). The extracted NP will still have to adjoin to NP1, given (59), since N1 does not theta-mark it (i.e. NP1 will still be a phase). However, since N2 does theta-mark it, *smrću* then will not need to adjoin to NP2 (i.e. NP2 will not be a phase). Without that adjunction, adjunction to NP1 will not violate anti-locality. Notice that we cannot require all movement out of an NP to proceed via NP adjunction since even (56) will then be ruled out (movement from the position adjoined to the NP headed by *friends* to SpecDP would violate anti-locality). The highest-phrase-as-a-phase analysis does make the right cut here, requiring adjunction to NP2 in (66), but not to the NP headed by *friends* in (56). Notice, however, that even the highest-phrase-as-a-phase analysis requires A'-movement out of an NP phase to proceed via NP-adjunction rather than SpecNP to account for (66). I conclude therefore that neither (59) nor the-highest-phrase-is-a-phase analysis can capture all the facts by itself. Each of them, however, comes very close to doing that. The former leaves only (43) and (66) unaccounted for and the latter leaves only (57) (including similar examples like (3) and (64)) and (69)-(70) unaccounted for. All other relevant facts can be captured under either analysis. While the two

¹⁷This is in fact what Despić (2011) proposes. Despić, however, does not take into consideration (59); for him only DP is a phase, which means that the TNP is a phase in DP languages but not in NP languages.

analyses combined do account for all the facts, the overlap between the two suggests that something is being missed here, an issue that future research should address.

4. Conclusion

To summarize, we have seen that the Complex NP Constraint can be unified with the ban on extraction of adjuncts out of TNPs (traditional Noun Phrases) and the ban on extraction of complements of nouns whose extended maximal projection itself functions as a nominal complement (deep extraction). In many cases, which were illustrated with various types of extraction from TNPs in English, Serbo-Croatian, and French, extraction out of TNPs exhibits a deep/simple extraction contrast, where extraction out of a TNP that is otherwise allowed becomes disallowed with addition of another TNP. A phase-based locality system can account for all these data, which involve a good amount of crosslinguistic variation, without positing any crosslinguistic differences with respect to phases, i.e. the locality itself, the source of the differences being structural differences among the languages/constructions in question. In that locality system, the highest projection in the extended domain of a noun functions as a phase. Additionally, NP itself is a phase for elements that are not theta-marked by its head. We have also seen that successive cyclic A'-movement out of an NP must proceed via NP-adjunction, SpecNP not being an option for an intermediate landing site of successive cyclic A'-movement.

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