

# On Movement out of Moved Elements, Labels, and Phases

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The article deduces a modified version of the traditional ban on movement out of moved elements that provides a new perspective on it. Under the proposed analysis, the problem with the movement of YP out of moved XP does not arise at the point where YP moves out of XP, as in previous accounts. Instead, it arises already with the movement of XP: XP itself cannot undergo movement in this case. Any later movement out of XP is then trivially blocked. The proposed analysis leaves room for movement out of moved elements to take place in well-defined contexts. Several constructions bear this out, including German/Dutch *r*-pronoun constructions, Slavic left-branch extraction, and quantifier float more generally. What the proposed analysis deduces is then not the traditional ban on movement out of moved elements, but a ban on movement of phases with nonagreeing specifiers, which the article argues should replace the former ban. As a result, the analysis also extends to the immobility of verb-second clauses in German. The article also provides a new perspective on the Adjunct Condition (the ban on movement out of adjuncts). It shows that movement out of adjuncts is possible in the same configuration as movement out of moved elements. The proposed account of the latter is then extended to the Adjunct Condition. The article also proposes a labeling-based account of the Coordinate Structure Constraint, which also captures the across-the-board-movement exception.

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## 1 Movement out of Moved Elements

One line of research within the domain of locality of movement that has attracted considerable attention concerns freezing effects. Many researchers have argued that movement out of moved elements is not possible. The most explicit early statement of the effect goes back to Culicover and Wexler 1977 and Wexler and Culicover 1980, with early Minimalist works such as Ormazabal, Uriagereka, and Uribe-Etxebarria 1994 and Takahashi 1994 providing a new perspective on the effect. Many other works have argued for generalizations along the lines of (1), also providing empirical evidence for it; see Ross 1967:160, 1974, Postal 1972, Huybregts 1976, Diesing 1992,

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Freidin 1992, Collins 1994, Müller 1998, 2010, Lasnik 1999, Stepanov 2001, Rizzi 2006, Boeckx 2008, Gallego 2009, Lohndal 2011, Uriagereka 2012, and Corver 2014, among many others.

(1) Movement is not possible out of moved elements.

The works in question provide a battery of arguments for (1). As an illustration, the traditional Subject Condition, which bans extraction out of subjects located in Spec,IP, as in (2), is one instantiation of (1), given that under the VP-Internal Subject Hypothesis extraction out of a subject in Spec,IP involves extraction out of a moved element.

(2) ?\*I wonder [<sub>CP</sub> who<sub>i</sub> [<sub>DP</sub> friends of t<sub>i</sub>]<sub>j</sub> [<sub>vP</sub> t<sub>j</sub> hired Mary]].

Notice in this respect that, as Takahashi (1994) and Stepanov (2007) discuss with respect to a number of languages, movement from subjects that remain in Spec,vP is possible, which leads the authors to blame the ungrammaticality of (2) on the moved status of the subject in this construction. The following contrast from Spanish illustrates the different behavior of unmoved (3a) and moved (3b) subjects with respect to extraction.<sup>1</sup>

- (3) a. ¿De qué conferenciantes<sub>i</sub> te parece que me<sub>z</sub> van  
of what speakers CL.2SG seem.PRES.3SG that CL.1SG go.PRES.3PL  
a impresionar<sub>v</sub> [<sub>v\*P</sub> [<sub>DP</sub> las propuestas t<sub>i</sub>] [t<sub>z</sub> t<sub>v</sub>]]?  
to to.impress the proposals
- b. \*¿De qué conferenciantes<sub>i</sub> te parece que [<sub>DP</sub> las propuestas t<sub>i</sub>]<sub>j</sub>  
of what speakers CL.2SG seem.PRES.3SG that the proposals  
me<sub>z</sub> van a impresionar<sub>v</sub> [<sub>v\*P</sub> t<sub>j</sub> t<sub>z</sub> t<sub>v</sub>]?  
CL.1SG go.PRES.3PL to to.impress  
‘Which speakers does it seem to you that the proposals by will impress me?’  
(Uriagereka 1988:118)

A number of authors have shown that movement from moved objects is also disallowed. Thus, Lasnik (1999, 2001) argues that objects that survive pseudogapping undergo object shift (pseudogapping involving VP-ellipsis), as in (4a). Crucially, movement from a pseudogapping object is not possible. Thus, (4b) contrasts with (5), a contrast that Lasnik argues illustrates the different behavior of moved (4b) and unmoved (5) objects with respect to extraction.

