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From the Complex NP Constraint to everything: On deep extractions across categories*

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Abstract: The paper establishes a new generalization concerning domains from which extraction is possible. Taking as the starting point the well-known difference between NPs and VPs regarding extraction, where extraction from Complex NPs is not possible while extraction from Complex VPs is possible, the paper argues that the former represents a pervasive pattern found in many contexts, the latter being highly exceptional. More precisely, extraction is impossible not only from clausal but all complements of nouns. Furthermore, it is impossible from complements of prepositions and adjectives as well as ergative (and possibly passive) verbs. A deduction of the impossibility of extraction from the complements of lexical heads (other than non-ergative verbs) is proposed based on a new approach to phases (i.e. to what counts as a phase) and the Phase-Impenetrability Condition, as well as a particular implementation of Chomsky's (2013) labeling algorithm. The analysis is extended to Condition on Extraction Domain (CED) effects and the *that*-trace effect.

1. Introduction: The Complex NP Constraint vs the lack of the Complex VP Constraint

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, given in (1), where complex NP is a noun modified by a clause. The constraint is illustrated by (2)-(3), which exhibit the usual argument/adjunct asymmetry in the strength of the locality violation.[1]

(1) The Complex NP Constraint (CNPC)
Extraction from complex NPs is disallowed.
(2) ??What$_i$ did you hear [$_{NP}$ rumors [$_{CP}$ that [$_{IP}$ John bought t_i]]]?
(3) *How$_i$ did you hear [$_{NP}$ rumors [$_{CP}$ that [$_{IP}$ John bought a house t_i]]]?

While extraction from complex NPs is disallowed, extraction from such VPs is allowed. In other words, while the Complex NP Constraint holds there is no such thing as the Complex VP Constraint.

(4) Who$_i$ did you [$_{VP}$ think [$_{CP}$ that [$_{IP}$ a dog bit t_i]]]?
(5) How$_i$ did you [$_{VP}$ think [$_{CP}$ that [$_{IP}$ a dog bit John t_i]]]?

Previous research has emphasized (4) as the test case for understanding the locality of movement, putting aside (2) as an exceptional case. In fact, the CNPC has received little attention in the literature since Ross's insight (in comparison to the VP case).[2] This is particularly prominent in the

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[1]Extraction is disallowed both from relative clauses and clausal complements of nouns. I will confine the discussion to the latter since the former falls under the ban on extraction out of adjuncts (for the moment I ignore infinitival complements, which will be discussed in section 4, focusing on finite CP complements). Note also that the Complex NP Constraint cannot be reduced to the adjunct condition by treating nominal clausal complements as appositives/adjuncts, as demonstrated in Safir (1985).

[2]Though see Culicover and Jackendoff (2005) for a different perspective on the issue.

minimalist framework, where the CNPC has generally been ignored, theories of successive-cyclic movement being built on the basis of extraction from complex VPs. This paper argues that this move has been misguided. It will be shown that when properly generalized, (2) represents a pervasive pattern found in many contexts, (4) being highly exceptional (in fact, in some contexts Complex VP Constraint effects can be detected). Understanding the CNPC then becomes the key to understanding the locality of movement (as well as structure building, as we will see below).

I will first show that extraction is banned not only from clausal, but all complements of nouns, which will lead me to generalize the CNPC. I will then show that the generalized version of the CNPC holds in other domains, in particular with APs and PPs as well as ergative and passive VPs, the only exception being exactly the case which has been used in the literature to build/test theories of successive-cyclic movement, namely active/transitive VPs.[3]

After establishing the generalized version of the Complex NP Constraint, which I will refer to as the Generalized XP Constraint, I will develop a phase-based approach to the locality of movement which deduces the Generalized XP Constraint while still allowing extraction in the exceptional case of complex active VPs. (The analysis will be extended to the ban on extraction out of subjects, the ban on extraction out of adjuncts, and the *that*-trace effect.) By focusing on an exceptional case, the current theories have made successive-cyclic movement too easy. The theory developed here makes successive-cyclic movement in general more difficult; I then show that there is a principled reason why this general case does not hold with active VPs. The paper also argues for a particular contextual approach to phases and for a reformulation of the Phase-Impenetrability Condition, where the complement of phase H, but nothing within the complement, is also accessible to operations outside of phase H. The approach to movement developed here also has consequences for a number of broader issues, including structure building and Chomsky's (2013) labeling algorithm, which will be employed and examined here. It should, however, be noted that given the scale of the account and its consequences, which go well beyond the locality of movement, the paper is somewhat programmatic, with a number of cases that will be left open, the main goal simply being to establish a descriptive generalization regarding locality domains and point out a potentially promising avenue for deducing it. Also, a number of suggestions regarding potential consequences of the system argued for here for a variety of phenomena, including the structure of a wide range of constructions, will be made in the course of the discussion. These should also be taken as programmatic remarks indicating potential avenues for future research which cannot be fully explored here.

Before proceeding with the discussion it should be noted that there are cases where (1) does not hold, as in (6).

(6) ?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 Chomsky 1975, 1980,

[3]The constraint proposed here will thus be significantly broader in scope than Cinque's (1990) proposal to characterize contexts that are opaque to extraction as those not theta-marked by a [+V] category.

Two methodological points are in order here. Any serious in depth study of islands is bound to involve some data idealization. For most islands there are some languages that do not obey them. Even in the rare case of an island that appears to be universal, like adjuncts, there are exceptions: there are quite a few adjuncts from which extraction is possible even in English (see Truswell 2010). The standard practice has always been (at least initially) to put such exceptions aside, which essentially means focusing on strong tendencies. Furthermore, with some islands argument extraction yields very weak violations. The islandhood of such cases is generally established in comparison to other, non-island cases (i.e. by establishing a difference in the acceptability between the two), which means that comparative judgments in such cases are crucial (i.e. the relevant examples should not be considered in isolation). These standard practices will also be followed in this work, which the reader should bear in mind. (However, some cases discussed below do involve genuine speaker variation; where possible I will attempt to leave room to accommodate it.)

Kayne 1981, Cinque 1990, Davies and Dubinsky 2003).[4] I will not be concerned with such cases here, putting them aside (apart from a brief suggestion regarding their analysis in section 3.3). There is, however, an interesting property of such cases which has not been noted before: even in this configuration adjunct extraction is unacceptable. Thus, the adjunct cannot modify the most embedded clause in (7).[5]

(7) The reason why I am making the claim that the company squandered the money...

This is important in light of the fact that in some of the cases discussed below argument extraction is fine, but adjunct extraction isn't. It is then possible that in those cases we are dealing with the same phenomenon as the one noted above (in fact, there is often some speaker variation in the relevant cases of argument extraction, which may not be surprising given that the phenomenon is lexically conditioned).[6] At any rate, the factor noted above regarding (6)-(7) makes adjunct extraction a much more reliable indicator of islandhood in Complex NP and similar configurations discussed below.

The paper is organized as follows. In section 2 I first generalize the CNPC and then show that the Generalized CNPC extends to APs and PPs (the Generalized XP Constraint). In section 3 I propose a deduction of the Generalized Complex XP Constraint (extending it to CED effects), the goal being to make a principled distinction regarding the ease of extraction between the active VP case and the NP/AP/PP cases. In the course of the discussion I also show that there are contexts where the Generalized VP Constraint actually holds. In section 4 I turn to a somewhat exceptional case (from the current perspective), namely infinitives. The discussion in this section also provides a new perspective on the raising vs control issue. In section 5, I discuss extraposed finite clauses that co-occur with expletives, extending the proposed analysis to the *that*-trace effect. Section 6 is the conclusion.

2. On the Generalized XP Constraint

The goal of this section is to establish a generalized version of the CNPC. We can think of the discussion in this section as generalization on two levels, vertical, which extends the scope of the CNPC within the domain of NP, and horizontal, which extends it to other lexical categories. I will start with the former.

2.1. Generalizing the Complex NP Constraint in the NP domain

[4]Thus, Cinque (1990:34) observes that while complementizer *that* cannot be dropped from clausal complements of nouns (in contrast to clausal complements of verbs), in this kind of examples it can be dropped (cf. *?I'm making the claim the company squandered the money*).

[5] Extraction of non-DP arguments, which Cinque (1990) argues is a more reliable test for true extraction (see footnote 11), is acceptable here, as in Cinque's (1990:33) *John, to whom I made the claim you would never talk.*

[6]Notice, however, that the interfering factor arises only with clausal nominal complements. Thus, (i) is unacceptable.

(i) ?*What did you make the claim about?

If *make-the-claim* reanalysis (I use the term for ease of exposition) cannot occur in (i), then (i) can be ruled out due to a definiteness effect. (For an unclear reason, the definiteness effect is sometimes weakened with full PP extraction in English; there are further mysteries in this respect, e.g. it is well-known that Spanish does not exhibit the definiteness effect with extraction of themes). As discussed below, P-stranding requires *claim-about* reanalysis. It appears then that the same noun cannot be involved in two reanalysis processes at the same time (*make-the-claim* and *claim-about*), which seems rather natural and may even be interpreted as an argument for the reanalysis approach. At any rate, what is important for us is that reanalysis is a potentially interfering factor with argument extraction out of clausal complements, but not out of non-clausal complements, and not with adjunct extraction.

The goal of this section is to demonstrate that the CNPC holds more broadly than previously believed. Before demonstrating this, let me point that, in contrast to some other islands like subject and wh-islands, as far as I know there are no reported language exceptions to the CNPC in the literature, i.e. I know of no language that is reported to completely void CNPC effects.[7]

There is reason to believe that the culprit for the CNPC effect is the NP itself, not higher structure in the traditional NP (TNP), like DP.[8] Based on a number of crosslinguistic generalizations where many syntactic and semantic phenomena correlate with the presence vs absence of articles in a language, Bošković (2012) argues that languages without articles lack the DP layer in the TNP. Among other things, Bošković shows that a number of locality problems that are generally associated with the presence of DP do not arise in NP languages. This, e.g., holds for Specificity effects, which are often weakened in NP languages, as well as extraction of adjectives and NP-adjuncts (see section 3), which may occur only in NP languages. Significantly, the CNPC holds even in NP languages. The contrast between (8) and (9) illustrates the different behavior of Serbo-Croatian, which Bošković claims lacks DP, with respect to the Specificity Condition and the CNPC. What is important here is that (8) shows that the CNPC holds also in NP languages, where DP locality problems generally do not arise.

(8) O kojem piscu je kupio [svaku knjigu/sve knjige/(tu) tvoju knjigu t_i]
about which writer is read every book/ all books/that your book
'*About which writer did he buy every book/all books/this book of yours?'

(9) ??Koga$_i$ si čuo [$_{NP}$ glasine [$_{CP}$ da je pas ujeo t_i]]]?
who are heard rumors that is dog beaten
'What did you hear rumors that a dog bit?'

I now turn to the generalization of the CNPC. The CNPC is standardly taken to hold only for clausal complements of nouns, i.e. the complex NP from (1) is an NP headed by a noun modified by a clause. However, it turns out its scope is broader. Extraction is banned not only from clausal, but all complements of Ns.

A number of works from the 70s (e.g. Bach and Horn 1976, Chomsky 1973) noted a by now forgotten contrast between simple and deep extraction from NPs illustrated in (10)-(11).[9] Note that I assume a re-analysis/pruning (Hornstein & Weinberg 1981, Stepanov 2012, among others) account of dangling Ps as in (10), where there is no PP in (10) (see especially Stepanov 2012) hence (10) involves extraction of the N-complement, not out of it.[10] (In section 3.3, an account of P-stranding is provided where there is a PP in (10) but its effects are voided for a principled reason so that for all intents and purposes *friends of* in (10) functions as a single complex head that takes the trace as its complement.) (11), on the other hand, does involve extraction from a nominal complement. Significantly, (11) is degraded.[11]

[7]There is actually one exceptional case that was not previously noted, Setswana; it will be shown in section 3.3 that there is a principled reason for its exceptional behavior.

[8] The term TNP is used neutrally, without commitment to functional structure that may be present above NP. The highest phrase within the TNP is whatever the highest phrase in the extended domain of N is.

[9]We are dealing here with argument, not adjunct extraction, hence only a weak violation.

[10]Dutch may indicate that we are dealing with an N-specific issue here. While Dutch allows P-stranding on the VP level productively (though see Abels 2003), within NPs P-stranding is highly lexically restricted—it is in fact restricted to one preposition, *van* (see van Riemsdijk 1997 and references therein), which is not surprising under a reanalysis-style account.

[11] Chomsky (1973) gives the following contrast (Bach and Horn 1976 also give several contrasts of this type).

(i) a. Who did you see [a picture of t]?
b. Who did you hear [stories about t]?
c. *Who did you hear [[stories [about pictures of t]]]?

(10) Who$_i$ did you see [friends of t_i]?
(11) ?*Who did you see [enemies of friends of t_i]?

The contrast actually also holds with pied piping; thus (12) is better than (13), which confirms that the pied-piping vs P-stranding issue is not relevant here.

(12) Of who(m)$_i$ did you see [friends t_i]?
(13) ??Of who(m)$_i$ did you see [enemies of friends t_i]?

The point is confirmed by Greek. Greek allows genitive DPs as well as PPs to function as nominal complements. Both cases exhibit a simple/deep extraction contrast, a illustrated in (14)-(15) for the former and (16)-(17) for the latter (see Horrocks and Stavrou (1987); (15)-(17) and (36)-(37) below were provided by Melita Stavrou).[12]

(14) tu vivliu$_i$ mu ipes pos dhiavases [tin kritiki t_i]
the-gen book-gen me said-2s that read-2s the review
'You told me you read the review of the book.' (Horrocks and Stavrou 1987)
(15) *tu vivliu$_i$ mu ipes pos dhiavases (tin) enstasi [tis kritikis t_i]
the-gen book-gen me said-2s that read-2s the objection the-gen review-gen
'You told me you read the objection to the review of the book.'
(16) *Se t_i eksefrasan epikrisi [tu antilogu t_i]?
to what expressed-3p criticism the-gen objection-gen
'To what did they express criticism of the objection?'
(17) Se t_i eksefrasan [(ton) antilogo t_i]?
to what expressed-3p the objection
'To what did they express the objection?'

These facts indicate that extraction is banned not only out of clausal complements of nouns, but nominal complements more generally.

Another case of a simple/deep extraction contrast concerns French *combien*-extraction. While simple *combien*-extraction (where the relevant TNP is a complement of a verb) is allowed, deep *combien*-extraction, where the relevant TNP is a complement of a noun, is disallowed.

(18) Combien$_i$ a-t-il consulté [$_{DP}$ t_i de livres]?
how-many has-he consulted of books
'How many books did he consult?'

As is well-known, there are many factors that affect the availability of simple extraction cases like (ia-b) which will not be discussed here. What is important for our purposes is that such extraction is in principle possible (see Rodman 1977 for convincing arguments to this effect).

Gary Thoms (p.c) observes the grammaticality of examples like *Who did you buy lots of pictures of*, also noting that *lots of pictures* in such examples was quite persuasively argued to be a single DP in Selkirk (1977), which means that it does not differ from (10) in the relevant respect.

A word of caution is in order however. Cinque (1990) shows there is an interfering factor with DP extraction: what looks like extraction with DPs can often involve binding of a null resumptive pronoun (with some variation across speakers and particular constructions/DPs (see his p. 53) regarding the availability of this strategy). The interfering factor makes PP argument extraction a more reliable subjacency test than DP argument extraction. The reader should bear in mind that potential speaker variation regarding argument DP extraction in the examples discussed in this paper could be due to this interfering factor.

[12](15) and (17) are slightly better without the optional article, but all the relevant contrasts still hold (they are not induced by the article).

(19) *Combien$_i$ a-t-il consulté [$_{DP}$ (plusieurs/des) préfaces [$_{DP}$ t_i de livres]]
how-many has-he consulted several/some prefaces of books
'How many books did he consult several/some prefaces of?'

The same contrast is found with Hungarian possessor extraction.While simple possessor extraction in (20) is allowed, deep possessor extraction in (21b) is not.[13]

(20) Péternek$_i$ láttam [t_i a karját].
Peter-dat saw-1sg the arm-poss.acc
'Peter's arm, I saw.'
(21) a. ??/*Péternek$_i$ láttam [egy képet [t_i a karjáról]].
Peter-dat saw-1sg a picture-acc the arm-poss.del
b. Péternek a karjáról$_i$ láttam [egy képet t_i].
Peter-dat the arm-poss.del saw-1sg a picture-acc
'Peter's arm, I saw a picture of'

NP languages like Serbo-Croatian (SC) also provide a number of relevant cases. In contrast to English, SC allows left-branch extraction of adjectives as well as possessors.

(22) Pametne$_i$ on cijeni [t_i prijatelje]
smart he appreciates friends
'He appreciates smart friends'
(23) Čiju$_i$ je on vidio [t_i majku]?
whose is he seen mother
'Whose mother did he see?'

Importantly, such extraction also displays a simple/deep extraction contrast: it is not possible when the TNP from which extraction takes places functions as a nominal complement.

(24) *Pametnih$_i$ on cijeni [prijatelje [t_i studenata]]
smart he appreciates friends students
'He appreciates friends of smart students.'
(25) *Čije$_i$ je on vidio [prijatelja [t_i majke]]?
whose is he seen friend mother
'Whose mother did he see a friend of?'

Also in contrast to English (see (29)), SC allows extraction of NP adjuncts. Again, such extraction displays a simple/deep extraction contrast: it is blocked when the TNP from which extraction occurs functions as a nominal complement.

(26) Iz kojeg grada$_i$ je Petar sreo [djevojke t_i]
from which city is Peter met girls
'From which city did Peter meet girls?'
(27) *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?'

[13]The judgments are given for the focal reading of the extracted element since on the topic reading, Hungarian possessive extraction has been argued to involve a left-dislocation configuration with a null resumptive pronoun, see den Dikken (1999). (Thanks are due to Julia Bacskai-Atkari and Edit Jakab for help with the Hungarian data.)

To summarize, I have discussed a variety of different kinds of extractions from nominal complements which all indicate that extraction from nominal complements is quite generally disallowed. There is then nothing special about nouns modified by clauses regarding extraction: extraction from nominal complements is disallowed regardless of the complement's categorial status. I therefore generalize the CNPC as in (28).

(28) The Generalized Complex NP Constraint (GCNPC)
Extraction out of nominal complements is disallowed.

The difference between NPs and VPs is thus more general; while extraction from nominal complements is disallowed regardless of their categorial status, extraction from verbal complements is (in principle) allowed regardless of their categorial status. ((10) shows that extraction is possible not only out of CP complements of verbs, but also out of DP complements of verbs.)

Having discussed the CNPC, generalizing it to a more general ban on extraction out of nominal complements, I now turn to other lexical heads. I will first show that adjectives and prepositions pattern with nouns, not verbs, in the relevant respect: extraction is also banned out of their complement, regardless of its categorial status.

2.2. The Generalized Complex AP Constraint

Before proceeding, let me emphasize that since weak islands are sometimes completely weakened with argument extraction, adjunct extraction is a much more reliable diagnostic; however, in English it can be tested only with clausal complements, even (29) being disallowed, as noted by Huang (1982), Chomsky (1986), and Culicover and Rochemont (1992) (for an account of the SC/English contrast in this respect, see Bošković 2013a).

(29) *From which city$_i$ did Peter meet [girls t_i] ?

That being said, consider the Complex NP configuration with respect to adjectives. Significantly, APs pattern with NPs in that extraction from their clausal complements is disallowed. While (30), involving argument extraction, is (not surprisingly) only slightly degraded, (31), involving adjunct extraction, is clearly unacceptable on the relevant reading, where the adjunct modifies the embedded clause.[14]

(30) ??To whom$_i$ are you [$_{AP}$ proud [$_{CP}$ that John talked t_i]]?
(31) *How$_i$/Why$_i$ are you [$_{AP}$ proud [$_{CP}$ that John hired Mary t_i]]?

As in the case of NPs, the pattern is not CP-specific. Extraction is also not possible from non-CP complements of adjectives. Thus, (32)-(33) replicate the simple/deep extraction contrast from (10)-(11). As in the case of NPs (12)-(13), the contrast is maintained under pied-piping (34)-(35).

(32) Who$_i$ is he [proud of t_i]?
(33) ?*Who$_i$ is he proud of [friends of t_i]?
(34) Of who(m)$_i$ is he [proud t_i]?

[14]Some speakers accept (30) but still find (31) unacceptable. We may be dealing here (for these speakers) with the same phenomenon as the one noted above with respect to (6)-(7) (see also footnote 6), which makes adjunct extraction a more reliable diagnostic of islandhood in Complex XP configurations in general (see in fact Lasnik 1995 for a proposal that *be* and the adjective in its complement may form a complex predicate). I therefore take (31) to be a more reliable indicator of islandhood than (30).

(35) *Of who(m)$_i$ is he proud of [friends t_i]?

These cases are confirmed by Greek. In Greek, adjectives can take either a genitive or a PP complement. In both cases, extraction from the complement of *responsible* is banned. ((48) is actually also relevant to (36).)

(36) *Tu ktiriu$_i$ ipefthinos [gia to fotismo t_i]
the-gen building-gen is-responsible for the litting
'the building he is responsible for the litting of'
(37) *Tu ktiriu$_i$ ipefthinos [tu fotismu t_i]
the-gen building-gen is-responsible the-gen litting-gen

I conclude therefore that APs pattern with NPs in the relevant respect; in other words, there is the Generalized Complex NP Constraint as well as the Generalized AP Constraint.

(38) The Generalized Complex AP Constraint
Extraction out of adjectival complements is disallowed.

2.3. The Generalized Complex PP Constraint

Consider now PPs. PPs pattern with NPs and APs regarding constructions like (10)-(11)/(32)-(33). (Landau 2010 also makes this point with *??Who did you agree with the sister of*). (39)-(40) replicate the simple/deep extraction contrast discussed above regarding NPs and APs. The same holds for wh-movement involving pied-piping.[15]

(39) Who$_i$ did you read about t_i?
(40) ??Who$_i$ did you read about friends of t_i?
(41) About who(m)$_i$ did you read t_i?
(42) *Of who(m)$_i$ did you read about friends t_i?

As for the CNPC configuration, it cannot be tested in English. However, prepositions can take declarative CP complements in Spanish. Significantly, extraction is disallowed from the clausal complement of prepositions in Spanish, as illustrated below (the data are due to Julio Villa-García and José Riqueros). (43b-c) and (44b-c) contrast with (43a) and (44a), where the relevant CP is a verbal complement.

(43) a. se acordó de [que [Pedro preparaba la comida]]
clitic.3p (s)he.remembered prep that Pedro prepared.imperfect the food
'She just remembered that Pedro used to cook the food.'
b. ?*¿qué$_i$ se acordó de [que [Pedro preparaba t_i]]
what clitic (s)he.remembered prep that Pedro prepared.imperfect
c. *¿cómo$_i$ se acordó de [que [Pedro preparaba la comida t_i]]
how clitic (s)he.remembered prep that Pedro prepared.imperfect the food
(44) a. insistí en [que Felipe coma manzanas]
I.insisted prep that Felipe eat.subjunctive apples
'I insisted that Felipe eats apples.'

[15]There is a potential issue here: whether non-stranded Ps reanalyze in this context (in which case V would be the only lexical head whose complement is targeted for subextraction in (40)). These data indicate that they do not but it might not be out of question that some Ps may allow such reanalysis for some speakers (my informants do not).

b. ?*¿qué$_i$ insististe en [que Felipe coma t_i]?
what you.insisted prep that Felipe eat.subjunctive
c. *¿dónde$_i$/ en dónde$_i$ insististe en [que [Felipe coma manzanas t_i]] ?
where/ in where you.insisted prep that Felipe eat.subjunctive apples (Spanish)

Some speakers can drop the preposition in (43). Importantly, (43b-c) improve when the preposition is dropped for these speakers.

Cinque (1990) observes that in a more formal style of Italian preposition *a* can take a finite CP complement. Significantly, extraction from the complement is banned, as illustrated in (45), provided by Roberto Petrosino.[16]

(45) a. *Carlo, con il quale non mi abituerò/acconsentiro mai [a [che tu parli t]
Carlo, with whom neg me will-get-used-to/will-consent never a that you speak
'Carlo, with whom I will never get used to/consent that you speak'
b. cf. Non mi abituerò mai a che tu viva in America.
neg me will-get-used never to that you live in America
'I will never get used to you living in America.'
c. cf. Non acconsentirò a che tu sposi Maria.
neg will-consent a that you marry Maria
'I will not consent to you marry Mary.

Dutch (46) also shows that extraction from P-complements is disallowed.

(46) a. Hij kan zich niet [in [de bibliografie [van dat boek]]] vinden
He can himself not in the bibliography of that book find
'He cannot find himself in the bibliography of that book.'
b.*[Van dat boek]$_i$ kan hij zich niet [in de bibliografie t_i] vinden (van Riemsdijk 1997)

Finally, Greek (47) confirms the ban on extraction from P-complements (see Horrocks and Stavrou 1987 for the full paradigm).

(47) *Tinos$_i$ endhiaferese [ya [ti fili t_i]
who-gen be-interested-2s for the friend
'Whose friend are you interested in?' (Horrocks and Stavrou 1987)

I conclude then that extraction from complements of prepositions is also disallowed, which means the Generalized Complex PP Constraint holds (for more evidence for (48) see section 3.1.3.3).[17]

(48) The Generalized Complex PP Constraint
Extraction out of complements of prepositions is disallowed.

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[16]Cinque (1990:37) gives examples where adjectives (*favorevole* in (i)) take a PP complement (headed by *a*), which can also be instantiations of the Generalized Complex AP Constraint.
(i) *Carlo, con il quale sono favorevole [a [che parlino t]]…
Carlo, with whom I-am in-favor to that they-speak

[17] Slavic prepositions may be involved in the rescue-by-PF-deletion mechanism (Bošković 2013b, Talić in press), which is a potentially interfering factor. Still, SC examples like (i) are degraded (they are not as bad as violations of the P-stranding ban that holds in SC, see Abels 2003).
(i) a. ?*Prema meni$_i$ Ivan zavisi [$_{PP}$ od [$_{NP}$ odnosa t_i]].
toward me Ivan depends on attitude
b. ?*Za šta$_i$ Ivan zavisi [$_{PP}$ od [$_{NP}$ rješenja t_i]].
to what Ivan depends on solution

To summarize, we have seen that when properly generalized, the CNPC represents a pervasive pattern found in a number of other contexts. In particular, extraction is banned not only out of clausal but all nominal complements. Furthermore, APs and PPs pattern with NPs in this respect. This means that, with the exception of VPs, extraction is banned from the complements of lexical heads. I therefore posit (49), which unifies (28), (38), and (48). We will see below that the scope of (49) is even broader since in many cases (49) actually also holds for verbs (the parenthesis part will therefore be revised).

(49) **The Complex XP Constraint** (where X ≠ V)
Extraction out of complements of lexical heads is disallowed.

3. Deducing the Complex XP Constraint

I now turn to a deduction of (49). I will first consider (49) within Bošković's (2013a, 2014) phasal system since this system accounts for a number of cases that fall under (49). Bošković argues for a contextual approach to phases where the highest phrase in the extended projection of every lexical category functions as a phase. Let us apply this proposal to the NP cases of (49) (i.e. the cases discussed in section 2.1).

A number of them fall out rather straightforwardly from this system. Consider first how the counterparts of (22) and (26) are ruled out in English.

(50) *Expensive John likes [t cars]
(51) *From which city did you see [girls t]?

Bošković adopts the traditional assumption that attributive adjectives and PP modifiers are NP-adjoined. Another ingredient of the account is antilocality, the ban on movement that is too short which requires Move to cross at least one full phrase (not just a segment) (for arguments for various versions of antilocality, see Bošković 1994, 1997, Saito and Murasugi 1999, Ishii 1999, Abels 2003, Grohmann 2003, Ticio 2003, Boeckx 2005, Jeong 2006, among others). Given that the highest phrase in the extended domain of every lexical head functions as a phase, DP is a phase as the highest projection in the extended domain of NP. The unacceptability of adjunct/AP extraction in English then follows from PIC/antilocality. Since DP is a phase, if the AP/adjunct in (50)/(51) does not stop in SpecDP, as in (52), the PIC is violated. The PIC problem doesn't arise if they stop in SpecDP, as in (53). However, (53) violates antilocality since movement to SpecDP fails to cross a full phrase. The PIC/antilocality problem does not arise in SC (22)/(26) given that SC, an article-less language, does not project DP.[18]

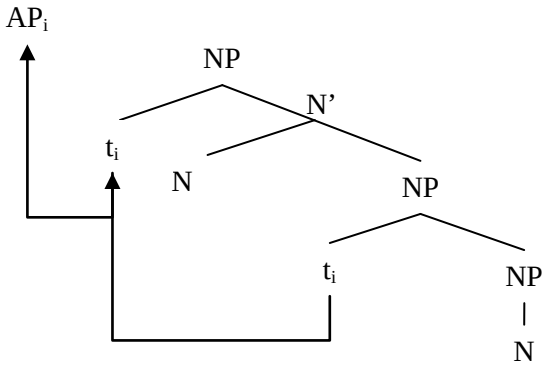
(52) *AP/adjunct$_i$ [**$_{DP}$** [$_{D'}$ D [$_{NP}$ t$_i$ [$_{NP}$....
(53) *[**$_{DP}$** AP/adjunct$_i$ [$_{D'}$ D [$_{NP}$ t$_i$ [$_{NP}$....

The deep/simple extraction contrasts with SC AP/adjunct extraction also follow. Consider (54). (54) shows that an NP above an NP where adjectival LBE originates has the same blocking effect on adjectival LBE as DP does in English (50). This is expected. Due to the lack of DP, NP is the

[18]**Whose did he see mother* is ruled out independently, given the standard assumption that the possessor is in SpecDP and '*s* in D. The example then involves non-constituent movement (this means possessor extraction should not be in principle ruled out for all DP languages; indeed, it isn't, see Hungarian (20); Hungarian does disallow adjectival and adjunct extraction from DP, see Bošković 2012)). Regarding SC possessors, Zlatić (1997), Bošković (2005, 2012, 2014) and Despić (2011, 2013) show that syntactically and morphologically, SC possessors in all respects behave like adjectives, and also treat SC possessors as NP-adjuncts. (23) can then be analyzed on a par with (22).

highest projection in the TNP hence NP functions as a phase in SC. AP then must move to SpecNP in (54), which violates antilocality.

(54) *Pametnih$_i$ on cijeni [$_{NP}$ t_i [$_{N'}$ [prijatelje [$_{NP}$ t_i [$_{NP}$ studenata]]]
smart$_{GEN}$ he appreciates friends$_{ACC}$ students$_{GEN}$



The contrast between (26) and (27) can be accounted for in the same way (the same holds for (23) and (25), see footnote 18).[19]

(55) *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?'

Bošković's system thus accounts for several cases that motivated (28). However, it does not account for all of them; in particular, the simple/deep extraction contrast in English (10)/(11) (also Greek (14)-(17)), the simple/deep extraction contrast in with *combien* (18)/(19) (and Hungarian (20)-(21)) and the CNPC case from (2). These examples can actually be captured given certain proposals made in Bošković (in press). In particular, Bošković (in press) proposes (56) and (57).

(56) NP is a phase for elements that are not theta-marked by its head/within it.
(57) No SpecNP for successive-cyclic A'-movement.

(57) states N does not license a Spec (Bošković assumes that if it does license it, it licenses it only when it theta-marks it; i.e as an A-position). Given (56), an element undergoing A'-movement from an NP that is not theta-marked within it must move via the NP edge. Since SpecNP is either an A-position, or not licensed, this means such an element must adjoin to the NP. This captures the cases that have remained unaccounted for. Consider (10)-(11) (only the relevant structure is shown).[20]

(58) Who did you see [$_{DP1}$ t_i[$_{NP1}$ friends of t_i]]?
(59) *Who$_i$ did you see [$_{DP2}$ t_i [$_{NP2}$ t_i[$_{NP2}$ enemies of [$_{DP1}$ friends of t_i]]]]]?

Since *who* is not theta-marked by N2, NP2 is a phase for *who* in (59). Given the PIC, *who* must pass through the NP2 edge, i.e. adjoin to NP2. DP being a phase, *who* still needs to move to SpecDP,

[19]Bošković (2013a) notes that nouns that assign inherent (i.e. non-genitive) case appear to behave differently here due to certain structural differences. Talić (in press) provides an account of such cases that is fully consistent with the current system and the generalization in (28).
[20]Bošković assumes that in P-stranding (58), the noun is involved in theta-marking the extracted element (as in Grimshaw 1990), which fits well with the reanalysis approach to P-stranding (under Stepanov 2012, there isn't even a PP here in the surface structure).

which violates antilocality. The problem does not arise in (58): Since *who* is theta-marked by *friends*, the NP headed by *friends* is not a phase for *who*, hence *who* need not adjoin to it.

This account extends to CNPC violations: (60) is ruled out because movement from the higher NP-adjoined position, forced by (56)-(57), violates antilocality. (The account also extends to the *combien*-extraction contrast in (18)/(19).)

(60) *Who$_i$ did you hear [$_{DP}$ t$_i$ [$_{NP}$ t$_i$[$_{NP}$ rumors [$_{CP}$ t$_i$ that [$_{IP}$ a dog bit t$_i$]]]]]?

There is, however, a redundancy here. The deep/simple extraction contrasts with SC LBE/adjunct extraction, which we have seen follows from Bošković's (2014) system, now also follows from (56)-(57). Quite independently of Bošković's claim that NP is a phase in SC because it is the highest projection in the TNP, (56)-(57) (the main culprit being (56)) force adjunction to the higher NP, which violates antilocality.

(61) *Pametnih$_i$ on cijeni [$_{NP}$ t$_i$ [$_{NP}$[prijatelje [$_{NP}$ t$_i$ [$_{NP}$ studenata]]]
smart$_{GEN}$ he appreciates friends$_{ACC}$ students$_{GEN}$

However, we cannot simply replace the claim that the highest projection in the TNP functions as a phase by (56)-(57). If we were to do that DP would not be a phase in English and French. As a result, the above examples where it was crucial that movement proceeds via the DP edge in English and French would remain unaccounted for. Apart from the issue of redundancy, there is a deeper question here: Why would (56)-(57) hold? Why does successive-cyclic movement have to target the NP-adjoined position (instead of NP-Specs)? Why is there a connection between theta-marking and phasehood? (56) is particularly stipulative and has no natural place in the rest of the phasal system, adding another way to become a phase which is very different from other cases of phasehood.

Still, (56)-(57) are important in that they indicate what kind of effects the right theory should capture, i.e. what ingredients it should have. In the next section I will develop an account that is intended to capture the empirical effects of the combination of Bošković's (2013a, 2014) system and (56)-(57) which will also deduce the effects of (56)-(57) from independent mechanisms and extend it to other cases of the Generalized Complex XP Constraint. The crucial ingredients of the account will be a new approach to phases, in particular to what counts as a phase (I will refer to this as the phasal criterion) and the PIC, as well as Chomsky's (2013) labeling algorithm.

3.1. A new system: Deducing (49)

In this section I will propose a deduction of (49). The deduction will have several ingredients, which will be discussed in separate subsections.

3.1.1. The theory of domains

The mechanisms discussed in this section are intended to capture the effects of (56). (56) indicates theta-marking is relevant to phasehood. Furthermore, whether the relevant element is theta-marked as a complement or a Spec does not matter. Both of these will be captured by the locality theory proposed in this section.

Any theory of locality needs to specify locality domains. There have been numerous approaches to the issue since the early days of the theory. The currently prevalent theory of locality domains is the theory of phases. The analysis proposed here will be couched within this line of research since, as shown below, the theory of phases has a natural way of making a distinction between VPs and other lexical projections. There are a number of approaches to phases. Chomsky's (2000, 2001) original approach is rigid in a sense that certain phrases (vP and CP) always function

as phases regardless of their syntactic context. Many have, however, argued that phasehood should be defined contextually, i.e. that the phase status of X can be affected by the syntactic context where X occurs. Thus, Bošković (2013a, 2014) argues that the highest projection in the extended domain of a lexical head/clause functions as a phase (for an additional argument for this proposal see Wurmbrand 2014). To capture the effects of theta-marking from (56) I will argue for a combination of Bošković's (2013a, 2014) approach and a modified version of Grohmann's (2003) locality domains. Grohmann proposes that a clause is divided into three domains, the discourse domain, the agreement domain, and the theta domain, and that movement must pass through each domain. Suppose now that we collapse the agreement domain and the discourse domain into one domain, giving us two domains: thematic and non-thematic. This actually corresponds to Chomsky's original conception of phases if, following Bošković (2013a, 2014), we assume that the highest projection in a domain functions as a phase. vP is then a phase as the highest projection in the thematic domain, and CP is a phase as the highest projection in the non-thematic (there is a phase even with ergatives, where VP is a phase as the highest (and only) projection in the thematic domain). This is the approach to phases that will be argued for here. As shown below, the approach partially captures (56): it captures the relevance of theta-marking for phasehood, but it does not ensure that it does not matter whether the relevant element is theta-marked as a complement or a Spec. To ensure this, and fully capture (56), I will argue for a new conception of the PIC: While for Chomsky, only the Spec/adjunct of phase HP and its head H are accessible for operations outside of HP I propose that the complement of K is also accessible for operations outside of HP. Nothing within the complement is, however, accessible outside HP. In other words, I adopt (62) (*immediate domain* can also be defined as: K is in the immediate domain of H if K is merged with (a projection of) H):

(62) The Phase-Impenetrability Condition
In phase α with head H, only the immediate domain of H is accessible to operations outside α, where K is in the immediate domain of H if the first node that dominates K is a projection/segment of H.