<sup>1</sup> (i) is another acceptable case of extraction from a postverbal subject, which does not involve a psych verb.

- (i) ¿De qué equipo<sub>i</sub> dices que han bailado [<sub>DP</sub> dos participantes t<sub>i</sub>]?  
of what team say.2SG that have.3PL danced two participants  
‘Which team do you say that two members of have danced?’  
(Gallego and Uriagereka 2007a:57)

It should be noted that Chomsky (2008) discusses some examples where he claims extraction from subjects is allowed in English, their defining property being that they involve passive/ergative subjects (Chomsky analyzes the relevant cases as involving extraction from the base position, which actually does not violate (1)). The grammaticality status of those cases is rather controversial (see, e.g., the references in Gallego and Uriagereka 2007b), and a number of authors have argued against Chomsky in this respect (Broekhuis 2005, Gallego and Uriagereka 2007b, Lohndal 2007, Boeckx 2008; see especially Broekhuis 2005 for evidence that the relevant cases involve not extraction but base-generation of the relevant element outside of the subject DP; for relevant discussion, see also Bošković in preparation a).

- (4) a. Bill selected a painting of John, and Susan should [a photograph of Mary]<sub>i</sub>  
 {<sub>VP-select</sub> t<sub>i</sub>}.  
 b. ?\*Who will Bill select a painting of, and who<sub>j</sub> will Susan [a photograph of t<sub>j</sub>]<sub>i</sub>  
 {<sub>VP-select</sub> t<sub>i</sub>}?  
 (Lasnik 2001:110)
- (5) Who<sub>i</sub> did you select a picture of t<sub>i</sub>?  
 (Lasnik 2001:110)

The contrast in (6) also shows that moved and unmoved objects differ with respect to extraction, given Lasnik's (1999, 2001) claim that objects that precede particles, as in (6a), undergo object shift (see also Johnson 1991, Gallego and Uriagereka 2007a).<sup>2</sup>

- (6) a. ?\*Who<sub>j</sub> did Mary call [friends of t<sub>j</sub>]<sub>i</sub> up t<sub>i</sub>?  
 b. Who<sub>i</sub> did Mary call up friends of t<sub>i</sub>?  
 (Lasnik 2001:110)

As another illustration of the effect of (1) on extraction out of objects, Torrego (1998) argues that *a*-marked objects in Spanish undergo movement (more precisely, object shift). Importantly, as (7) illustrates, extraction out of *a*-marked objects is not possible,<sup>3</sup> in contrast to extraction out of non-*a*-marked objects.

- (7) ?\*¿[De quién]<sub>j</sub> has visitado [<sub>DP</sub> a muchos amigos t<sub>j</sub>]<sub>i</sub> [<sub>VP</sub> . . . t<sub>i</sub>]?  
 of whom have.2SG visited A many friends  
 'Who have you visited many friends of?'  
 (Gallego and Uriagereka 2007a:65)

The effect is not limited to extraction out of elements located in A-positions—it also holds for elements located in  $\bar{A}$ -positions. Thus, a number of authors have shown that extraction out of elements located in Spec,CP and out of topics is not possible (on the impossibility of such extraction, see Grewendorf 1989, Cinque 1990, Lasnik and Saito 1992, Takahashi 1994, Müller 1998, 2010, and Corver 2014, among many others), as the following examples illustrate:<sup>4</sup>

<sup>2</sup> Stepanov (2001) argues that the specificity effect with objects (i.e., the ban on extraction out of specific/definite objects) also follows from (1), given his claim that definite objects undergo movement even in English (see also Diesing 1996).

(i) ?\*Who<sub>i</sub> did you see [this friend of t<sub>i</sub>]?

<sup>3</sup> See Diesing 1992, Müller 1998, Lohndal 2011, and Corver 2014, among others, on the impossibility of movement out of scrambled/shifted objects in Germanic (but see also Abels 2007, Neeleman and Van de Koot 2010).

<sup>4</sup> On the basis of examples like (i), Torrego (1985) claims that extraction out of Spec,CP is possible in Spanish. However, Gallego (2007) shows that such examples involve a prothetic object, the extracted element being an object of the higher verb, as in the structure in (ii). When the prothetic object option is blocked by a reconstruction effect, as in (iii), such examples become unacceptable (the same quite generally holds with verbs that disallow prothetic objects).