Since the first node that dominates SpecHP, HP/H-adjuncts, H, and the complement of H is a projection of H, these positions, but nothing else, is accessible to operations outside of HP. I assume that what is sent to spell-out is the first phrase merged with H, i.e. the lowest phrase in the immediate domain of H that is not a projection of H. The revised PIC makes sense in terms of multiple spell-out and in fact follows Uriagereka's (1999) original conception of multiple spell-out. Uriagereka (see also Nunes and Uriagereka 2000) argues that when a phrase is sent to spell-out, nothing within the phrase is available for further syntactic operations but the phrase itself is available. In Uriagereka's terms, sending A to spell-out, which results in establishing word order within A, essentially turns A into a compound/lexical item whose internal structure is inaccessible to syntax. A itself is, however, accessible to syntax. In his conception of the PIC Chomsky departed from this aspect of Uriagereka's original proposal. The suggestion here is then to return to it.

The current conception of the PIC has another desirable side effect (which favors it over Chomsky's version of the PIC): it captures Hiraiwa's (2005) observation that what is located at the edge of the edge of phase HP is not at the edge of HP for the purpose of the PIC (which Chomsky's version of the PIC does not capture). Thus, Hiraiwa observes that in (63), what is located in SpecXP or adjoined to XP is not located at the edge of HP,i.e. it's not accessible to operations outside of HP. This follows from (62) since the first node that dominates these positions is not a projection of H.[21]

[21]The current conception of the PIC is inconsistent with Abels's (2003) deduction of his claim that complements of phasal heads cannot move which is based on the original PIC: they cannot move since the PIC requires them to move to the Spec of the phase, which violates antilocality. In fact, under the analysis presented here we would expect Abels's generalization not to hold (or, where it does hold, it should be an "illusion", something else should be at work): since the complement of H is accessible to operations outside of HP it need not move to SpecHP. In fact, we will see below a

(63) [$_{HP}$ KP [$_{H'}$ H ...]]

In summary, the highest projection in the thematic domain of every lexical head as well as the highest projection in the non-thematic/functional domain function as phases. As for the PIC, what is accessible to operations outside of phase HP is what is immediately dominated by a projection of H. This conception of phases/PIC will play a crucial role in the deduction of (49) given below; it will also capture the effects of (56), generalizing it beyond the domain of NP.

3.1.2. Labeling

I now turn to the ingredient intended to capture the effects of (57).

Chomsky (2013) proposes a theory of labeling where in the case where a head and a phrase merge, the head projects (i.e. provides the label for the resulting object). Regarding the case where non-minimal projections (i.e. phrases) are merged, Chomsky suggests two ways of implementing labeling, through prominent feature sharing or traces, traces being ignored for the purpose of labeling. To illustrate the former, when *what* is merged with interrogative C (actually CP) in (64), both the wh-phrase and the CP have the Q-feature, what is projected (i.e. determines the label of the

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number of cases where the complement of a phasal head indeed moves. The empirical case for Abels's generalization is actually not that strong. Thus, the case that is standardly used to illustrate it, the immobility of the IP complement of C (i), turns out to be irrelevant, since, as Abels (2003) himself notes, even IPs not dominated by CP seem immobile. (Cheng 2012 argues that only phases can in principle move, which also makes (i) and several other cases irrelevant). Thus, (ii) shows that such IPs cannot move to SpecCP (the infinitive is a bare IP--the adverb indicates the presence of IP and pronominalization ensures the lack of CP since it is disallowed from CP infinitives, see Wurmbrand 2001), and (iii) shows that such IPs cannot undergo IP-adjunction/scrambling.

(i) *[$_{IP}$ His$_i$ brother likes Mary]$_j$ everyone$_i$ believes [$_{CP}$ that t$_j$]

(ii) *[$_{IP}$ morgen zu reparieren] hat ihn der Hans beschlossen.
tomorrow to repair has it the Hans decided
'Hans decided to repair it tomorrow.' (German, Abels 2003)

(iii) ?*weil ihn glücklicherweise[$_{IP}$ morgen zu reparieren] der Mechaniker ja doch beschlossen hat
because it luckily tomorrow to repair the mechanic indeed decided has
(Bošković 2013b)

The argument for Abels's generalization from P-stranding, where in languages that disallow it P-stranding involves phasal complement movement (PP being a phase), is not particularly strong either, since it rests on a stipulation that PPs are phases only in some languages (the crosslinguistic difference regarding P-stranding can in fact be implemented in the current system without involving Abels's generalization, e.g. by involving phase collapsing from section 3.3). On the other hand, the AP domain represents a problem for Abels's generalization if APs are phases (as argued below and in Bošković 2014), given examples like (v-vi).

(v) Na koga je Jovan [$_{AP}$ ponosan t]? (SC)

(vi) Of whom is John [$_{AP}$ proud t]?

The degraded status of genitive N-complement movement in SC ((vii), see Bošković 2014) is a remaining argument for Abels's generalization, assuming NP is a phase in SC. However, PP complements of nouns can move in SC, as in (viii) (to maintain Abels's generalization Bošković 2013a stipulates that PPs cannot be complements of nouns (and adjectives, cf. (v)) in SC (see also Talić in press)). There are also alternative accounts of (vii), see Schoorlemmer (2013); note also that German patterns with SC in that it disallows genitive complement extraction but allows PP-complement extraction, including prepositional (*von*) genitive.

(vii) ??Ovog studenta$_i$ sam pronašla [$_{NP}$ sliku t$_i$]
this$_{GEN}$ student$_{GEN}$ am found picture$_{ACC}$
'Of this student I found the picture.'

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

It is thus not clear that Abels's generalization holds; at any rate, a comprehensive re-examination of Abels's generalization is beyond the scope of this paper.

resulting object) then is the Q-feature.[22] This is obviously reminiscent of Spec-Head agreement, where the shared feature is what is involved in Spec-head agreement. The latter case is illustrated by (65).

(64) I wonder [$_{CP}$ what$_i$ [$_{C'}$ C [John bought t$_i$]]]
(65) What$_i$ do you think [$_{CP}$ t'$_i$ [$_{C'}$ that [John bought t$_i$]]]
(66) v [$_{VP}$ think [$_?$ what [$_{CP}$ that [John bought t$_i$]]]]

The timing of labeling here has rather interesting consequences for antilocality, a derivational ban on movement that is too short, which I continue to assume: Move must cross at least one phrase. Chomsky assumes there is no feature sharing between the intermediate, declarative complementizer *that* and the wh-phrase that passes through its edge in (65) (which essentially follows Bošković 2002, 2007, 2008). As a result, labeling through feature sharing is not an option here. The embedded clause then cannot be labeled at the point of movement of *what* to its edge, as indicated in (66) by using ?-notation. When v is merged, *what* moves away. The element merged with the CP now being a trace, it is ignored for the purpose of labeling, hence ? is labeled as CP after movement of *what*. Only at this point the status of t'$_i$ in (65) can be determined as the Spec of CP. However, at the point of movement (cf. (66)), ? is not a CP, in fact it is not a phrasal projection at all, it is simply undetermined regarding that issue. To make the issue clearer, we can adopt the following definition of antilocality, adjusted to the framework that allows unlabelled objects, the intuitive idea here being that movement does not cross B if it involves merger with B. (In effect, (67) requires crossing of a labeled projection.)

(67) Movement of A targeting B must cross a projection distinct from B (where unlabelled projections are not distinct from labeled projections).

At any rate, antilocality is still satisfied in (66) because the movement that targets vP crosses VP. Were VP to be missing in (66), movement of *what* to vP would violate antilocality.[23]

3.1.3. Actual cases

Now that we have all the ingredients in place I will demonstrate that the above system accounts for all the cases from section 2, fully deducing the Generalized XP Constraint (also capturing in a principled way the effects of (56)-(57)). Below, for ease of exposition I will refer to the first ingredient of the system, the theory of phases from section 3.1.1., as **1**, and to the second ingredient, the theory of projection/labeling from section 3.1.2., as **2**.

3.1.3.1 The Generalized NP Constraint revisited

I will first discuss the ban on extraction from nominal complements, starting with the CNPC. The relevant phasal projections, NP and CP, which are the highest projections in their thematic/non-thematic domains hence phases, are marked in (68). Movement must target CP and NP, given **1**; given **2**, this can only be done through unlabelled projections ((68a); note that I only indicate what happens at the point of movement, ignoring label-resolution via traces since it does not affect

[22]Like Chomsky (2013), I will continue using CP and SpecCP for such cases for ease of exposition.
[23]It might be more appropriate to define antilocality/crossing by using the notion *terms of*, e.g as follows: Movement must cross a labeled category where movement from X to Y crosses Z if X but not Y is a term of Z and Y is not merged with Z. Note also that I assume that labeling can take place as soon as it can be accomplished, otherwise it would not be possible to label structures where both relevant elements move.

anything for our purposes). Movement from t' to t", however, violates antilocality (i.e. (67)). The CNPC is thus accounted for.

(68) ??Who$_i$ did you hear [$_{DP}$ [$_?$ t"$_i$ [$_{NP}$ rumors [$_?$ t'$_i$ [$_{CP}$ that [$_{IP}$ a dog [$_{vP}$ bit t$_i$]]]]]]?

The account straightforwardly extends to non-CP complements. Movement must target NP and DP in (69) given **1**. Movement from the lower DP to the higher NP violates antilocality.[24]

(69) *tu vivliu$_i$ mu ipes pos dhiavases [$_{DP}$[$_?$ t$_i$[$_{NP}$ enstasi[$_?$ t$_i$ [$_{DP}$[$_{NP}$ tis kritikis t$_i$]]]]]]]
the-gen book-genme said-2s that read-2s objection the-gen review-gen

1 also forces movement to target the non-thematic phasal domain which is sandwiched between the VP thematic domain and the NP thematic domain. For the current account it actually does not really matter whether this non-thematic domain contains only DP or other functional projections as well.[25] Movement to DP also yields an antilocality violation in the former case, but that cannot be all there is because of NP languages. Recall that NP languages also display CNPC effects. It is then crucial that the antilocality violation occurs with the step of movement from the N-complement to the NP (i.e. from the CP to the NP phase) in SC (70).[26]

(70) ??Šta$_i$ si čuo [$_?$ t$_i$ [$_{NP}$ glasine [$_?$ t$_i$ [$_{CP}$ da je Ivan kupio t$_i$]]]]?
what are heard rumors that is Ivan bought
'What did you hear rumors that Ivan bought?'

Recall now that in contrast to the movement out of the nominal complement, movement of the nominal complement itself is allowed, as in Greek (14).

(71) tu vivliu$_i$ mu ipes pos dhiavases [$_{DP}$ tin [$_{NP}$ kritiki t$_i$]]]
the-gen book-gen me said-2s that read-2s the review
'You told me you read the review of the book.'

This follows from the system. Under the current conception of the PIC, while nothing within the complement of a phase head is accessible outside of the phase, the complement itself is accessible. *Tu vivliu* is then accessible to D in (71), hence it can move to DP directly from the N-complement position without violating the PIC.

Furthermore, although I have hinted above at a reanalysis account of P-stranding it is actually not necessary to assume P-reanalysis to account for examples like (10) if there is a functional projection between NP and DP.

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[24]As for (11), with *enemies-of* reanalysis it is treated on a par with (69); without it (if *enemies* takes a PP-complement), (11) also involves a Complex PP constraint violation, like (80) below (see also section 3.3).

[25]Although throughout the paper I have adopted the minimal structures necessary, the analyses presented here can be maintained in systems with richer structures, as in the cartology approaches (in some cases some rather straightforward structural adjustments are needed, as noted below in a few places; another source of adjustments can actually be antilocality, which can be defined in different ways (see Grohmann 2011 and references therein). In other words, the proposed analysis of the Complex XP Constraint is compatible with a variety of structures for the relevant constructions, not just those assumed here (which follow the minimal-standardly-assumed-structure guideline for expository reasons).

[26]We will see below no violation occurs with movement outside of the complex NP. Although such crosslinguistic comparisons are difficult, it may be worth noting that CNPC violations with argument extraction seem slightly weaker in SC than in English, which could be accounted for in terms of the number of (anti-)locality violations if only DP is present above NP in (68) (see section 3.3). However, the difference in the strength of the violation is not completely clear and other factors could be involved in this kind of crosslinguistic comparisons.

(72) Who$_i$ did you see [$_?$ t$_i$ [$_{DP}$ [$_{XP}$ [$_?$ t$_i$ [$_{NP}$ friends [$_{PP}$ of t$_i$]]]]]?

Under the PIC from (62), N can attract the complement of P without violating the PIC. The next phase in (72) is DP, the highest projection in the non-thematic domain. Given the presence of XP, *who* can move to the edge of DP without violating antilocality. (We will, however, see in section 3.3 that under the reanalysis account of P-stranding, it is not necessary to posit XP in (72).)[27]

Left-branch/adjunct extraction facts in (50)-(55) can also be captured. A note is first in order regarding the treatment of adjunction. I will adopt here Hornstein and Nunes's (2008) proposal that adjunction does not involve labeling (see also Hunter 2010). They argue that adjunction does not require labeling for interpretation, which under Chomsky (2013) means that that the result of adjunction is not labeled.[28] At any rate, **1** forces movement to the higher NP from the lower NP-adjoined position, given that the higher NP functions as a phase since it starts a new thematic domain. The movement violates antilocality.

(73) *Iz kojeg grada$_i$ je Petar kupio [$_?$ t$_i$ [$_{NP}$ slike [$_?$ [$_{NP}$ djevojke] t$_i$]]]?
from which city is Peter bought pictures girl
'From which city did Peter buy pictures of a girl?'

In English (74), the NP-adjoined PP must move to DP, given **1**, which again violates antilocality.[29]

(74) *From which city$_i$ did you see [$_?$ t$_i$ [$_{DP}$ [$_?$ [$_{NP}$ girls]t$_i$]]]?

It is worth emphasizing that the current system easily captures the effects of (56) and (57): the effects of (57) follow from the general theory of projection adopted here (Specs are created too late in the relevant cases), which generalizes (57) beyond the case of NP; we will see below that this is a desirable move empirically (conceptually as well, since NPs are then not exceptional in this respect). The effects of (56), which was an ad hoc add-on in the previous phasal system that had no natural place in it, are in fact central to the current theory of locality; they follow from the approach to phases argued for here, in particular, the phasal criterion and the PIC, they are not an add-on. (The relevance of theta-marking to phasehood follows from the phasal criterion, and that it does not matter whether the relevant element is theta-marked as a complement or a Spec follows from the current conception of the PIC.) As with (57), the current system also generalizes the effect of (56) beyond the case of NP, which we will see below is desirable empirically (as well as conceptually).

Before proceeding a note is in order concerning the simplification of antilocality under the current perspective, which incorporates unlabelled projections. While antilocality was previously assumed to require crossing a full phrase, where crossing a segment or an X' is not enough, this is not necessary under (67) and is in fact not required by (67). Note also that with complement-to-Spec movement within XP (75), X' is actually XP at the point it is targeted by movement (75b). Still, movement in (75b) violates (67).

[27]Strictly speaking then, extraction from complements of lexical heads is not completely banned; however, the window for such extraction is extremely narrow (see also section 3.3). At any rate, I will to continue to use the phrase "ban on extraction from complements of lexical heads" for expository reasons.

[28]It is also possible that the labeling here must be done late/acyclically, in the spirit of Stepanov (2001). Note that without Hornstein and Nunes's proposal, all that needs to be done is change projection to category in (67). Adopting the proposal, however, has interesting consequences. In fact, not labeling can be taken as the defining property of what is referred to as adjunction, segmentation being dispensable (for some semantic consequences of adjunction, see Shibata in preparation).

[29]Here the presence of additional structure between DP and NP does matter. If there is an additional functional projection here (in DP languages) the adjunct would be base-generated adjoined to it.

(75) a. [$_{XP}$ X KP] b. KP [$_{XP}$ X KP] c. [$_{XP}$ KP [$_{X'}$ X KP]]

Under the unlabelled-projections analysis antilocality (cf. (67)) can thus be simplified to the effect that movement simply must cross something (more precisely, something labeled).

3.1.3.2 The Generalized Complex AP Constraint revisited

The Generalized Complex AP Constraint effects also follow. Thus, in (76), movement must proceed through the edge of CP and AP, which violates antilocality. (38) is thus deduced.

(76) *How$_i$ are you [$_?$ t$_i$ [$_{AP}$ proud [$_?$ t$_i$ [$_{CP}$ that [$_{IP}$ John [$_{vP}$ hired Mary t$_i$]]]]?

Another fact can be captured. Talić (2013) discusses extraction of adverbials like *extremely* from APs and observes such extraction is possible only in NP languages.[30] To account for this, she proposes that there is a counterpart of DP (XP) in the Traditional AP (TAP) of DP languages, and that *extremely* starts adjoined to AP. Given **1** and **2**, *extremely* must move to XP from the AP-adjoined position in (77), which violates antilocality. The problem does not arise in (78) since SC lacks DP as well as its adjectival counterpart (XP).

(77) *Extremely$_i$ he is [$_?$ t$_i$ [$_{XP}$ [$_?$ t$_i$[$_{AP}$ proud of Mary]]]]
(78) Izuzetno$_i$ je on [$_?$ t$_i$[$_{AP}$ ponosan na Mariju]]
extremely is he proud of Mary (SC)

The contrast between SC (78) and English (77) within the TAP domain essentially replicates the contrast between SC (22)/(26) and English (50)/(51) from the TNP domain, and is in fact accounted for in the same way under the current analysis. Recall, however, that English and SC behave in the same way regarding the CNPC itself; both languages disallow extraction in that configuration. Not surprisingly then, just as in English, extraction out of complex APs is disallowed in SC. This is expected under the current analysis; SC (79) is in fact treated in the same way as English (76).

(79) *Kako$_i$/Zašto$_i$ si [$_?$ t$_i$ [$_{AP}$ ponosan [$_?$ t$_i$ [$_{CP}$ da je Jovan [$_{vP}$ zaposlio Mariju t$_i$]]]?
How/why are proud that is Jovan hired Marija
'How/why are you proud that Jovan hired Marija?'

3.1.3.3. The Generalized Complex PP Constraint revisited

The Generalized PP Constraint can also be easily accounted for, as illustrated by (80)-(81). Movement from DP/CP to PP, which is forced by **1**-**2**, violates antilocality.[31]

(80) ??Who$_i$ did you read [$_?$ t$_i$[$_{PP}$ about [$_?$ t$_i$ [$_{DP}$ friends of t$_i$]]]]?
(81) * ¿qué$_i$ insististe [$_?$ t$_i$[$_{PP}$ en [$_?$ t$_i$ [$_{CP}$ que Felipe coma t$_i$]?
what you.insisted prep that Felipe eat.subjunctive

[30] See Talić (2013) for DP languages with affixal articles, which have options available to them that are not available to DP languages with non-affixal articles.