(i) Este es el autor del que no sabemos qué libros leer.  
 this is the author by whom not know.1PL what books read  
 'This is the author by whom we don't know what books to read.'  
 (Chomsky 1986:25)

(ii) Este es el autor [del que]<sub>j</sub> no sabemos t<sub>i</sub> [<sub>CP</sub> [qué libros]<sub>j</sub> leer t<sub>j</sub>].

- (8) a. \*Whose books<sub>i</sub> do you think that [reviews of t<sub>i</sub>]<sub>j</sub> John never reads t<sub>j</sub>?  
(Corver 2014:1)
- b. ??/\*Whose book<sub>i</sub> do you wonder [<sub>CP</sub> [how many reviews of t<sub>i</sub>]<sub>j</sub> John read t<sub>j</sub>]?  
(Corver 2014:9)

The effect in question also holds for rightward movement (see, e.g., Ross 1967, Wexler and Culicover 1980, Johnson 1986, Lasnik and Saito 1992), as (9) illustrates.

- (9) ?\*What<sub>i</sub> did you see t<sub>j</sub> yesterday [a movie about t<sub>i</sub>]<sub>j</sub>?

As the final argument to be noted here, it is well-known that preposition stranding is not possible after the relevant PP undergoes movement (see, e.g., Postal 1972), which can be taken as another illustration of (1). The impossibility of P-stranding in moved positions is illustrated by (10). ((10a) involves P-stranding during successive-cyclic movement and (10b) involves P-stranding in the topic position.)<sup>5</sup>

- (10) a. \*Which table<sub>i</sub> did you think [<sub>CP</sub> [on t<sub>i</sub>]<sub>j</sub> that [<sub>IP</sub> John put the book t<sub>j</sub>]]?  
b. \*Which table<sub>i</sub> did you think that [on t<sub>i</sub>]<sub>j</sub> John put the book t<sub>j</sub>?

The literature cited above gives a number of additional arguments for (1). The ban in (1) thus has rather strong empirical support. However, it has also been claimed that there are exceptions to (1).<sup>6</sup> While some claims are driven primarily by theoretical considerations (Collins 2005a), and

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- (iii) \*<sub>i</sub>[<sub>CP</sub> [De qué hijo suyo]<sub>i</sub> C sabes [<sub>CP</sub> [qué novelas t<sub>i</sub>] C ha leído todo padre]<sub>j</sub>]]?  
of what son his know.2SG what novels have.3SG read every father  
'Which son of his do you know which novels by has every father read?'  
(Gallego 2007:351)

<sup>5</sup> In this context, a reviewer brings up the swiping construction, illustrated by (i).

- (i) John gave a talk, but I don't know what about.

The exact derivation of (i) is controversial. Hartman and Ai (2009) and Van Craenenbroeck (2010) analyze it as involving movement out of a moved PP, without however accounting for why examples like (10b) are unacceptable. There are also accounts of (i) that are fully compatible with the ban in (1) (and the analysis given below). For example, this is the case with Merchant's (2002) account, where *what* incorporates into the preposition. Radford and Iwasaki's (2015) movement-out-of-the-PP account, where the preposition itself also moves, is also compatible with the account of (1) given below, under the approach to locality violations from Bošković 2013b. (Under that approach, the analysis of (1) given below would allow movement out of a moved phrase through the rescue-by-PF-deletion mechanism if the phrase head itself undergoes movement, which is what happens under Radford and Iwasaki's analysis. They in fact also suggest a rescue-by-PF-deletion analysis.) Güneş and Lipták's (2016) observation that the preposition in such examples is assigned stress via the Nuclear Stress Rule (NSR) opens up another way of looking at them. Since the NSR assigns stress to the most deeply embedded pronounced element, Stjepanović (1999, 2004) argues that the NSR can induce pronunciation of a lower copy (under the approach where the highest copy is pronounced unless PF considerations require lower copy pronunciation; see footnote 36). Given the requirement, discussed by Güneş and Lipták, that the preposition in (i) be assigned stress by the NSR, (i) may actually involve PP-fronting, with the lower copy of the preposition (possibly in the position where Hartman and Ai (2009) and Van Craenenbroeck (2010) place it) pronounced due to the NSR, as in many other cases of this sort discussed by Stjepanović (see also Bošković and Nunes 2007).

<sup>6</sup> One such exception concerns scrambling in Japanese, movement being allowed out of scrambled phrases in that language. (Japanese scrambling is insensitive to some other movement constraints too, such as Relativized Minimality; see Saito and Fukui 1998. See also Bošković 2004b for a general island-weakening effect with Japanese scrambling.) On the basis of this (and other issues), Bošković and Takahashi (1998) argue that Japanese scrambling involves base-generation (not movement) of the relevant element, which would make it irrelevant to (1). (PF movement accounts, like

some have been explained away (see, e.g., footnote 4), there still remain cases that seem to clearly violate (1). In fact, in contrast to English, Dutch allows P-stranding after the PP undergoes movement, as in (11), where the preposition *mee* ‘with’ is stranded under *wh*-movement after the PP headed by *mee* moves from the embedded clause.

- (11) Waar<sub>i</sub> had jij dan [t<sub>i</sub> *mee* t<sub>i</sub>]<sub>j</sub> gedacht [dat je de vis t<sub>j</sub> zou moeten snijden]?  
 where had you then with thought that you the fish would must cut  
 ‘What did you think you should cut the fish with?’  
 (Barbiers 2002:49)

However, such cases are rather exceptional, and the arguments for (1) offered in the literature are too numerous and too broad, spanning a variety of constructions and languages, to simply dismiss them (and discard the generalization in (1)). The goal of this article will then be to modify (1) to take into consideration exceptional cases like (11) and to deduce this modified version of (1). However, the starting point of the discussion will be the traditional generalization in (1); the exceptional cases will be put aside until later. Focusing on the generalization in (1), in the next section I will show that (1) falls out as a theorem from the theory of phases (Chomsky 2000, 2001) and the labeling framework of Chomsky (2013, 2015).

In the following section, I will first introduce the necessary background regarding the theory of phases and the labeling framework, and then turn to the deduction of (1).<sup>7</sup> As is often the case when a generalization is deduced, we will see that the mechanisms in question do not completely deduce (1); they leave room for extraction out of moved elements to be possible in well-defined contexts. I will provide evidence that such extraction is indeed possible in the contexts in question ((11) is in fact one of those contexts). The proposed analysis will thus not deduce (1), which rigidly bans movement out of moved elements; rather, it will deduce a modified version of (1) that is in fact better-supported empirically. The article will thus propose a new generalization that is intended to replace (1).

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Sauerland and Elbourne’s (2002), also make it irrelevant to (1).) Under the analysis of (1) given below, there are also ways of accommodating Japanese scrambling even under an overt syntactic movement analysis. For example, if—possibly because it involves adjunction—scrambling allows acyclicity, where movement to the edge of a scrambled phrase (which would also involve adjunction) can take place after scrambling itself, movement out of a scrambled phrase would be allowed under the analysis of (1) below. It should also be noted that Saito (2016) argues that due to the lack of agreement, labeling proceeds differently in Japanese than it does in other languages examined here. Interestingly, under the account of (1) given below and Saito’s approach to labeling in Japanese, movement out of scrambled elements in Japanese is in fact expected to be possible (see footnote 13). Japanese scrambling may thus provide a rather dramatic confirmation of the analysis presented below.

<sup>7</sup> I will not discuss other attempts to deduce (1); see Corver 2014 for an overview of such attempts. It should also be noted that, as discussed in Abels 2007, some violations of (1) are more degraded than others. I will not have anything to say here about such differences; an additional factor, possibly along the lines discussed in Abels 2007, could be involved. However, given the variety and the subtlety of the differences in question, it is likely that more than one factor is involved (see here Haegeman, Jiménez-Fernández, and Radford 2014). As an illustration, as noted in Bošković 1992, there is a three-way distinction with extraction out of subjects in English: while all relevant cases are degraded, extraction out of subjects of finite clauses headed by *that* is worse than extraction out of finite clauses not introduced by *that*, which is in turn worse than extraction out of exceptional-case-marking infinitival subjects. While the last case could represent the more general infinitival island-weakening effect (some islands, such as *wh*-islands, are often weakened with infinitives), this cannot be responsible for the difference between finite clauses with and without *that*.