[31](i), which appears to involve extraction out of a P-complement, is expected to be acceptable, since *from* can attract the complement of *behind* under (62). However, it is possible that we are dealing here with a single complex P; note in this respect (ii), where the Ps are separated (however, the grammaticality status of (ii) is not completely clear).
(i) Which car$_i$ did they take a shot at him [$_{PP}$ from [$_{PP}$ behind t$_i$]]? (Bošković 2014:40)
(ii) *Behind which car did they take a shot at him from? (Cinque 1990:176)

Another fact is worth noting. Bošković (2005, 2013b) observes left-branch extraction from under a PP is disallowed in SC, as in (82). (82) is actually another case of (49) (more precisely (48)), which shows extraction from a complement of P is not possible. It is also straightforwardly captured by current system: *veliku* must target PP from the NP-adjoined position, which violates antilocality.[32]

(82) *Veliku$_i$ on uđe [$_?$ t$_i$[$_{PP}$ u [$_?$ t$_i$[$_{NP}$ sobu]]]]
big he entered in room

The above analysis was based on a particular approach to phases and Chomsky's (2013) labeling algorithm. As discussed above, for Chomsky (2013) when a head and a phrase merge the head projects/labels the resulting object. When two non-minimal projections are merged labeling is accomplished either through prominent feature sharing or through movement, traces basically being ignored for the purpose of labeling. We have seen that the system can deduce the Complex XP Constraint, given the approach to phases and antilocality adopted here. It should, however, be noted that label-resolution via traces faces several issues. One obvious problem arises with technical implementation given that traces are not really distinct from moved elements (cf. the copy theory of movement). Taita, Goto, and Shibata (2014) point out several other problems (also arguing that labeling cannot drive successive-cyclic movement, as proposed in Chomsky 2013), and argue that label-resolution through traces should be eliminated, which would leave us with prominent feature sharing as the only way of implementing projection when two non-heads are merged. The analysis presented above is actually compatible with this kind of a system, where two non-heads can be merged and labeled without segmentation only when they undergo agreement, which essentially means that a head that already has a complement can take a specifier only if it undergoes agreement with it. Consider for example (64)-(65) in that system. As before, in this system the wh-phrase in (64), which underges feature sharing with the interrogative C, is located in SpecCP. Since there is no relevant feature sharing between *what* and (a projection of) *that*, labeling through freature sharing is not an option in (65). If label-resolution via traces is eliminated, there can be no projection when two non-minimal projections are merged in such a case. The only option is then segmentation, i.e. adjunction. This means that while the wh-phrase is located in SpecCP in (64), the intermediate trace of the wh-phrase (t') in (65) is adjoined to CP, as in (83). This situation in fact then quite generally holds for successive cyclic wh- (and more generally A'-) movement, which means intermediate traces of such movement are located in adjoined positions.[33] What is important for our purposes is that if there were no VP, movement of *what* to vP in (83) would violate antilocality, just as it does under the analysis in (66) (under the intermediate adjunction analysis we can continue to assume Move must cross a phrase).

(83) What$_i$ do you [$_{VP}$ think [$_{CP}$ t'$_i$ [$_{CP}$ that [John bought t$_i$]]]

[32]For so-called extraordinary LBE, where the preposition is also fronted in (82), see Bošković (2013b) and Talić (in press) (their accounts are compatible with the current system).

[33] This fits well with Bošković's (2002, 2007, 2008) claim that intermediate wh-movement does not involve agreement/feature-checking, only the final step of wh-movement does. (Bošković 2008 shows that cases that have been argued to involve morphological reflexes of such agreement with intermediate Cs actually do not involve successive-cyclic movement via SpecCPs). In fact, given Bošković's claim regarding intermediate wh-movement, simply assuming that Specifiers must involve agreement will also lead to intermediate adjunctions for successive-cyclic A'-movement. In other words, successive-cyclic-A'-movement-as-intermediate-adjunction account can be implemented without appealing to labeling while still crucially sharing one assumption from Chomsky (2013), which goes back to Bošković (2002, 2007, 2008), namely the absence of intermediate agreement.

Whether or not label-resolution via traces is eliminated, the result is thus the same for our purposes (the same holds for the labeling-independent analysis from footnote 33). Either way, successive-cyclic movement must cross a phrase other than the one where it originates.[34] As a result, all the analyses of the Complex XP Constraint cases given above can be maintained under the intermediate adjunction analysis, which dispenses with label-resolution via traces. I illustrate this here for the basic Complex NP Constraint case. As discussed above, the marked CP and the NP are phases here as the highest projections in their thematic/non-thematic domains. Movement then must pass through the edge of these phrases, which under the analysis currently under consideration can only be done by adjunction to CP and NP. Movement from the CP to the NP then violates antilocality since it does not cross a phrase.

(84) ??Who$_i$ did you hear [$_{DP}$ [$_{NP}$ t_i [$_{NP}$ rumors [$_{CP}$ t_i [$_{CP}$ that [$_{IP}$ a dog [$_{vP}$ bit t_i]]]]]?

All other cases discussed above can also be captured under this analysis, as illustrated below for two such cases which involve extraction from a genitive complement of a noun. Greek (85) involves extraction of an argument of the lower NP and SC (86) involves extraction of a PP modifier (NP-adjunct) of the lower NP. In Greek (85), wh-movement has to proceed via the embedded DP/higher NP adjoined positions, which violates antilocality. In SC (86), the adjunct, which is base-generated adjoined to the lower NP, has to adjoin to the higher NP, which again violates antilocality.

(85) *tu vivliu$_i$ mu ipes pos dhiavases [$_{NP}$ t_i[$_{NP}$ enstasi[$_{DP}$ t_i [$_{DP}$[$_{NP}$ tis kritikis t_i]]]]]]]
the-gen book-genme said-2s that read-2s objection the-gen review-gen

(86) *Iz kojeg grada$_i$ je Petar kupio [$_{NP}$ t_i [$_{NP}$ 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 reader can verify that all other cases discussed above can be captured under the intermediate adjunction analysis. The current deduction of the Complex XP Constraint is thus compatible both with Chomsky's original labeling algorithm, and with the Takita, Goto, and Shibata's (2013) version of it which dispenses with label-resolution via traces. To indicate this, below I will use a neutral notation, collapsing the two analyses into one structure by using a mixed ?/segment notation, as in the Complex NP Constraint case in (87), where underline indicates a segment under the intermediate adjunction analysis.

(87) ??Who$_i$ did you hear [$_{?/\underline{NP}}$ t_i [$_{\underline{NP}}$ rumors [$_{?/\underline{CP}}$ t_i [$_{\underline{CP}}$ that [$_{IP}$ a dog [$_{vP}$ bit t_i]]]]?

3.2. Why are VPs different?

Having deduced the Complex NP/AP/PP Constraints we are ready to address the crucial question which we have started the discussion with. Why are VPs different? Why is it that there is no Complex VP Constraint, in contrast to the Complex NP Constraint, the Complex AP Constraint, and the Complex PP Constraint? An obvious answer presents itself in the current system. VPs are different due to the existence of vP. vP, where the external theta-role is assigned, is part of the thematic VP domain. Being the highest projection in this domain, only vP functions as a phase in this domain. There is then no need to move to VP in (5). To see why this is relevant, consider (88),

[34]It is worth noting that Erlewine (2014) adopts a definition of antilocality where A'-movement from SpecXP must cross a phrase other than XP. This is basically the result of the above discussion, though only for successive-cyclic movement (i.e. where the Spec is not created through feature-sharing/agreement). Note however, that under Erlewine's definition of antilocality the account presented here would be consistent with successive-cyclic movement involving traditional intermediate Specs (not adjunction or unlabelled projections).

focusing on the step of movement from the embedded to the matrix clause. In the marked structure, the embedded CP and the higher vP are phases, as the highest projections within their non-thematic/thematic domains. Movement then must pass through the edge of CP and vP, given the PIC, which can only be done by adjoining to CP/vP or by creating unlabelled projections, given **2**. Nothing goes wrong with this movement.

(88) How$_i$ did you $[_{?/\underline{vP}}$ t_i $[_{\underline{vP}}$ $[_{vP}$ think $[_{?/\underline{CP}}$ t_i $[_{\underline{CP}}$ that $[_{IP}$ a dog $[_{vP}$ bit John t_i]]]]]]?

A question arises here regarding subject raising to TP if the subject and v do not enter into feature-sharing.[35] Many authors have argued that the simple TP-over-vP structure is inadequate, i.e. that there is additional structure between vP and TP. Thus, many languages have intermediate verb movement, where the verb is lower than the finite verb in Romance, which is located in T, but higher than in English, where it is located in v (see Belletti 1990, Stjepanović 1998, Cinque 1999, Bošković 2001). Also, languages like Icelandic quite clearly have two distinct subject positions above the subject theta-position (see Bobaljik and Jonas 1996). The distribution of floating quantifiers also requires richer clausal structure (see Bošković 2004). There must then be additional structure between vP and TP. As a result, subject raising from vP to TP complies with antilocality.

3.2.1. Ergatives

The above analysis ties the exceptional behavior of VP with respect to the Complex XP Constraint to the presence of vP. There is rather strong evidence that the presence of vP (and the lack of a similar projection with NPs/APs/PPs; I return to the issue below) is indeed what is responsible for the exceptional behavior of VP regarding the Complex XP Constraint.

Recall that, in contrast to nouns, verbs allow extraction from their complements. Importantly, ergative verbs behave differently from other verbs in this respect. Consider (89)-(90), which involve extraction out of a non-clausal object. Significantly, (89) is clearly better than (90), which involves an ergative verb (the adverbs are added to control for the possibility of heavy NP shift).

(89) Who did they see (some) friends of t_i yesterday?
(90) ?*Who$_i$ did there arrive (some) friends of t_i last week?

Only argument extraction, which yields a weaker violation, can be checked with extraction from DPs. Belletti and Rizzi (1988), however, show that psych-verbs enter into ergative patterns. Since pysch-verbs can take clausal arguments adjunct extraction can then be checked (I discuss only ditransitives ergative psych-verbs here; for ergative verbs with a single clausal argument, see sections 4-5, where it is shown that they also exhibit Complex VP Constraint effects). Examples in (91)-(93) all involve uncontroversially ergative psych-verbs. Moreover, the clausal argument in these constructions has been argued to be located in the V-complement position (see e.g. Belletti and Rizzi 1988, Pesetsky 1995, Landau 2010). Importantly, both argument and adjunct extraction out of the clausal argument are degraded, the latter being significantly worse, as expected. ((93a) is from Uchiumi 2005. Uchiumi also gives **How does it bother [Bill to fix the car t]*. However, I focus on finite clauses in this section; infinitives will be discussed in section 4.)[36]

[35]It is actually not out of question that there can be feature sharing here (see Chomsky's 2013 discussion of German).

[36](91)-(93) may involve short V-movement, which has been argued to exist in English by many authors (even independently of v, see Johnson 1991). Notice, however, that the presence of vP in ergative constructions would actually make no difference given that the external theta-role is not assigned with ergatives, VP being the highest thematic projection; hence I will ignore below the issue of whether a non-theta-marking vP is present with ergatives.

While (91)-(93) involve uncontroversial ergative psych-verbs, there is controversy in the literature regarding the ergativity status of some psych-verbs. Pesetsky (1995) and Landau (2010) do not consider all Belletti and Rizzi's

(91) a. ??What$_i$ did it appeal to Mary [that John fixed t_i]?
b. *How$_i$ did it appeal to Mary [that John fixed the car t_i]?
(92) a. ??What$_i$ did it depress Mary [that John sold t_i]?
b. *How$_i$ did it depress Mary [that John was fired t_i]?
(93) a. ??What$_i$ does it bother Bill [that John underestimates t_i]?
b. *How$_i$ does it bother Bill [that John fixed the car t_i]?

There are also transitive ergative constructions that do not involve clausal arguments, which means only argument extraction (which yields weak, Subjacency-strength violations) can be checked in such examples. Importantly, Belletti and Rizzi (1988) observe that extraction from the direct object is degraded in such cases in Italian, and Roberts (1991) and Johnson (1992) show the same holds for English (see Herschensohn 1992 for French). This is illustrated by (94)-(95). (Legate 2003 uses *escape* as an example of a transitive ergative predicate; see also Pesetsky 1995, Landau 2010.)

(94) a. ??Who did your behavior bother the sister of?
b. cf. Who did you tease the sister of? (Johnson 1991)
(95) ?*Who did John's embarrassment escape friends of?

What we see here is the Generalized Complex VP Constraint at work: the Generalized VP Constraint effects thus emerge with ergative verbs. This leads me to posit a version of the Generalized NP Constraint for VPs too, modifying (49) as in (97) (the parenthesis part of (97) will be further discussed in section 3.2.2).

(96) The Generalized Complex ergative VP Constraint
Extraction out of complements of ergative verbs is disallowed.
(97) **The Complex XP Constraint** (where X ≠ non-ergative V)
Extraction out of complements of lexical heads is disallowed.

(96) in fact follows from the current system and is exactly what is expected if the presence of the thematic vP projection is responsible for the exceptional behavior of verbs with respect to the Complex XP Constraint.

Recall that the highest projection in the thematic domain of a lexical head functions as a phase. With ergative verbs, due to the lack of vP (or a theta-marking vP, see footnote 36), VP is the highest projection in the thematic domain of V, hence a phase (for evidence for phasehood of ergatives, see Bošković 2014, Harwood 2013, Legate 2003, Wurmbrand 2014). The difference between ergative and non-ergative constructions is then that VP is a phase in the former, but not in the latter. In light of this, consider extraction from the clausal complement of verbs. Recall that with the non-ergative verb in (88), there is no need to target VP; from CP *how* moves to vP, the highest phrase in the next thematic domain hence a phase. This movement does not violate antilocality.

(1988) ergative verbs to be ergative; thus, they consider *please* to be unergative, with a theta-marking vP. In principle, extraction could be used as a test to settle the debate. However, the results are not conclusive. Argument extraction (*What did it please Mary that John fixed*) is reported by my informants to be better with *please* than with *appeal* (though still somewhat degraded). However, adjunct extraction (*How did it please Mary [that John fixed the car t]*) is still disallowed. (Bennis 1986:315 considers argument extraction with *please* fine, and adjunct extraction as ??. Zaring 1994 reports both argument and adjunct extraction to be allowed with *please* in French with expletive *il*, but disallowed with *cela*). Notice, however, that Landau (2010) argues that the clausal argument of *please* is generated in SpecvP, but, in contrast to clausal complement arguments, it must undergo rightward movement given the requirement that vP-internal clausal arguments be sentence final (see his p. 103). We may then still have here an island configuration, though of a different type, which may account for the difference in the strength of the violation.

Consider now ergative (98). (I ignore here V-movement.) Since ergatives lack the thematic vP layer VP is the highest (and only) projection in the relevant thematic domain, hence a phase. Movement then must target VP in (98), in contrast to (88). This movement, however, violates antilocality.

(98) *How$_i$ did it [$_{?/VP}$ t$_i$ [$_{VP}$ appeal to Mary [$_{?/CP}$ t$_i$ [$_{CP}$ that [$_{IP}$ John [$_{vP}$ fixed the car t$_i$]]]]]?

Consider now ergative/non-ergative verbs taking DP complements. DP being a phase, in both examples below movement must pass through DP. The next step in (99) targets vP. However, since, in contrast to (99), VP is a phase in (100) as the highest projection in the relevant thematic domain, movement in (100) must pass through VP, which violates antilocality.[37] The different behavior of ergative and non-ergative verbs regarding the Generalized Complex VP Constraint, i.e. the contrasts in (88)-(98) and (99)-(100), is thus accounted for.[38]

(99) Who$_i$ did they [$_{?/vP}$ t$_i$ [$_{vP}$ [$_{VP}$ see [$_{?/DP}$ t$_i$ [$_{DP}$ [$_{NP}$ (some) friends of t$_i$]]]yesterday]]]
(100) ?*Who$_i$ did there [$_{?/VP}$ t$_i$ [$_{VP}$ arrive [$_{?/DP}$ t$_i$ [$_{DP}$ [$_{NP}$ (some) friends of t$_i$]]] last week]]]]

Recall now the crucial question which we have started the discussion with: why is it that there is no Complex VP Constraint, in contrast to the Complex NP Constraint and it turned out the Complex AP Constraint and the Complex PP Constraint. The answer to the question should be obvious now: the clue to the answer was provided by the existence of Complex VP Constraint effects with ergative verbs. The obvious difference between ergative and non-ergative verbs is the existence of vP with the latter. The above account has capitalized on that: we have seen that a particular approach to phases can provide a principled account of the different behavior of ergative and non-ergative verbs with respect to locality given the presence of vP with the latter. Generalizing this, the reason for the contrast between (5), which is acceptable, and (3), (31), (43c), as well as (91b), which are unacceptable, i.e. the reason for the different behavior of VP and NP/AP/PP with respect to the Complex XP Constraint, is then the presence of vP, i.e. the assignment of the external theta-role in a projection distinct from VP. There is then no such projection in the traditional NP, AP, and PP. nP/pP/aP have often been posited merely for the sake of uniformity with VP. But the fact is that there is no such uniformity across these domains regarding extraction.[39]

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[37]There is no issue in (i) under the standard analysis where the DP from which extraction occurs is theta-marked within the bracketed small clause.
(i) Who is there [a picture of on the wall]? (Stepanov 2007)

[38]*Ne*-cliticization is possible from the complement of ergative verbs (Belletti and Rizzi 1981), which raises no issues given the often adopted assumption that cliticization involves head-movement: head-movement always crosses a phrase. Regarding Belletti and Rizzi's (1981) observation that *ne*-cliticization is possible from ergative but not unergative contexts, we are dealing here with an issue that is independent of our concerns, namely the availability of head-movement out of Specs/adjuncts. It is often assumed such head-movement is impossible (see e.g. Baker 1988). But there is another perspective on this issue. There are numerous treatments of clitics in the literature. Suppose we adopt the analysis where clitics are base-generated outside of theta-positions, undergoing Agree with a null element in the theta-position (the locality of Agree here can be treated as in Legate 2005 or Bošković 2007). Since unergative subjects are most naturally treated as vP-adjuncts in the current system, the impossibility of *ne*-cliticization with unergatives then reduces to the standard assumption (see especially Boeckx 2003) that agreement into adjuncts is not possible (*ne*-cliticization is also disallowed from traditional nominal adjuncts, which is then unified with the impossibility of *ne*-cliticization from unergative subjects). A number of facts from the intricate *ne*-cliticization paradigm can be fruitfully examined under this analysis, which I do in work in preparation.