## 2 Deducing the Ban on Movement out of Moved Elements in the Phasal/Labeling System

### 2.1 On Phases and Labels

Chomsky (2000, 2001) gives a number of criteria that differentiate phases from nonphases. As he argues, one of these criteria is that only phases can undergo movement (see also, e.g., Matushansky 2005, Rackowski and Richards 2005, Cheng 2012, Harwood 2013, Legate 2014, Bošković 2015). Assume that this is indeed the case—that is, that (12) holds.

(12) Only phases can undergo movement.

Now, given the Phase Impenetrability Condition (PIC), which requires that movement out of phase XP proceed via the edge of XP, movement out of a phase must proceed successive-cyclically, targeting the edge of the phase. The PIC has interesting consequences within Chomsky's (2013) labeling system.

Chomsky (2013) proposes a theory of labeling that allows unlabeled objects during the derivation, though not in final representations. According to the labeling algorithm that he proposes, in a case where a head and a phrase merge, the head projects (i.e., provides the label for the resulting object). For a case where two nonminimal projections (i.e., phrases) merge, Chomsky suggests two ways of implementing labeling: via prominent feature sharing or traces, the crucial assumption with the latter being that traces are ignored for the purpose of labeling. The intuition here is that a trace/lower copy is invisible to the labeling algorithm since it is part of a discontinuous element (i.e., the whole chain; the element to be labeled then does not dominate every occurrence of the relevant moved element). Chomsky unifies this with intervention effects, with traces not functioning as interveners for the same reason.

To illustrate the feature-sharing case, when *which book* merges with interrogative C (actually CP at the point of merger) in (13), both the *wh*-phrase and the CP have the Q-feature; what is projected (i.e., determines the label of the resulting object) then is the Q-feature.<sup>8</sup> This is obviously reminiscent of Spec-head agreement, where the shared feature is what is involved in Spec-head agreement.

(13) I wonder [<sub>CP</sub> which book<sub>i</sub> [<sub>C'</sub> C [John bought t<sub>i</sub>]]].

Turning to merger of two phrases that involves label resolution via traces, one such case is given in (14). ((15) gives the relevant structure, discussed below.)

(14) Which book<sub>i</sub> do you think [<sub>CP</sub> t'<sub>i</sub> [<sub>C'</sub> that [John bought t<sub>i</sub>]]]?

(15) v [<sub>VP</sub> think [<sub>?</sub> which book [<sub>CP</sub> that [John bought t<sub>i</sub>]]]]

Chomsky assumes that successive-cyclic movement (i.e., intermediate steps of movement) does not involve feature sharing, which essentially follows Bošković 1997, 2002, 2007, 2008a.<sup>9</sup> This

<sup>8</sup> Like Chomsky (2013), I will continue using *CP* and *Spec,CP* for such cases for ease of exposition.

<sup>9</sup> In Bošković 2007, 2008a, I argue that intermediate *wh*-movement steps do not involve agreement/feature checking; only the final step of *wh*-movement does; see these works for arguments to this effect. (See Bošković 2008a for arguments that cases that have been assumed to involve morphological reflexes of such agreement with intermediate Cs actually do not involve successive-cyclic movement via *Spec,CP*s; see here footnote 26.)

means that there is no feature sharing between the declarative complementizer *that* and the *wh*-phrase that passes through its edge in (14). As a result, labeling through feature sharing is not an option here. The embedded clause then cannot be labeled at the point where *which book* moves to its edge, as the ?-notation in (15) indicates. When  $v$  is merged, *which book* 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 *which book*. Only at this point can the status of  $t'_i$  in (14) be determined as the Spec of CP. However, prior to the movement (see (15)), ? is not a CP; it is simply undetermined regarding the issue in question.

The crucial ingredients of Chomsky's (2013) approach to labeling and (successive-cyclic) movement are then the following: When a constituent is built by a Move step that involves agreement/checks features, that constituent can be labeled. When it is built by a Move step that does not involve agreement/check features, it does not receive a label, though it may receive a label at a later point after one of its immediate subconstituents moves away. Furthermore, successive-cyclic movement does not involve agreement/feature checking in intermediate positions. (Labeling is then the driving force of successive-cyclic movement in Chomsky 2013; that is, the need to label is what forces movement from intermediate positions, with the movement continuing until a feature-sharing position is reached.)

## 2.2 Deducing the Ban on Movement out of Moved Elements

(14)–(15) illustrate how successive-cyclic movement is quite generally treated in the labeling framework. Significantly, this treatment of successive-cyclic movement, in conjunction with (12), deduces the generalization in (1).<sup>10</sup>

Consider (16a), which involves movement of YP out of a moved element, XP. Before any movement takes place, XP and YP are in the configuration in (16b).

- (16) a.  $YP_i [_{XP} \dots t_i \dots ]_j \dots t_j$   
 b.  $[_{XP} \dots YP \dots ]$

Since only phases can move (see (12)), for XP to be able to move in (16) XP must be a phase. Furthermore, given the PIC, any movement out of XP itself has to proceed successive-cyclically via the edge of XP; that is, for YP to move out of XP in (16b), YP first has to move to the edge of XP. Movement of YP to the edge of XP in fact has to precede the movement of XP itself, given the cycle. Consider then the movement of YP to the edge of XP, an instance of successive-cyclic movement. The merger of YP and XP results in an unlabeled element, as is generally the

<sup>10</sup> Elsewhere (Bošković 2015, 2016c), I provide labeling-based deductions of a number of locality effects (where the crucial component of most of the deductions is that a constituent formed by a step of successive-cyclic movement is not labeled when it is created), including a generalized version of the Complex NP Constraint, which extends to all complements of all lexical heads (movement being banned from complements of lexical heads), Condition on Extraction Domain effects, Richards's (2001) tucking-in effect, the full range of Comp-trace effects (in declarative, relative, and extraposed clauses), and the effect that *wh*-movement has on agreement in languages like Kinande. In this respect, the current article, which focuses on the ban on movement out of moved elements (but see appendix B for the Coordinate Structure Constraint), can be considered to add another piece to this overall picture, the ultimate goal being to provide a labeling-based account of all locality-of-movement effects.



case with successive-cyclic movement, as discussed above. For Chomsky (2000, 2001), phases are CPs, vPs, and DPs (I am ignoring other proposals in the literature regarding what counts as a phase since they do not affect the current discussion; (12) in fact most naturally fits with the phasal system in Bošković 2014, discussed below). But the result of merger of YP and XP is none of these; it in fact does not have a label at all, hence does not count as a phase (in other words, phases require label determination (see Bošković 2016c); hence, unlabeled objects cannot be phases). The element formed by the merger of XP and YP is then not allowed to move, given (12).

To take a concrete case, consider movement out of subjects.

(17) ?\*I wonder *who<sub>i</sub>* [*friends of t<sub>i</sub>*] hired Mary.

Since subjects are phases (likely 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. As discussed above, merger of *who* and DP in (18), the abstract structure of the relevant part of (17), yields an unlabeled element, which, not having a label, is not a phase. The italicized phrase marked with ? in (18) then cannot undergo movement, given (12).<sup>11</sup>

(18) [<sub>IP</sub> I . . . [<sub>? who<sub>i</sub> [<sub>DP subject (friends of t<sub>i</sub>)]</sub>] [<sub>vP v</sub> [<sub>vP . . .</sub> ]]]</sub>

The account extends to all the examples involving movement out of moved elements that were discussed in section 1.<sup>12</sup> To illustrate this with one more example, in (8a) the *wh*-phrase *whose books* moves to the edge of the object while the object is still in situ, delabeling it and preventing it from undergoing movement. The relevant part of the structure for (8a) is given in (19).<sup>13</sup>

(19) . . . [<sub>VP reads</sub> [<sub>? whose books<sub>i</sub> [<sub>DP reviews of t<sub>i</sub>]</sub>]]</sub>