[39]It is obviously beyond the scope of this paper to evaluate arguments for or against the existence of these phrases in the literature (though see Nissenbaum 2014 for an interesting suggestion regarding how certain semantic facts for which aP was assumed can be analyzed without aP). The consequence of the current analysis is that if n/p/aP exist at all, they are not part of the thematic domain. In other words, n/p/aP could still exist, but they would not be assigning a theta role. (Note that assigning some theta-roles in SpecNP/AP/PP instead of the N/A/P-complement would not change anything for our purposes.) Another way of looking at the issue would be that there is vP, nP, pP, and aP, but that the VP domain also has VoiceP, where the external theta-role is assigned (it would not be assigned in vP/nP/aP/pP). The proposal in the

It may be worth noting here that under the current analysis, all the ungrammatical examples that instantiate the Complex XP Constraint involve a double-phase configuration, where a phasal head takes a phase as its complement. In fact, the configuration is very recalcitrant to extraction, leaving a very small window for it: only elements that are immediately dominated by a category projected by the lower phase (prior to the movement) can be extracted. We may in fact refer to this as the Phase-over-Phase theorem given that it follows from other mechanisms, namely an interaction of the theory of phases argued for here, the labeling algorithm, and antilocality.

3.2.2. CED effects

The analyses presented so far are compatible with both the intermediate-adjunction approach and the unlabelled intermediate projections approach. There is, however, a rather interesting additional consequence of the latter; in particular, the analysis also captures the ban on extraction out of subjects in SpecIP.[40] Consider (101).

(101) *I wonder who$_i$ [friends of t_i] left

Since subjects are phases (possibly only DPs), whatever moves out of a subject must first move to its edge. Given the cycle, this needs to happen before the subject moves from its base-position in vP. Since the moving element and D(P) are not involved in feature-sharing, as discussed above, we then end up with an unlabelled element, which moves and merges with IP, a non-head at this point (the subject is given in italics).

(102) … *[$_?$ who [$_{DP}$ subject]]* [$_{IP}$ I...[$_{vP}$

It seems natural to assume that at this point there can be no feature sharing between IP and the italicized element, given that the latter is unlabelled. The next step involves merger with C, with C, a head, projecting. The wh-phrase then targets CP. As should be obvious from (103), the movement violates antilocality. (After the movement, ?1 is labeled as DP and ?2 as IP (through feature sharing), but that is too late to save the derivation.)

(103) …C [$_{?2}$ *[$_{?1}$ who [$_{DP}$ subject]]* [$_{IP}$ I...[$_{vP}$

The system (i.e. the unlabelled intermediate projections approach) thus also captures the Subject Condition effect.[41]

The analysis may be extendable to the ban on extraction out of adjuncts (under both the intermediate adjunction and the unlabelled projections approach) if adjuncts are adjoined to complements of phasal heads, i.e. VP and IP. (104) gives the structure for the latter case. Assuming adjuncts are phases (CPs, DPs, or PPs), movement out of an adjunct has to target the adjunct, and then either vP or CP, which violates antilocality.[42]

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text is thus compatible with a variety of structures though the main insight remains essentially the same. (It is worth noting here that Riqueros 2013 observes that deverbal and non-deverbal nouns in Spanish do not differ regarding extraction out of their DPs (as well as a number of other phenomena). He also argues that a verbal element is merged at the N^0-level (because most verbal properties are suppressed with deverbal nouns) but only with some, not all deverbal nouns in Spanish (since they do not all allow passivization), which would not affect the points made in this paper.)

[40] For another recent perspective on the PIC, see Müller (2010).

[41] Extraction from subjects that remain at the vP-edge is still allowed (see Stepanov 2007 for relevant evidence).

[42] Following a number of authors, especially Stepanov (2001), wh-adjuncts that surface in SpecCP would not be base-generated in the same position as unmoved adjuncts (Stepanov argues they are not merged as adjuncts due to the presence of the Q-morpheme). There is another option here. Combining Cinque (1999) and the traditional adjunction analysis, adjuncts could be Specs of FP which is itself adjoined to VP or IP. This will allow movement of the adjunct

(104) $[_{CP}]_{?/\underline{IP}}$] K $_{\underline{IP}}$]

The current analysis thus captures the ban on extraction out of adjuncts in the same way as the ban on extraction out of subjects and the Complex XP Constraint.

The situation is, however, more complicated regarding adjuncts. Thus, Truswell (2010) observes that some adjuncts allow extraction. This can actually be captured in the current system if these adjuncts are not adjoined to complements of phasal heads. E.g., if an adjunct is adjoined to vP instead of VP, extraction out of it will not be banned. A broader question, however, remains: Why are most adjuncts adjoined to complements of phasal heads? (Why do most but not all adjuncts disallow extraction is really a question for everyone, the current account merely states it in a particular way.) Furthermore, adjuncts in ergative constructions require additional assumptions (a version of the FP analysis from footnote 42 would work), which would complicate the overall picture (hence they will not be discussed here).

3.2.4. Passives

I now turn to passives.[43] It should be noted at the outset that due to the wide range of proposals regarding how external theta-role absorption in passives is treated, which can be interpreted as either involving or not involving an additional projection in the thematic domain of the verb, the current theory does not make clear predictions regarding extraction with passives. However, it can be used to help establish the proper treatment of external theta-role absorption, i.e. as a tool to address the question of whether there is a theta-marking vP where the external theta-role is assigned in SpecvP in passive constructions. If there is, vP, not VP, will be the phase in passive constructions; if there isn't, VP will be the phase. Note that the issue here is not the existence of an additional projection with passives; it may well be there anyway; the question concerns the thematic status of this projection, including the precise mechanism of external theta-role absorption, which can be interpreted as rendering the relevant phrase non-thematic for our purposes due to the blocking of regular external theta-role assignment in its Spec. In other words, only the presence of a vP where the external theta-role is assigned in SpecvP will clearly void the phasehood of VP in passives.

It turns out that, like ergatives, passives behave differently from active non-ergative verbs regarding (49); they do seem to show Complex XP Constraint effects. Thus, there is a rather clear contrast regarding adjunct extraction from the embedded clause between active (105) and passive (106). The relevant contrast is significantly weaker with object extraction; still all my informants, who were specifically asked to compare the relevant constructions, prefer (107) to (108) (the judgments for (108) ranging from * to ?, see footnote 11 for a potentially interferring factor here). The PP object extraction example in (109) is clearly degraded. With subject extraction, the relevant contrast is again rather strong (see (110)-(111)).[44] [45]

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itself, but not extraction from the adjunct. On a par with movement out of subjects, movement out of an adjunct will first involve movement to the edge of the adjunct, creating an unlabelled element, call it X. Just like an unlabelled subject, X cannot be analyzed as a Specifier until the element at its edge moves away. As a result, the movement in question violates antilocality.

[43]Below I will avoid verbs like *say* that seem to be significantly bleached semantically under passivization if the external theta-role is not expressed.

[44]What is reported here is the initial data collection, where the informants were specifically asked to compare the relevant constructions (the informants, all linguists, included American, Brittish, and Canadian English speakers). It is possible, however, that there is speaker variation in this respect, i.e. that there are speakers without an active/passive contrast regarding extraction. Thus, Zaring (1994) gives *How$_i$ was it recommended [that we word the letter t_i]* as acceptable (though without explicit comparison with its active counterpart) while Troy Messick (p.c.) finds it unacceptable on the embedded clause reading and much worse than its active counterpart (see also Vikner 1995).

(105) How did they believe [that John hired her t]
(106) *How was it believed [that John hired her t]
(107) Who did they believe that John hired?
(108) ??Who was it believed that John hired?
(109) ?*To whom was it believed [that John spoke t]
(110) Who did they believe hired Mary?
(111) *Who was it believed hired Mary?

We may again have here the Generalized Complex VP Constraint at work (for additional cases, see sections 4-5). These cases can also be captured if, in contrast to active VPs, like ergatives, passives lack the thematic vP layer.[46] As the highest projection in the thematic domain VP then functions as a phase, hence movement must target VP in (113), in contrast to (112), which violates antilocality.[47]

Having speaker variation here would not be that surprising. As noted above, the existing proposals regarding external theta-role absorption in passives which can be interpreted as either involving or not involving an additional projection in the thematic domain. In fact, even particular proposals, e.g. Baker et al (1989), can be implemented either way while still keeping the structure itself constant, depending on how the details of the proposal are understood. This could be what is behind potential (if it does exist) speaker variation. (Another source of variation could lie in phase collapsing (which can be implemented through C-to-V movement, see Pesetsky 1992, Richards 1999), from section 3.3, or exceptional placement of clausal complements from section 5 (as noted in footnote 69, there is clearly speaker/language variation across CP complements of different predicates regarding the factors involved in this issue), which would void the locality effect. Another issue concerns Lasnik's 1995 claim that the object in passives undergoes short A-movement outside of VP (cf. *There was a man arrested t yesterday*); the sentence-final requirement on clausal arguments (Landau 2010) may make word order an unreliable test with clausal arguments). At any rate, it is clear that for many speakers actives and passives do differ regarding extraction in examples like (105)-(111). Since this pattern needs to be accounted for (it also seems more difficult to capture, nothing special would need to be said if actives and passives were not to differ in the relevant respect), in what follows I will focus on it. I leave determining whether there is real speaker variation in the relevant respect (and whether it is tied to other properties) for future research.

[45]As for ditransitives, the predictions are not clear even in the absence of a theta-marking vP. While the analysis where the objects are VP-internal predicts a locality effect with passive ditransitives in that case, some of the analyses from the small clause family (see Kayne 1984 for the original account), where the objects are generated in a small clause excluding the verb, do leave room for the absence of a locality effect with ditransitive passives (especially given the mechanism from section 3.3.). At any rate, passive ditransitives do seem to exhibit a locality effect. Adjunct extraction is ungramatical (ia-b). The status of object extraction is not completely clear, with some, although rather weak, degradation (ii). (As discussed in Bošković and Lasnik 2003, Stowell 1981, ditransitives generally resist subject extraction even in active forms, hence I focus on object/adjunct extraction. These authors also note that clausal ditransitives do not all behave in the same way regarding extraction even in active forms, another interfering factor which may indicate they should not all receive the same treatment. Consequently, I will not discuss them further here.)

(i) a. How did you tell John [that Peter hired her t]
b. *How was John told [that Peter hired her t]
(ii) a. What did you tell John [that Mary bought t]
b. ?What was John told [that Mary bought t]
c. ???To whom was John told [that Mary should speak t]

There are also some passive/active differences with non-clausal ditransitives (only argument extraction can be checked here).

(iii) a. *Who was that car given to friends of ?
b. ??Who did you give that car to friends of ?
c. ?Who was John given pictures of ?
d. Who did you give John pictures of ?

[46] It is worth noting that Müller (2014) observes the binding contrasts in German (i-ii), which can be interpreted as indicating that there is no usual argumental SpecvP in passives (the *by*-phrase could be a VP-adjunct).

(i) a. *Kein Student$_1$ glaubt [$_{CP}$ dass ~~DP~~$_{ext1}$ gut gearbeitet wird]
no student believes that well worked is
b. Kein Student$_1$ glaubt [$_{CP}$ dass ~~DP~~$_{ext1}$ [$_{PP}$ von ihm$_1$] gut gearbeitet wird]
no student believes that by him well worked is
(ii) a. *Er hat den meisten Lehren$_1$ erzählt [$_{CP}$ dass ~~DP~~$_{ext1}$ der Maria Bücher geschenkt warden sollen

(112) How did they [$_{?/\underline{vP}}$ t_i [$_{\underline{vP}}$ [$_{VP}$ believe [$_{?/\underline{CP}}$ t_i [$_{\underline{CP}}$ [that John hired her t]]]]]]]
(113) *How was it [$_{?/\underline{VP}}$ t_i [$_{\underline{VP}}$ believed [$_{?/\underline{CP}}$ t_i [$_{\underline{CP}}$ [that John hired her t]]]]]]]

3.2.2. French ergative/raising verbs

I now turn to French, which is interesting in that it has V-movement. Any language with V-movement outside of vP may not be a reliable testing ground for the ergative/non-ergative extraction distinction due to the possibility of object movement (in spite of the object following the verb, see footnote 47). Furthermore, as discussed in Bošković (2013b) (see den Dikken 2007, Gallego and Uriagereka 2007 for another perspective on the issue), head-movement can improve some locality violations. Depending on how the effect in question is exactly implemented, it may or may not extend to the French counterparts of examples like (90) and (106). In other words, V-movement languages like French need not necessarily behave like English regarding extraction from ergative/passive VPs (the behavior of French may actually bear on the precise formulation of the head-movement saving effect, see section 3.3. for some discussion)).

At any rate, it turns out French shows the same contrast English does regarding (89)-(90), as shown by (114)-(116), provided by Amélie Rocquet, who also provided the data in footnote 47. There is a rather clear contrast here between extraction from a transitive and an ergative/passive context, which indicates that V-movement does not improve such constructions.

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he has the most teachers$_{dat}$ told that the Maria$_{dat}$ books$_{nom}$ given are should
b. Er hat den moisten Lehren$_1$ erzählt [$_{CP}$ dass [$_{PP}$ von ihnen$_1$] ~~DP~~$_{ext}$ der Maria Bücher geschenkt warden sollen
he has the most teachers$_{dat}$ told that by themselves the Maria$_{dat}$ books$_{nom}$ given are should

[47]A question arises regarding LBE with ergative/passive verbs. LBE is possible in (ia), which however contrasts with (ib).

(i) a. Visok je čovjek došao/uhapšen juče.
tall is man arrived/arrested yesterday
'A tall man arrived yesterday/A tall man was arrested yesterday.'
b. ??Visok je došao/uhapšen čovjek juče.

There is an interfering factor here. Since SC does not have overt expletives and given the extreme freedom of word order in SC (both finite and non-finite verbs move in SC, and NPs are extremely free regarding movement possibilities (Stjepanović 1999 in fact argues they all move out of VP), I do not know of a way to ensure that extraction occurs while the affected element is in its base position (only in this case the extraction may be expected to be degraded). The best that can be done is an addition of an adverb, as in (ib) (see Belletti 1988). At any rate, there is a clear difference between (ia) and (ib). Also, *visok je došao/uhapšen čovjek* is better than (ib), which can be interpreted as a contrast involving extraction from a base and a rightward-movement position. (Note also that SC verbs have aspectual morphology which affects their thematic properties (see Todorović 2013). It is then possible that at least in some cases there are AspectPs in SC that belong to the thematic domain.)

The situation is also unclear with French *combien*-extraction. (The pattern also holds in the inversion strategy.)

(ii) Combien$_i$ il a consulté [$_{DP}$ t_i de livres]?
how-many he has consulted of books
'How many books did he consult?'
(iii) ?Combien$_i$ il est arrivé [$_{DP}$ t_i de livres]?
how-many there is arrived of books
'How many books did there arrive?'
(iv) ??Combien$_i$ il a été acheté [$_{DP}$ t_i de livres]?
how-many there has been bought of books
'How many books were there bought?'

If the object does not undergo movement (the main verb moves in all these examples, see Pollock 1988, Belletti 1990), what we are dealing with here is the issue of where *combien* is base-generated. I assume it is base-generated at the edge of some kind of +wh-D. If it is DP-adjoined, extraction from ergative/passive VPs will violate antilocality. However, if it is base-generated in SpecDP, no such violation should occur, since the first step of *combien*-extraction will cross a phrase, namely DP (long extraction will still be banned, given DP-over-NP structure, see section 3.3). There is some contrast between (ii) and (iii)-(iv), especially between (ii) and (iv). However, the contrast may not be strong enough to draw firm conclusions.

(114) A day after a parents-teachers meeting, the English (A) and the math teacher (B) are talking:
A: J'ai rencontré des parents d'élèves hier soir.
I have met indef.art.pl parents of pupils yesterday evening
'I met parents of pupils yesterday evening.'
B: Ah oui, (et) de qui/de quels élèves tu as vu les parents hier soir?
oh yes and of who/of which pupils you have seen the parents yesterday evening
'Oh, really?! (And) who/which pupils did you see the parents of yesterday evening?'

(115) A: Il est arrivé des parents d'élèves hier soir dans mon bureau.
there is arrived indef.art.pl parents of pupils yesterday evening in my office
'There arrived parents of pupils in my office yesterday evening. '
B: ??Ah oui, (et) de qui/de quels élèves il est arrivé des parents hier soir?
oh yes and of who/of which pupils there is arrived indef.art.pl parents yesterday evening
'Oh, really ?! (And) who/which pupils did there arrive parents of yesterday evening.'

(116) Context: Some parents didn't come to the parents-teachers meeting but the teachers would have liked to talk to them, so they decide to call them in.
A: ??Suite à la réunion, il a été convoqué des parents.
further to the meeting there has been called.in indef.art.pl parents
'Further to the meeting, some parents were called in.'
B: *Ah oui, (et) de qui/de quels élèves il a été convoqué des parents?
oh yes and of who/of which pupils there has been called.in indef.art.pl parents
'Oh, really ?! (And) Who/which pupils did they call in parents of?'

Consider now passives involving clausal arguments. There is a passive/active contrast with *dire* in (117)-(118) (the data are due to Isabelle Roy (p.c)): while (117) is clearly acceptable with adjunct modification of either the matrix or the embedded verb, (118) is much better if *comment* modifies the matrix verb.

(117) Comment ont-ils dit que Jean l'avait engagée?
'How did they say that John hired her?'

(118) Comment a-t-il été dit que Jean l'avait engagée?
'How was it said that John hired her?'

Zaring (1994:535) gives examples of this type with *remarqué, demandé, and constaté*: extraction from the embedded clause is impossible in all the examples below.

(119) ?*Comment a-t-il été remarqué que Suzanne traite son collègue
how has it been noticed that Suzanne treat her colleague
'How was it noticed that Suzanne treats her colleague?'

(120) ?*Comment a-t-il été demandé que tout le monde remplisse le formulaire?
how has it been requested that all the wold fill the form
'How was it requested that everyone fill out the form?'

(121) *Comment a-t-il été constaté que les délégués évitent les reposters?
how has it been noticed that the delegates avoid the reporters
'How was it noticed that the delegates avoid the reporters?'

However, Zaring also notes adjunct extraction is possible with *suggéré* when *suggéré* occurs with expletive *il*, though not with *cela*.

(122) Comment a-t-il été suggéré que nous refassions le programme?

how has it been suggested that we redo the program

(123) *Comment est-ce que cela a été suggéré que nous refassions le programme?
how Q it has been suggested that we redo the program
'How has it been suggested that we redo the program?'

This could be taken to indicate that not all passives should be treated in the same manner. The issue is obviously too complex to resolve here (especially from a crosslinguistic perspective). I merely note that among the number of additional factors (which are independent from the current system) that could be in play with passives noted in footnote 44 some are more suitable than others for capturing lexical variation across different verbs of the same language (see also footnote 69 and section 5 more generally).[48] At any rate, putting the additional complexities aside, although we are not dealing with a black-and-white issue, it seems clear that extraction out of clausal complements of passive verbs is more difficult than extraction out of clausal complements of active verbs.

3.3. Domain collapsing

In this section I observe a previously unreported exception to the Complex NP Constraint. In particular, Setswana does not display CNPC effects in examples like (2).[49]

(124) Ke m-ang yo o utlw-ile-ng ma-gatwe a gore ntša e lom-ile?
it C1-who C1Rel 2sgSM hear-Perf-Rel C6-rumor C6SM that C9-dog C9SM bite-Perf
"Who did you hear rumors that a dog bit?"

Setswana is a Bantu language where the noun precedes all other TNP-elements, which is analyzed in terms of N-to-D movement (see Carstens 2011). I suggest that what is responsible for the exceptional behavior of Setswana regarding the CNPC is in fact its N-initial word order, i.e. N-to-D movement. In particular, I suggest that in the case of a complex phase, i.e. a phasal projection headed by two phasal heads (due to the head-movement of the lower phasal head to the higher phasal head), we are dealing with phase collapsing: the two phases are collapsed into one (I assume that in the relevant configuration the raised head must be a sister to a segment of the higher head). As a result of N-to-D movement, the object DP in (124) is a complex phase, headed by two phasal heads, D and N. Since we are then dealing here with one phase, the NP itself is not a phase.[50] This means the wh-phase can move directly from CP to DP, which voids the antilocality violation that arises with extraction from the complex NP in English (2). The insensitivity of Setswana to the CNPC is thus accounted for.[51]

[48]Another relevant work is Roberts (2014), who argues that there are two different types of implicit arguments in passives, which could be correlated with the presence/absence of a theta-marking vP.

[49]I thank Irina Monich for collecting the Setswana data. Bulu and Swahili, also Bantu languages, pattern with Setswana in this respect.

[50]I assume there is a feature on the N and the D which drives the movement in question; this feature indicates the phasehood of the NP will be voided hence its complement is not sent to spell-out when N is merged (the issue actually would not even arise under Chomsky's 2001 assumption that only merger of a higher phasal head triggers the spellout for the lower phase or under the rescue-by-PF-deletion account from footnote 58).

[51]The analysis does not have any undesirable consequences for French (114)-(116) and English (91)-(93) although these examples involve V-movement. However, we are not dealing with a phase-collapsing configuration here since the verb does not move to a phasal head. Also, while it seems that the analysis has consequences for a hotly debated issue regarding affixal articles in Balkan and Scandinavian languages, namely whether they result from N-to-D moement or Prosodic Inversion in PF, this is actually not the case since without D-to-V+v movement (see the discussion below), the definiteness effect will still not be voided (at any rate, affixal definite article constructions in Bulgarian and Icelandic do show CNPC effects).

The analysis also has consequences for P-stranding. We have seen above that cases like (10) can be accounted for if there is an XP between NP and DP (see the discussion of (72)). However, XP is unnecessary if the reanalysis account of P-stranding is adopted and implemented in terms of P-incorporation (overt or covert), following a number of authors (e.g. Baker 1988, Landau 2010). Consider (125).[52]

(125) Who$_i$ did you see [$_{DP}$ t$_i$ [$_{NP}$ friends of$_j$ [$_{PP}$ t$_j$ t$_i$]]]?

Due to the movement of a phasal head to a phasal head we are dealing here with a phase collapsing configuration, where the two phases are collapsed into one. Phase collapsing should also hold for the PIC. Under the current approach to the PIC, what is visible from outside of a complex phase is then whatever is immediately dominated by a projection of either phasal head. NP in (125) is a complex phasal projection headed by two phasal heads, *friends* and *of*, a phase-collapsing configuration. *Who* in the P-complement is then accessible to D under the current conception of the PIC, which means that it need not move to the NP. There is then no locality violation in (125). Crucially, it is not necessary to posit an XP between NP and DP.

The analysis can be applied to other domains too. Galician has a rather interesting phenomenon of D-to-V incorporation which voids islandhood effects (see Uriagereka 1988, Bošković 2013b). To illustrate, Galician disallows movement from definite NPs. However, the violation is voided when D incorporates into the verb. (I assume that V moves to v, and D incorporates into the V+v head. Since traces do not count as interveners (see Chomsky 1995 for the general case and Bošković 1997 for head-movement (as well as Bošković 2011 for an account of the generalization), there is no locality violation here.)

(126) a. *e de quén$_i$ viche [$_{DP}$ o [$_{NP}$ retrato t$_i$]]?
and of who saw(you) the portrait
b. e de quén$_j$ viche-lo$_i$ [$_{DP}$ [$_{D'}$ t$_i$ [$_{NP}$ retrato t$_j$]]]?
and of whom saw(you)-the portrait
'so, who have you seen the portrait of?' (Uriagereka 1988)

Suppose that (at least some) traditional islands do not allow movement to pass through their edge, i.e. that this is the source of their islandhood.[53] The problem with (126a) is then that v cannot attract the wh-phrase without violating the PIC. Consider now (126b). As a result of D-movement, vP is a complex phasal domain, which means DP does not function as a phase here. Consequently, v can attract the wh-phrase from its base-generated position, given the PIC in (62). The contrast in (126) is thus unified with the lack of the CNPC effect in Setswana (124) and the P-stranding issue.[54]

The analysis might be extendable to exceptional cases like (6), repeated here, where the CNPC effect is voided (the following discussion is rather speculative).

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

[52]Note that only stranded Ps may reanalyze.

[53]I will not be concerned here with why this is the case; for an account see Takahashi (1994) (see also Stepanov 2001 for an application of the account to definite DPs which can be extended to the analysis of (126) proposed here under Chomsky's 2008 parallel-movement hypothesis).

[54]The CNPC effect is present even under D-incorporation (all the Galician data reported here were provided by Juan Uriagereka, p.c.), as expected given that D-incorporation does not affect the phasehood of NP, which is responsible for CNPC effect. (However, the presence of *de* is an interfering factor here).

(i) ??A quen escoitastede-lo conto de que trabou un can?
who hear(you)-the rumor of that bit a dog

As noted above, such cases have been treated in terms of lexically conditioned complex-predicate formation/reanalysis/incorporation. Suppose we adopt the last option, treating such cases as involving covert N+D-to-V+v movement.[55] Since the phasehood of both DP and NP is then voided (N-to-D voids the phasehood of NP, as in Setswana, and D-to-v voids the phasehood of DP, as in Galician), the wh-phrase can move from the CP directly to the vP. (127) is then expected to be acceptable. Recall now that, for an unclear reason, adjunct extraction is still impossible here; the adjunct in (7), repeated here as (128), cannot modify the most embedded clause.

(128) The reason why I am making the claim that the company squandered the money...

Interestingly, the same holds for Galician D-incorporation: adjunct extraction remains unacceptable even under D-incorporation.

(129) a. *Por quen escoitamos a descripcion.
by whom listened-we a description
b. *Por quen escoitamo-la descripcion.
c. *Segun quen escoitamos o evanxelio.
according-to whom listened-we the Gospel
d. *Segun quen escoitamo-lo evanxelio.
e. *Onde roubastedes a estatua.
where stole.you-guys the statue
f. *Onde roubastede-la estatua.

As discussed above regarding English (cf. (29)), NP-adjunct extraction is ruled out in DP languages (regardless of the definiteness of the DP) due to a locality effect. What is important here is that D-incorporation does not rescue it. While it is still unclear why adjunct extraction cases do not improve, the fact that the Galican case in (126) and the *make-the-claim* case in (127) behave in the same way in this respect can be interpreted as indicating that a uniform analysis is in order here.[56]

There is another case where reanalysis may be involved. Cinque (1990:38) observes argument extraction is possible in (130) (the same holds for PP arguments) and argues for Reuland's (1983) analysis where *on* and *to* are prepositional complementizers, just like *for* in (131), where argument extraction is also possible.

(130) a. What were you counting on him fixing?
b. What were you looking forward to fixing?
(131) What did you prefer for John to send?

Interestingly, in all these cases adjunct extraction is not possible; (132)-(133) disallow the embedded clause reading of the adjunct.

(132) a. How were you counting on him fixing the car?
b. How were you looking forward to fixing that car?
c. Why did you insist on sending that invitation?
(133) Why did you prefer for John to send that invitation?

[55]I assume involving *the* in this process voids the definiteness effect, as in Galician (126). In fact, the lack of a definiteness effect can be taken as evidence that not only the noun, but also the article, is involved in the reanalysis process.

[56]It is impossible to check whether head-movement improves adjunct extraction from complex NPs in Setswana because adjuncts in Setswana are not cleftable (which is the strategy used in wh-movement).

Recall I have suggested above (see footnote 14) treating (30)-(31) on a par with (127)-(128) for those who accept (30) but not (31). The above discussion of (127)-(128) can be applied to (30)-(31) for these speakers. If we follow Talić (2013) in assuming parallel structure for APs and NPs (where X_A is the adjectival counterpart of D), (30) will involve A+X_A-to-*is* movement (A-to-X_A actually suffices to void the locality effect if *be* is not involved in theta-marking).

The asymmetry can be interpreted as calling for a reanalysis-style account. Suppose we interpret the obvious intuition that *on* and *for* in (132)-(133) are both a complementizer and a preposition as indicating that (132)-(133) involve both a CP and a PP, with *on* and *for* moving from C^0 to P^0.[57]

(134) … [$_{PP}$ on/for$_i$ [$_{CP}$ t_i …

We are then dealing here with a ComplexXP configuration with P taking a CP complement, just as in (43)-(45). Extraction in this context yields a locality violation for the reasons discussed above. However, the violation is voided in (130)-(131) due to the reanalysis, i.e. C-to-P movement, as a result of which movement out of the CP need not target the CP.

(135) What$_j$ were you counting [$_{?/\underline{PP}}$ t_j [$_{\underline{PP}}$ on$_i$ [$_{CP}$ [$_{C'}$ t_i [$_{IP}$ him [$_{?/\underline{vP}}$ t_j [$_{\underline{vP}}$ fixing t_j]]]]]]]?
(136) What$_j$ did you prefer [$_{?/\underline{PP}}$ t_j [$_{\underline{PP}}$ for$_i$ [$_{CP}$ [$_{C'}$ t_i [$_{IP}$ John to [$_{?/\underline{vP}}$ t_j [$_{\underline{vP}}$ send t_j]]]]]]]?

Just as in the case of *make-the-claim* and Galician D-incorporation, the rescuing effect fails with adjunct extraction, suggesting a unified analysis may be in order. The reanalysis (i.e. phase collapsing) account thus enables us to capture the intuitition that *on/for* in this kind of examples are both complementizers and prepositions as well as the selectivity of the rescuing effect.[58]

It should be noted that phase collapsing is similar to phase sliding/extension (den Dikken 2007, Gallego and Uriagereka 2007, Wurmbrand 2013a), where head-movement extends the phase to the next projection, and can be considered to belong to the same line of research. In fact, phase sliding/extension would also void the phasehood of NP in (124). However, phase sliding/extension is a more powerful mechanism; any head-movement of a phasal head voids the phasehood of its maximal projection, also making the phrase where the head-movement lands a phase (even if it otherwise is not a phase). Phase collapsing is much weaker: it cannot turn a non-phase into a phase, and voids the phasehood of HP under head-movement of H only if H moves to another phasal head. While determining which approach is more appropriate in capturing the effect of head-movement on phasehood (for yet another approach, see Bošković 2013b) goes beyond the scope of this paper, I merely note that phase sliding/extension but not phase collapsing has an undesirable effect in that it would void the locality effect in English examples like (91)-(93) and the French cases from the previous section due to the head-movement of the verb in these examples.

To summarize section 3, the Complex XP Constraint also holds for VPs in ergative and passive contexts.[59] I have proposed a deduction of the Generalized XP Constraint where the reason

[57]An alternative with the same effect would be to adopt Pesetsky's (1992) C-to-V incorporation and assume that only prepositional complementizers can incorporate into the V+v complex. This analysis would not require a PP but would still void the phasehood of the infinitive.

[58]The adjunct effect may suggest a unification with the well-known rescuing effect of ellipsis on locality violations.
(i) Mary met a student who solved some problem, but I'm not sure exactly which problem ~~Mary met a student [who solved t]~~
Working within the system where locality violations induce *-marking which can be rescued under deletion of the *-marked element, Bošković (2013b) argues PIC/antilocality violations involve *-marking of the relevant phasal head. If the head undergoes movement, the *-marked element (copy in the base position of the phasal head) is deleted in PF under copy deletion, hence we get a rescue-by-PF-deletion effect. The phase-collapsing effect can be stated in these terms. Interestingly, adjunct movement has been claimed not to be subject to rescue-by-PF-deletion. Thus, Lasnik and Park (2011) give (ii), where sluicing does not improve the violation adjunct movement induces (in contrast to argument movement in (i); see, however, Abels 2011 and Barros, Eliot, and Thoms 2014 for a different view on Ross's effect).
(ii) *Mary met a student who solved the problem somehow, but I'm not sure exactly how ~~Mary met a student [who solved the problem t]~~

[59]Under the current analysis, object movement is still not expected to target the passive/ergative VP phase. A number of arguments for phasehood of passives/ergatives from the literature involve PF phenomena such as ellipsis and stress assignment (see e.g. Bošković 2014, Legate 2003) which need not involve such movement hence can be easily accommodated. Legate does, however, present arguments involving movement through the edge of passive/ergative VP

for the lack of its effects in other VP contexts is the presence of vP. The deduction was based on an approach to phases where the highest projection in the thematic domain of every lexical head as well as the highest projection in the functional/non-thematic domain function as phases. As in Chomsky (2000), this makes vP and CP (as well as DP) a phase; however ergative VP as well as NP, AP, and PP are also phases.[60] Since VP functions as a phase only in some contexts (when not dominated by vP), the current approach belongs to the contextual phasehood line of research. I have also proposed a new approach to the PIC where what is accessible to operations outside of phase HP is what is immediately dominated by a projection of H, which means that the complement of X is also accessible outside of HP. This follows the spirit of Uriagereka's (1999) original proposal regarding multiple spell-out, where X that is sent to spell-out is still accessible for syntactic operations, but nothing within X is. Another ingredient of the proposed analysis was Chomsky's (2013) labeling algorithm, where I also considered the possibility of modification of the original algorithm which leads to treating successive-cyclic A'-movement as involving intermediate adjunctions, not Specifiers. I have also proposed the mechanism of phase collapsing, where head-movement of a phasal head to another phasal head results in the collapsing of two phasal domains into one.

4. Infinitives as non-V complements

I now turn to infinitives. It should be noted at the outset that infinitives cannot really be used to test the phasal approach argued for here. It is well-known that infinitives are more porous than finite clauses regarding many phenomena (see e.g. (170)-(172)). It would be rather easy to implement this porousness of infinitives in such a way that extractions which are disallowed with finite complements are allowed with their infinitival counterparts. Consequently, instead of using infinitives to test the current approach to phases I will attempt to use the latter to test various options for the structure of infinitival constructions (both infinitives themselves and the structure right above them) as well as different proposals regarding the phasal status of various infinitives. Doing this will lead us to examine extraction patterns (more precisely, interactions between extraction and other properties of infinitives) that are rarely discussed in the literature, probably because their grammaticality status was taken for granted even in the absence of actual investigation. We will see that a close investigation of these extraction patterns leads to rather surprising results. It should, however, be noted that some of the data discussed in this section are rather intricate; there in fact seems to be genuine speaker variation regarding some of the extraction patterns discussed below (as noted below, there are conflicting factual claims in the literature even with respect to the basic patterns of extraction from infinitives). While an attempt will be made to make some sense out of it, it is not possible to fully capture speaker variation in the work of this

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phases. Several of her arguments are crucially tied to rather specific assumptions concerning particular analyses of the relevant phenomena which may not be necessary. The one concerning (i) is, however, more general. Legate argues (i) indicates that there is movement through the edge of the passive, indicated with __; in that position the quantifier can bind the variable in (ia) without violating condition C.

(i) a. [At which of the parties that he_i invited $Mary_j$ to] was every man_i __ introduced to her_j

b. *[At which of the parties that he_i invited $Mary_j$ to] was she_j __ introduced to every man_i

Recall, however, that even disregarding vP, there is more than one projection in the inflectional domain between VP and CP. Intermediate quantifier float (see Sportiche 1988, Bošković 2004) indicates that at least A-movement can target these projections. The same may hold for A'-movement. This is actually not necessary for (ia). We may simply be dealing here with the QR of the subject, which is responsible for its wide scope in *What did everyone buy* (i.e. the well-known fact that a subject QP can scope over a QP in SpecCP).

[60]This is the case when N/A/P assign a theta-role, as in all the examples considered here. The approach could be easily adjusted to have NP/PP/AP function as phases even when no theta-role is assigned within these projections (by using a lexical/functional, not a thematic/non-thematic division). Since the issue is not relevant to our current concerns (movement, which is what this paper deals with, requires richer structures), I put it aside here.

scope. Rather, the goal here is more modest, which is simply to set the stage for future, more detailed examinations.

4.1.Control infinitives as complements of non-verbal predicates

I will start with Li's (1993) observation that in contrast to verbal control infinitival complements, adjunct extraction is banned from non-verbal control infinitival complements, as in (137).

(137) *How did he witness an attempt [to fix the car t]?
(138) How did he attempt [to fix the car t]?

Argument extraction from non-raising non-verbal infinitival complements is fine according to Li, but Chomsky (1973) considers it unacceptable based on examples like (139). My informants display variation regarding examples like (140). Most of them find it at least slightly degraded but some do find it acceptable. What maybe an issue here is that some islands are generally weakened with infinitives. Thus, for an unclear reason, for most speakers the wh-island effect is completely voided with argument extraction from wh-infinitives (141) 9this may hold even with PPs, as in Cinque's 1990:52 *To whom did you wonder what to give*), although such cases seem to involve the same configuration in the relevant respect as their finite counterparts and the effect in question is found with adjunct extraction, as in **How/Why do you wonder [whether to buy a house t*]. Another potentially interfering factor with argument extraction in at least some cases concerns the issue noted above regarding (6)-(7), [61] i.e. complex-predicate formation or more generally phase collapsing (see section 3.3);[62] as noted above, these issues do not arise with adjunct extraction. Given the unclear status of argument extraction out of non-verbal infinitival complements (and the interfering factors), in what follows I will put it aside (apart from a few remarks in footnotes), assuming that for those who find such extraction acceptable we are dealing with the same effect as in argument extraction out of wh-infinitives or other issues noted above. (Nothing special needs to be said regarding speakers who find such extraction degraded). I will therefore focus on adjunct extraction, which, as noted above, is not possible out of non-verbal control infinitival complements. Additional examples are given in (142)-(143).

(139) *Who will they obey/okey any requests to kill? (Chomsky 1973)
(140) (??) What did John witness (several) attempts to topple?
(141) What do you wonder whether to buy?
(142) *How were you proud to learn English?
(143) a. *How does Bert have a plan to fix the car?
b. *How is Bert able to fix Ernie's car? (Li 2003)

Such cases (i.e. non-raising infinitives) can be handled easily. They instantiate the general pattern of the Complex XP Constraint and can be accounted for in the same way as other instances of (49). It is standardly assumed that control infinitives are phases. Then, *how* in (144) has to move to the edge of the infinitive; the next step involves movement to NP/AP, which violates antilocality. (InfP, used for ease of exposition, stands for whatever the category of the infinitive is; see Wurmbrand 2013b, 2014.)

[61]Ross's (1967:140) *the money which I will have a chance to squander amounts to $400,000* is such a case (like (6)).
[62]Note in this respect Pesetsky's (1992) analysis of *John was believed to know French*, where the infinitive is a CP, with the null C incorporating into the verb (see also footnote 66). The phase-collapsing analysis may actually be applicable to infinitival wh-islands. It could be that there is a phrase above the wh-CP (which is clearly found in many languages, e.g. Spanish) whose head incorporates into V, or that the C itself moves to V.

(144) a. *How$_i$ does Bert have a [$_{\underline{NP}}$ t$_i$ [$_{\underline{NP}}$ plan [$_{\underline{InfP}}$ t$_i$ [$_{\underline{InfP}}$ [to fix the car t$_i$]]]]]
b. *How$_i$ is Bert [$_{\underline{AP}}$ t$_i$ [$_{\underline{AP}}$ able [$_{\underline{InfP}}$ t$_i$ [$_{\underline{InfP}}$ [to fix Ernie's car t$_i$]]]]]

4.2. Raising infinitives

Consider now raising infinitives, which allow adjunct extraction.

(145) How is John likely [to fix the car t]

This is expected under Chomsky's (2000) claim that, in contrast to control infinitives, raising infinitives are not phases, the reason being that control infinitives are CPs while raising infinitives are IPs and only CPs are phases. Given this, *how* need not move to the edge of the infinitive in (145), in contrast to (144). As a result, the violation that occurred in (144) does not occur in (145).

In contrast to Chomsky (2000), for Bošković (2014) and Wurmbrand (2014) the infinitive in (145) should be a phase even if it is an IP. There, the highest projection in the clausal domain functions as a phase. As a result, both the infinitive in (137) and the infinitive in (145) should be phases regardless of their categorial status. Both of these approaches regarding the phasal status of infinitives can be in principle incorporated into the current phasal system, though Chomsky's would require a modification, where the highest projection in the thematic domain and CP would function as phases (DP would be the nominal counterpart of CP hence treated in the same way). (145) seems to favor Chomsky's position regarding the phasal status of raising infinitives. The situation is, however, not completely clear. There is some controversy in the literature regarding the lexical/functional nature of raising predicates (see e.g. Cinque 2006, Wurmbrand 2001, Takahashi 2011) as well as their status as theta-role assigners. If these predicates are not fully lexical, or do not assign true theta-roles (such an analysis could be particularly appropriate for epistemic elements like *likely*), they should not be starting a new (thematic) phasal domain. In other words, the projection headed by *likely* in (145) then would not be a phase, hence no locality violation would occur in (145) with the movement of *how* regardless of the phasal status of the infinitive.

A closer scrutiny, however, reveals that adjunct extraction from raising infinitives is actually not possible. Li (2003) does not discuss passive raising infinitives (i.e. contexts where the higher verb is a passive). Such cases actually behave differently from (145). Recall that extraction is not possible out of the finite complement of passive *believe*, in contrast to active *believe*. Raising passive *believe* patterns here with passive *believe* that takes a finite complement ((148) may even be worse than (147). See (169) for another case of unacceptable extraction out of a passive infinitive.)[63]

(146) How$_i$ did they believe [that John hired her t$_i$]?
(147) *How$_i$ was it believed [that John hired her t$_i$] ?
(148) *How$_i$ was John believed [to have hired her t$_i$]?

This can be accounted for in the current system if raising infinitives are phases, as in Bošković (2014) and Wurmbrand (2014), where the highest projection of raising infinitives is a phase because it is the highest projection in the clausal domain. (148) can then be accounted for in the same way as (147) (cf. (113)). Due to the lack of (theta-marking) vP *how* has to move from the infinitive to the VP, which violates antilocality.

[63]The same seems to hold for object extraction (in spite of the interfering factors with argument extraction noted in the beginning of this section. I will discuss subject A-movement below.)
(i) ?*To whom$_i$ was John believed [to have spoken t$_i$]?

(149) *How$_i$ was John [$_{?/\underline{VP}}$ t_i [$_{\underline{VP}}$ believed [$_{?/\underline{InfP}}$ t_i [$_{\underline{InfP}}$ [to have hired her t_i]]]]]?

As for other raising infinitives, although it is standardly assumed that they allow adjunct extraction the facts indicate that they do not, in spite of the lower clause reading of the adjunct in (145). A number of authors have argued that traditional raising infinitives are ambiguous between the raising option and the control option, in this respect see especially Lasnik and Saito (1992) and Martin (1996, 2001). As discussed there, there are several ways of disambiguating such predicates. The most straightforward way of disambiguating them in favor of the raising option is to use expletive *there*, since expletive *there* cannot function as a controller. Surprisingly, such disambiguation affects adjunct extraction. Thus, the embedded clause reading of *how* is not available in (150)-(151) (more precisely, it is much more difficult to get it in (150)-(151) than in (145). Note I give judgments only for the embedded clause reading of *how*.)

(150) *How$_i$ is there likely [to arrive someone t_i tomorrow]?
(151) *How$_i$ does there seem [to have arrived someone t_i]?

This indicates adjunct extraction is not possible from raising infinitives. (152)-(153) confirm this conclusion. Martin (2001) argues that the control option for *seem* is more salient in the past tense than in the present tense. Significantly, the embedded clause reading of *how* is easier to obtain in (153) than in (152).

(152) ??How$_i$ does John seem [to have hit Bill t_i]?
(153) How$_i$ did John seem [to have hit Bill t_i]?

Idiom chunks behave like expletives. A word of caution is in order here however. Since there are verbs that disallow expletive subjects and scope ambiguities of the kind illustrated in (159) but still allow idiom chunks as subjects (see Zubizarreta 1983, Rochette 1988), idiom chunks should not be taken as a fully reliable diagnostic of raising, i.e. they are less reliable than expletives and scope ambiguities (hence might be more likely to show speaker variation). Still, the embedded clause reading of *how* is not available in (154), with an idiom-chunk subject.

(154) a. *How$_i$ is the hatchet likely [to be buried t_i]?
b. *How$_i$ is advantage likely [to be taken t_i of Mary]?

Furthermore, passive *believe* patterns with raising predicates regarding both expletives and idiom chunks; neither of these allow the embedded clause reading of *how*. ((157) allows it.)[64]

(155) a. *How$_i$ was the hatchet believed [to be buried t_i]?
b. *How$_i$ is advantage believed [to be taken t_i of Mary]?
(156) *How$_i$ was there believed [to have arrived someone t_i]?
(157) How$_i$ did Peter believe [John to have kissed Mary t_i]?

Also relevant is the following example noted by Troy Messick (p.c.).

(158) How$_i$ is someone likely [to fix the car t_i]?

[64]There is also some degradation (though, not surprisingly, much weaker than with adjuncts) with argument extraction.
(i) ?*Of whom was advantage believed to have been taken?

Subject reconstruction is the standard control/raising test, being available only with raising (see also (159)-(160) and Martin 2001 for discussion of this test in the context of the dual analysis of *likely*). The subject must have wide scope in (158) (i.e. the embedded clause reading of *how* makes the narrow scope reading of the subject more difficult to get), which confirms that adjunct extraction from the infinitive forces the control option.

Consider also (159)-(161) ((159)-(160) are taken from Martin (2001)).

(159) Some senator is likely to lie to every member of his committee.
(160) Some senator tried to lie to every member of his committee.
(161) How$_i$ is some senator likely [to lie to every member of his committee t_i]?

While (159) is ambiguous, (160) is not: in contrast to (159), the subject must take wide scope in (160). (159)-(160) illustrate the well-known raising/control asymmetry regarding scope reconstruction (see May 1985). Interestingly, the subject must take wide scope in (161) (more precisely, the low scope reading of the subject is more difficult to get in (161) than in (159) on the embedded clause reading of *how*), which confirms that adjunct extraction from the infinitive forces the control option.

All these facts can be accounted for if the highest projection in the clausal domain functions as a phase regardless of its categorial status. Under this approach, both control and raising infinitives are phases regardless of their categorial status. Consider traditional raising verbs like *seem* in light of this. Martin (1996, 2001) argues that on the control option, *seem* is an agentive predicate, with the subject receiving an agent theta-role (the precise theta-role actually does not matter for our purposes). This means there is a vP above VP on the control option, as in (162). As a result, no problem regarding extraction arises on this option, which is responsible for the grammaticality of (153). (Only the relevant traces are shown.)

(162) How$_i$ did John [$_{?/\underline{vP}}$ t_i [$_{\underline{vP}}$ [$_{VP}$ seem [$_{?/\underline{InfP}}$$t_i$ [$_{\underline{InfP}}$ PRO to have hit Bill t_i]]]]?

On the raising option, *seem* does not assign the external theta-role. This means VP is a phase in this case, hence adjunct extraction violates antilocality.

(163) *How$_i$ does there [$_{?/\underline{VP}}$ t_i [$_{\underline{VP}}$ seem [$_{?/\underline{InfP}}$$t_i$ [$_{\underline{InfP}}$ to have arrived someone t_i]]]]?

The dual behavior of *seem*, including the blocking effect of the raising option on adjunct extraction, can then be captured in a phasal system where the highest projection in any thematic/non-thematic domain functions as a phase. In fact, the facts under consideration can be interpreted as further confirmation of the existence of the Generalized Complex VP Constraint which holds only for the contexts where the verb does not assign the external theta-role, as well as the analysis of (49) presented here.

As for "raising" adjectives like *likely*, they can be straightforwardly handled on the raising option, which, as shown above, disallows extraction. (164) is ruled out by antilocality on a par with (163), i.e. two are handled in the same way.

(164) *How$_i$ is there [$_{?/\underline{AP}}$ t_i [$_{\underline{AP}}$ likely [$_{?/\underline{InfP}}$ t_i [$_{\underline{InfP}}$ to arrive someone t_i tomorrow]]]]?

What about the control option? The obvious possibility is that *likely* is verbalized here. Li (2003) in fact suggests that adjectives like *likely* are reanalyzed as verbal here. Since the external theta role is assigned, there is then an additional thematic projection, on a par with the situation found with verbs.

4.3. Expletive *it* with arbitrary control/*for* infinitives

Turning to arbitrary control infinitives with expletive *it*, in contrast to control infinitives like (165), extraction is degraded with control infinitives with expletive *it*, as shown in (166).

(165) How did John [$_{vP}$ [$_{VP}$ try [$_{InfP}$ PRO to fix the car t_i]]]]
(166) a. *How$_i$ is it possible [$_{InfP}$ PRO to fix the car t_i] (Uchiumi 2005)
b. *How$_i$ is it time [$_{InfP}$ PRO to fix Earnie's car t_i] (Li 1993)
c. *How$_i$ is it desirable [$_{InfP}$ PRO to pass the exam t_i]

Uchiumi (2005) observes that some speakers allow arbitrary PRO with *likely*. Interestingly, even for these speakers extraction from the infinitive is unacceptable.

(167) a. (*)When the numbers are so big, it is likely to underestimate costs out of confusion.
b. *When the numbers are so big, how$_i$ is it likely [$_{InfP}$ PRO to underestimate costs t_i] (Uchiumi 2005)

Li (1993) gives several examples where expletive *it* co-occurs with an adjective+*for*-infinitive, observing extraction is not possible from the infinitive in examples like (168). Passivized infinitives with expletive *it*, which were not discussed by Li, also disallow adjunct extraction (169) (see section 3.3. for another factor that may be involved in *for*-infinitives).

(168) *How is it possible/likely [for Bert to fix Ernie's car t]? (Li 1993)
(169) *How$_i$ was it arranged [for John to leave t_i]

All this is expected. Since, in contrast to the control infinitive in (165), the external theta-role is not assigned in the matrix clause of other infinitival examples discussed in this section (even if the adjectives are verbalized here), the subject of these clauses being an expletive. The thematic layer of the matrix clause then comprises only one projection, which functions as a phase. Movement must proceed from the edge of the infinitive to the edge of the phrase above it, violating antilocality.

4.4. Subject raising

An interesting question now arises regarding the subject of ambiguous raising/control predicates. Given that *likely* and *seem* are ambiguous between control and raising it appears that the simplest situation regarding subjects would be that such predicates are always control predicates when they have a lexical subject, and raising predicates when they have an expletive subject; there would then be no ambiguous constructions, each *likely/seem* construction being unambiguously raising or control. Most importantly, the subject would never be moving from the infinitive (see Bošković 2007 for evidence that expletive subjects do not undergo raising). This, however, will not work because of examples like (159), where, in contrast to (160), the embedded quantifier can take wide scope. This indicates the raising option, which allows scopal reconstruction of the subject, is available here. Also relevant are examples like (148) where the matrix subject should be generated in the embedded clause for theta-theoretic reasons. A similar consideration holds for (154)-(155).

How can we then account for the fact that subjects can move out of raising infinitives, while adjuncts cannot? The labeling mechanism actually captures the discrepancy rather straightforwardly (the following departs from Chomsky 2013). Let us adopt the standard assumptions that raising infinitives are TPs and that there is phi-feature sharing between the subject of such infinitives and the infinitival head. As discussed above, any movement out of a raising infinitive must pass through the edge of the infinitive. However, since only subjects of such infinitives undergo feature-sharing with the infinitival head, only subjects can merge as SpecIPs, adjuncts cannot—they have to merge

as IP-adjuncts or via an unlabelled projection. Since the next step of movement targets VP/AP, we get an antilocality violation with adjunct movement, but not with subject movement.

There is an alternative that does not rely on feature-sharing between the subject and the infinitival T, which Chomsky (2013) does not adopt.[65] Kayne (1981) argues raising adjectives involve *be*-adjective reanalysis (see footnotes 14 and 56). As discussed above, the reanalysis would void the locality effect for subject extraction, but not for adjunct extraction. Kayne's reanalysis is adjective specific but it can be modified to extend to raising verbs. One option is a general infinitival verb-raising verb/adjective reanalysis. But there is a more interesting option here. A number of authors have argued that ECM/raising infinitives are CPs (see Bošković 2007 and references therein and (170) for one relevant argument). Furthermore, Pesetsky (1992) argues that such infinitives are CPs whose null C incorporates into the verb. Given the mechanism from section 3.3., this will void the locality effect for subject raising but not for adjunct movement.[66]

Recall, however, that infinitives are quite generally more porous regarding movement than finite clauses. This especially holds for A-movement: A-movement is freer out of infinitives than it should be. Thus, while A-movement is standardly assumed to be disallowed out of CPs, it is quite clearly allowed out of infinitival CPs (see Bošković 2007 and references therein), as shown by (170)-(172).[67]

(170) a. Who did you expect your mother all to meet at the party?
b. *Who did you arrange for your mother all to meet at the party? (McCloskey 2000)

(171) John to Bob$_i$-o otagai$_i$ -no titioya$_j$-ga [$_{CP}$ PRO$_j$ t$_i$ rikaisiyoo to] kokoromita.
John and Bob-acc. each other's fathers-nom understand C attempted
'John and Bob, each other's fathers attempted to understand.' (Nemoto 1991)

(172) He seems for to have left early.

There is then something more general that makes infinitives more porous for A-movement than they should be, which may be interfering with the attempt made here to situate infinitives within the current system and may in fact be responsible for the exceptional behavior of raising from infinitives.

To summarize, the discussion in this section has provided evidence that both control and raising infinitives are phases, as expected in an approach where the highest projection in the clausal domain is a phase regardless of its categorial status, as well as additional evidence for the dual

[65]The feature-sharing analysis also requires confining the IP/wh-feature interaction from section 5 to finite IP.

[66]As discussed in Bošković (2007), under the CP analysis subject movement may proceed through the CP, not the TP edge--raising infinitives need not have the traditional EPP property. This opens up another option: it is possible that raising/ECM infinitives involve a CP headed by a null prepositional complementizer, in which case they can be treated like other such infinitives from section 3.3, as involving a PP above CP with C-to-P movement. Given the current definition of the PIC and phase collapsing, V can attract the CP-edge element directly without violating the PIC (see the discussion of (125)).

(i) [$_{?/\underline{AP/VP}}$ t$_i$ [$_{\underline{AP/VP}}$ A/V [$_{PP}$ C$_j$ [$_{?/\underline{CP}}$ t$_i$ [$_{\underline{CP}}$ [$_{C'}$ t$_j$ ....

The labeling account and the reanalysis account may make different predictions regarding object wh-movement out of raising infinitives; we may expect to find an effect here (though the general infinitival island-weakening effect could be interferring) under the former but not under the latter. The status of object extraction is not completely clear though there could be a locality effect in this case (see footnotes 63 and 64).

[67]For a more general recent discussion, see Wurmbrand (2013b). West Ulster English (170) involves floating of *all* under wh-movement (of *who*), which is allowed in West Ulster English. McCloskey (2000) observes that given that *your mother* is in the infinitival SpecTP and *to* in T, there is no space for wh-movement to float *all* in (170)b. *Your mother* then cannot be in the infinitival SpecTP in (170)a. McCloskey argues that *your mother* undergoes object shift, with *all* floated in the infinitival SpecCP. This means that (170)a involves A-movement out of an infinitival CP. This is also the case with Japanese (171), where the element moved out of an infinitive with an overt C binds an anaphor. Belfast English (172) involves an overt C raising infinitive. Messick (2012) shows that *tough*-infinitives also involve A-movement out of CP.

raising/control analysis of traditional raising predicates. It was shown that unambiguous raising cases are more opaque for extraction than unambiguous control cases. Expletive *it*+arbitrary PRO/*for*-infinitives pattern with the former. The labeling algorithm adopted here (reanalysis being an alternative) accounts for the fact that subjects can undergo A-movement out of raising infinitives (in contrast to A'-movement of adjuncts, which is disallowed).

5. Extraposed clauses

I now turn to finite extraposed clauses. Many such cases disallow extraction. Thus, Uchiema (2005) observes argument extraction is disallowed out of extraposed clauses like (173) based on (174).[68] The same holds for adjunct extraction, as in (175).

(173) It is possible that John underestimates the value of his house.
(174) ?*What is it possible that John underestimates?
(175) *How is it possible that John will fix the car?

Nothing special needs to be said to account for this in the current system.

For some speakers this pattern holds for all extraposed clauses. However, the data reported in the literature indicate that at least for some speakers not all extraposed clauses display this kind of behavior. This is e.g. the case with *likely* and *seem*.

(176) It is likely/seems that John bought a house.

For some speakers, such extraposed clauses allow extraction, but not for all elements. There is a subject/object asymmetry (see Kayne 1984, Stowell 1981, Bošković and Lasnik 2003): objects can move (177)/(179), but subjects cannot (178)/(180). Adjuncts pattern with objects, as in (181)-(182) (see Bošković and Lasnik 2003. Recall this pattern does not hold for all speakers; thus Troy Messick (p.c.) finds all the cases of extraction in (177)-(182) degraded.)

(177) What is it likely (that) John bought?
(178) *Who is it likely bought a house?
(179) Who does it seem that Mary likes?
(180) ?*Who does it seem likes John?
(181) How is it likely [(that) John fixed the car t]?
(182) How does it seem [(that) John fixed the car t]?

These extraposed clauses display conflicting behavior from the current perspective. (From now on, I will use the term extraposed clause to refer only to clauses that evince this type of behavior, focusing therefore on the speakers for whom the pattern in (177)-(182) holds.) Objects/adjuncts can move out of them, which appears unexpected from the current perspective. Subjects, on the other hand, cannot move, which seems to fit well with the current system. What do we make of this state of affairs? I will offer here some suggestions regarding how this pattern can be accounted for, leaving a more comprehensive account for another occasion. I will first deal with the more difficult case (for the current system) of the acceptability of object/adjunct extraction. A number of authors have argued that extraposed clauses are Specs/adjuncts (e.g. Reinhart 1980, Stowell 1981, Bošković 2002), an assumption I will also adopt for the extraposed clauses under discussion; in particular, I

[68]Uchiema also gives ?**What is it wrong that the audience built?*

assume they are VP/AP-adjoined.[69] In fact, if expletives can be generated either within or outside VP/AP (see footnote 69), we can take generation of the expletive in the V/A-complement position to lead to VP/AP-adjunction of the clause. How can this help us with (177)? There is a broader issue at work here. For X to be subject to the PIC regarding phase α X and α must be in a certain configuration. Thus, *who* in *Who$_i$ did John tell t_i that he should sleep* need not pass through the embedded vP phase. I therefore suggest that X is within phase α headed by H (hence subject to the PIC regarding α) if X is dominated by a category projected by H. Consider then (177). The extraposed CP being a phase, *what* must move to its edge. *What* at the edge of CP that is adjoined to AP is not within the AP (since it is not dominated by AP) hence it is accessible ouside of the AP phase. Being accessible to the matrix C, *what* can move to SpecCP. (If the extraposed clause is a V/A-complement, a wh-phrase at its edge is not accessible outside of VP/AP).

The analysis is confirmed by adverbial extraction. Recall SC allows adverbial extraction out of predicative APs, as in (78). Consider, however, attributive APs, i.e. a configuration like (183) in a language like SC, where there is no DP above NP.

(183) I saw extremely tall students.
[$_{vP}$ [$_{VP}$ [$_{?/NP}$ [$_{?/AP}$ extremely [$_{AP}$ tall]] [$_{NP}$ students]]]]

(183) involves the same configuration as (177) in the relevant respect. If *extremely* is accessible to operations outside of the NP phase, it can move directly to vP, in which case no antilocality violation obtains. On other hand, if *extremely* is not accessible to operations outside the NP phase, it must move to NP, which will violate antilocality. The fact is that *extremely*-extraction is possible here in SC (it requires short-form adjectives for independent reasons discussed in Talić 2013).

(184) ?Izuzetno$_i$ su kupili [t_i skup] automobil.
extremely are bought expensive car
'They bought an extremely expensive car.'

There is an interesting prediction here. This kind of extraction should be unacceptable if the NP from which extraction takes place is a nominal complement, which is indeed the case. *Extremely* must move to the higher NP-edge here, which violates antilocality.

(185) *Izuzetno$_i$ je on [$_{?/NP}$ t_i [$_{NP}$ ljubitelj [$_{?/NP}$ [$_{?/AP}$ t_i [$_{AP}$ stári:h]] [$_{NP}$ knjiga]]].
extremely is he fan old books
'He is a fan of extremely old books.'

[69]It is possible that the expletive here is generated in the complement position and then moves. (This may make any ergativity tests irrelevant to the structural status of the clause.) Zaring (1994) actually argues that different expletives can differ regarding this possibility (even within a single language; she suggests French and English have both types of expletives though in English *it* always surfaces), which may account for the fact that not all "extraposed" clauses behave in the same way regarding extraction (as well as speaker variation and conflicting claims in the literature about extraction from the same extraposed clause). Another issue that could result in different extraction patterns even if all extraposed clauses (including (173)) are VP/AP-adjuncts (see Zaring 1994) is whether the clause is base-generated in its surface position or moved there (in the latter case, an additional projection would be needed, since VP/AP-adjunction from the V/A-complement position is disallowed). At any rate, it is clear that extraposed clauses do not behave in the same way regarding extraction both within a single language/across speakers of the same language and across different languages (thus, there are English/Romance contrasts with extraction from the same extraposed clauses, compare Bošković and Lasnik 2003, Cinque 1990, Li 1993, Stowell 1981, Zaring 1994). It would be way beyond the scope of this paper to examine the issue comprehensively. I focus here on one pattern that appears to be problematic for any approach.

Under the above analysis the *possible/likely* contrast noted above is treated essentially as (186)-(187)

(186) She regrets that Peter must leave.
(187) She regrets it that Peter must leave.

(186) is parallel to the *possible* case, with the clause being a complement. In (187), as in the *likely* case, the expletive functions as the complement, "kicking" the clause out of that position.The above treatment of *possible/likely* can then be taken to be motivated by (186)-(187), where the difference of the kind proposed above for *possible/likely* is clearly present. However, (186)-(187) behave differently from *possible/likely* regarding extraction. While (186), which should pattern with *possible*, allows it (in contrast to *possible*), (187), which should pattern with *likely*, disallows it (in contrast to *likely*) (only argument extraction can be checked here, since we are dealing with a factive environment which quite generally disallows adjunct extraction). However, this is exactly what is expected under the current analysis due to the presence of vP in (186)-(187). vP being a phase, movement must proceed via vP. Since the CP is adjoined to VP, movement from the edge of CP to the edge of vP in (189) violates antilocality. The problem does not arise in (188), where CP is the V-complement.

(188) Who does she [$_{?/\underline{vP}}$ t_i [$_{\underline{vP}}$ [$_{VP}$ regret [$_{?/\underline{CP}}$ t_i [$_{\underline{CP}}$ that Peter must leave]]]]]
(189) ??Who does she [$_{?/\underline{vP}}$ t_i [$_{\underline{vP}}$ [$_{?/\underline{VP}}$ [$_{\underline{VP}}$ regret it] [$_{?/\underline{CP}}$ t_i [$_{\underline{CP}}$ that Peter must leave]]]]]

Although *possible/likely* are treated like (186)-(187) when it comes to the structural positions of the expletive and the clause, the current analysis thus predicts *possible/likely* to behave differently from their counterparts regarding extraction, which is indeed the case.

There is an alternative account of (177) that does not require the above assumption regarding being within phase α or VP/AP-adjunction for the extraposed clause. I continue to assume expletives can be generated within or outside VP/AP. In the analysis suggested above, generation of the expletive in the V/A-complement position leads to VP/AP-adjunction of the clause. Under the alternative account this is not the case. Rather, following the line of research in Moro (1997), Hornstein and Witkoś (2003), and Sabel (2000), expletives that are generated VP/AP-internally form a constituent with its associate clause. In particular, the two are generated within a dummy linker-like projection FP, as the Spec and the complement of that (non-phasal) projection (although it may not matter, CP could be the complement). The projection in question may also be den Dikken's (2006) Relator Projection (as long as it is not a phase) under Moro's (1997) expletive/CP-constituent analysis, where the expletive and the CP are generated as a small clause involving a predication relation. The wh-phrase still needs to move to the extraposed CP before undergoing further movement. Additionally, the expletive and the wh-phrase need to move to the VP/AP phase. None of these movements violate antilocality, hence the grammaticality of (177).

Both analyses suggested above tie the differences regarding extraction across different extraposed clauses to the different behavior of expletives in these clauses. There is evidence that such an approach is on the right track. Thus, Zaring (1994) observes that different expletives (*il* vs *cela*) can lead to different extraction possibilities from extraposed clauses in French, and Bennis (1986) shows the same holds for Dutch (Dutch has two overt (*het* and *er*) and possibly a covert expletive, which correlate with different extraction possibilites); it may then be that English also has two different types of expletives which correlate with extraction possibilities, they just happen to have the same morphological realization (as proposed by Zaring 1994).

Turning to subject extraction, I will offer here only a speculation regarding (178) which is compatible with both analyses of object/adjunct extraction suggested above. A number of works have shown that subject movement to SpecCP cannot proceed via SpecIP (see Bošković 2008,

Erlewine 2014, Holmberg and Hróarsdóttir 2003, Rizzi 1990, Rizzi and Shlonsky 2007 for various languages). One way of implementing this is as follows: a subject with a wh-feature cannot undergo feature sharing with I(P).[70] The only way of accomplishing labeling when a wh-subject merges with IP is then if the subject moves away (under the alternative adjunction analysis, the wh-subject would adjoin to IP). If the IP is dominated by CP, the subject then has to move to CP, CP being a phase, which violates antilocality.

(190) $[_{?/\underline{CP}}$ wh_i $[_{\underline{CP}}$ $[_{?/\underline{IP}}$ t_i $[_{\underline{IP}}$

A CP then blocks subject wh-movement via SpecIP. No problems arise here for object/adjunct wh-phrases since they do not move via SpecIP, hence the contrast between (179)/(182) and (180).

Lasnik and Saito (1992) show that subjects cannot undergo local topicalization in English, which can be captured in the same way.

(191) *I think that $John_i$, $[_{IP}$ t_i likes Mary]]

Thus, Lasnik and Saito (1992) observe that if vacuous subject topicalization were allowed, we would incorrectly predict wh-movement in (192) and (193) to have the same status, since (192) and (193) would have the same structure in all relevant respects.

(192) ?*Who do you think that [friends of t] kissed Mary
(193) ?Who do you think that [friends of t] Mary kissed

Lasnik and Saito also note that if short subject topicalization were allowed we would expect that, as in (194), *John* and *himself* can be coindexed in (195), which is not the case.

(194) $John_i$ thinks that $himself_i$ Peter likes
(195) *$John_i$ thinks that $himself_i$ likes Peter

The account of the impossibility of subject extraction in the context in (190) can be straightforwardly extended to the ban on short subject topicalization. Assuming that the presence of an operator feature more generally prevents feature sharing between the subject and the IP (cf. the well-known anti-agreement effect in this context), the IP can be labeled in (196) only after the subject moves away. The movement, however, results in an antilocality violation for the same reason it does in (190).

(196) *I think that $John_i$ $[_{?/\underline{IP}}$ t_i $[_{\underline{IP}}$ likes Mary]

The analysis also captures the well-known *that*-trace effect: Movement from the IP-edge to the CP-edge in **Who did you say that t left* also involves the context in (190), hence it violates antilocality.[71]

[70]The following discussion is about contexts where the subject targets non-interrogative IP-CP field. The interrogative contexts (i.e. cases like *Who left*?) have additional possibilities (although the ban on wh-movement via IP still holds) which I discuss in work in preparation, where I also examine a broader Comp-trace paradigm than the one discussed below and deduce the above restriction on feature sharing between wh-subjects and IP.

[71]See also Brillman and Hirsch (2014) for an antilocality account of the *that*-trace effect and (197) (the antilocality account of the *that*-trace effect goes back to Bošković 1997 and Ishii 1999). *Who did you say t left/John, you said left* can be treated as in Rizzi (2006), namely as involving truncation of the CP+IP structure (confined to clauses with non-overt subjects (IP-internally) in the V-complement position, hence not (180)). Or we may be dealing here with a bare IP as in Bošković (1997), with obvious restrictions regarding its distribution (cf. also Pesetsky's 1992 C-to-V movement).

The antilocality account also puts us in the position to understand the well-known but still mysterious improvement in (197). Browning (1996) and Watanabe (1993) argue that such cases involve CP-recursion; what is important is that there is a phrase between IP and CP, hence movement of the subject from IP to the highest CP, which functions as a phase, does not violate antilocality. (All this extends to the (improvement of) Comp-*t* effects with other complementizers, see Culicover 1992.)

(197) Leslie is the person who I said [$_{?/\underline{CP}}$ t_i that [$_{\underline{CP}}$ at no time [$_{?/\underline{IP}}$ t_i [$_{\underline{IP}}$ considered running for public office. (Browning 1996:246)

Kaqchikel provides strong evidence for the account. Erlewine (2014) shows that Kaqchikel has different morphology depending on whether or not the subject moves to SpecIP. As in many languages, a subject moving to SpecCP is not allowed to move via SpecIP (the morphology that accompanies subjects that move to SpecIP cannot be present in that case), which can be captured as discussed above (Erlewine also argues for an antilocality account). Significantly, Erlewine shows that when there is a phrase between IP and CP (evidence for which is provided by overt elements that are lower than CP but higher than IP; one of his cases is similar to (197) but he also provides other cases), a wh-subject can pass through SpecIP on its way to SpecCP (i.e. the morphology that accompanies subject movement to SpecIP is then present). Due to the presence of this phrase, as in (197) and in contrast to (190), subject movement from IP to CP crosses a phrase here.

(198) wh_i [$_{CP}$ [$_{FP}$ [$_{?/\underline{IP}}$ t_i [$_{\underline{IP}}$

The above account provides a new perspective on the distribution of *that* in relative clauses. A well-known puzzle with relative clauses is that they do not display the *that*-trace effect.

(199) the stone Op_i that t_i broke the window

From the current perspective, the key to the lack of the *that*-trace effect in relative clauses lies in the optionality of *that* in (200)-(201).

(200) the stone that Mary threw
(201) the stone Mary threw

There is evidence that the operator is not located in the same position in (200) and (201). For example, Kayne (1984) (see also Bošković 1997) observes the contrast in (202) with respect to the possibility of a resumptive pronoun, which would be surprising if the relative operator is located in the same position in both constructions.

(202) a. *The book [$_{IP}$ Op [$_{IP}$ I was wondering whether I would get it in the mail]]
b. The book [$_{CP}$ Op [$_{C'}$ that I was wondering whether I would get it in the mail]]

I will therefore assume that in (201), the relative operator is located in the Spec of a relative-clause dedicated projection, which I will refer to as RelP, which is obligatory in all relative clauses. The CP headed by *that*, on the other hand, is present optionally; it is present when *that* is present. (200)-(201) then have the structures in (203)-(204).[72]

[72] The precise projection labels and the details of the structure do not really matter here, see Rizzi (1997) for a different perspective. (Note that in many languages a *that*-CP can occur even above indirect questions).

(203) the stone [$_{CP}$ Op$_i$ that [$_{RelP}$ [Mary threw t$_i$]]]
(204) the stone [$_{RelP}$ Op$_i$ [Mary threw t$_i$]]

This immediately explains the lack of the *that*-trace effect in (199). As before, the subject merges with IP but, since it is undergoing A'/operator movement, it cannot undergo feature-sharing with IP. However, in contrast to **What do you think that broke the window*, movement of the subject to the Spec of *that* does not violate antilocality in (199). In fact, the RelP rescues the derivation from the *that*-trace/antilocality effect here in the same way that CP/the intervening adverb does in (197).

(205) the stone [$_{CP}$ Op$_i$ that [$_{RelP}$ [$_{?/\underline{IP}}$ t$_i$ [$_{\underline{IP}}$ broke the window]]]]

Evidence for this analysis is provided by the impossibility of short zero-subject relatives. While *that* is optional with object relatives under consideration, it is obligatory with subject relatives.

(206) John picked up the stone that broke the window.
(207) *John picked up the stone broke the window.

This follows straightforwardly under the current analysis. In contrast to (205), where the operator moves to CP (which is a phase here), in (208), the operator can only move to SpecRelP (which is a phase here as the highest clausal projection). This movement, however, violates antilocality.[73]

(208) the stone [$_{RelP}$ Op$_i$ [$_{?/\underline{IP}}$ t$_i$ [$_{\underline{IP}}$ broke the window]]]

7. Conclusion

This paper has established a new generalization concerning domains from which extraction is possible. Taking as the starting point the well-known difference between NPs and VPs with respect to extraction, where extraction from Complex NPs is not possible while extraction from Complex VPs is, I have argued that the former represents a pervasive pattern found in many contexts, the latter being highly exceptional. More precisely, extraction is impossible not only out of clausal complements of nouns, but all complements of nouns. Furthermore, extraction is impossible out of complements of prepositions and adjectives, even ergative and passive verbs. The only context where extraction out of the complement of a lexical category is possible in fact involves transitive (non-ergative/passive) verbs. Since the current theories of successive-cyclic movement are set up to account for this exceptional case, they make successive-cyclic movement too easy. The theory proposed in this paper makes successive-cyclic movement more difficult. It also provides a principled reason why the general case, where movement from the complement of a lexical category is disallowed, does not hold with transitive verbs: what is responsible for the exceptional behavior of this context is the presence of vP. The deduction of the otherwise general ban on extraction from the complement of lexical heads proposed here was based on an approach to phases which in a sense combines Bošković's (2013a, 2014) approach to phases, Chomsky's original (2000) approach to phases, and Grohmann's (2003) locality domains, which is nevertheless in its empirical effects rather different from all three of these, with the locality domains (i.e. phases) and the requirement of moving through phasal domains (i.e. the edge requirement) being formulated rather differently in the current approach. In the system argued for here, the highest projection in the thematic domain of every lexical head as well as the highest projection in the functional/non-thematic domain function

[73]Note that under this analysis zero subject relatives are expected to be possible in pro-drop languages (where *that* is not obligatory in the first place), since in such languages subject movement to IP is not obligatory. Pesetsky (1981) and Bošković (1997) show that this is indeed the case.

as phases. As in Chomsky (2000), this makes vP and CP, as well as DP, a phase; however it also makes ergative VP a phase, as well as NP, AP, and PP. Since VP functions as a phase only in some contexts (when not dominated by vP), the current approach belongs to the contextual phasehood line of research. I have also proposed an approach to the PIC where what is accessible to operations outside of phase HP is what is immediately dominated by a projection of H, which includes the complement of H. This follows the spirit of Uriagereka's (1999) original conception of multiple spell-out, where X that is sent to spell-out is still accessible for syntactic operations, but nothing within X is. The theory argued for here thus divides structure into thematic and non-thematic domains, with the requirement that a moving element must undergo merger in the highest projection of each such domain: due to the current conception of the PIC, any merger within the highest projection of a phasal domain, including complement merger, suffices to satisfy the requirement in question. The edge requirement thus refers to the highest projection of a phasal domain (movement must pass through this projection), not to the edge of this projection. Two other ingredients of the proposed deduction of the ban on extraction from the complements of lexical heads were antilocality, i.e. the ban on movement that is too short, and Chomsky's (2013) approach to projection/labeling. A number of proposals were also made regarding a variety of constructions and mechanisms in the course of the discussion, especially regarding clausal structure, CED effects, raising infinitives, extraposed clauses, that *that*-t effect, and the effect of head-movement on locality.

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