<sup>11</sup> Note that I assume with Collins (1994) that his chain interleaving is ruled out independently of present concerns. While I leave open how chain interleaving in general should be handled, I note that the chain-interleaving derivation of (17) is indeed ruled out independently. In the chain-interleaving derivation of (17), while the subject is still in its base position, *who* moves from the edge of the subject to the edge of vP (merging with the object formed by the merger of the subject and vP), which is followed by subject movement to Spec,IP and then movement of the *wh*-phrase to Spec,CP. As shown in Bošković 2016a, in multiple-edge configurations the lower edge can move only after the higher edge moves. The subject can then move to Spec,IP only after the *wh*-phrase moves to Spec,CP, which violates the cycle. There are other chain-interleaving derivations I will not go into, since this article focuses on movement out of moved elements. (Some such derivations involve subextraction of YP from XP followed by movement of XP to a lower position than YP, which I assume is disallowed. (Most such cases involve movement of YP and XP to the Specs of the same head (with XP tucking in), which can be blocked under Collins's (1994) notion of economy of derivation by the derivation where movement of XP alone takes both elements to the edge of the relevant head. Some derivations of this sort are also ruled out if, with heads that have both A- and  $\bar{A}$ -Specs, the former must be created before the latter (see Abels 2007); subextraction from an object undergoing object shift can then only follow object shift.) I will put these concerns aside below, focusing on movement-out-of-a-moved-element derivations.

<sup>12</sup> On the phasehood of PPs, which is relevant to (10), see Bošković 2013a, 2014, and the discussion below.

<sup>13</sup> Two observations are in order here. First, I am focusing on the movement-out-of-a-moved-element derivation. There are other derivations that are ruled out independently, like the chain-interleaving derivation where the *wh*-phrase moves from the edge of the object to the edge of vP, followed by the object tucking in under the *wh*-phrase at the edge of vP (see Richards 2001 on tucking in). Since, as shown in Bošković 2016a and noted in footnote 11, in multiple-edge configurations the lower edge can move only after the higher edge moves, the object can undergo topicalization only



### 2.3 Remnant Movement

We have seen in the previous section that the traditional ban on movement out of moved elements falls out rather straightforwardly from the phasal/labeling system. A question now arises regarding remnant movement: does the analysis given above block traditional remnant movement in general? In fact, it does not. With remnant movement, movement of YP out of XP in (16b) takes place while XP is still located in situ; XP is then free to move after YP moves.

Consider, for example, remnant vP fronting (see Huang 1993 for evidence that the subject starts within the fronted vP in (20)).

(20) [<sub>vP</sub> t<sub>i</sub> kiss Mary]<sub>j</sub> [<sub>IP</sub> Jane<sub>i</sub> did t<sub>j</sub>]

As discussed in Chomsky 2013, the result of the merger of the subject and vP in (20) cannot be labeled (see (21a)). The subject moves to Spec,IP; since its trace is ignored for the purpose of labeling, the relevant element is labeled as vP (21b). Since vP is a phase, it is allowed to move, as in (20).

(21) a. [<sub>?</sub> Jane [<sub>vP</sub> kiss Mary]]  
 b. [<sub>IP</sub> Jane<sub>i</sub> [<sub>vP</sub> t<sub>i</sub> kiss Mary]]

The system thus distinguishes between cases like (17) and cases like (20), the crucial difference being that in the latter case XP moves after YP moves out of it, while in the former case XP moves before YP moves out of it. This difference has an effect on the labeling of XP, which is responsible for the contrast in question.

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after the *wh*-phrase moves to Spec,CP, which violates the cycle. There are other problems with this derivation (see footnote 11), as well as other independent issues I am glossing over here. For example, any derivation of (8b) where *whose book* moves into the embedded-clause Spec,CP, a criterial position, would freeze it in that position due to the criterial freezing effect (see Rizzi 2006 and section 4). At any rate, I will focus strictly on the movement-out-of-a-moved-element derivation below, ignoring other derivations.

Second, interestingly, under Saito's (2016) approach to labeling in Japanese, the proposed account of (1) predicts that (1) can be violated with scrambling in Japanese. Scrambling out of scrambled elements is indeed allowed in Japanese, as noted in footnote 6 and shown by (i). Saito argues that due to the lack of agreement, labeling in Japanese proceeds differently from labeling in the feature-sharing languages discussed in Chomsky 2013. According to Saito, due to the lack of agreement Japanese lacks feature sharing. The way labeling is accomplished in Japanese when two phrases merge is that certain inflectional elements—in particular, case markers in the case of NPs/DPs—serve as antilabeling devices, making the relevant element invisible for labeling (Saito accounts for a number of properties of Japanese in these terms). Consider then (i). Under Saito's analysis, when *sono hon-o* 'that book' moves to the edge of the most embedded clause (see the boldfaced CP label), no labeling problem arises despite the lack of feature sharing since the case marker serves to make *sono hon-o* invisible for the labeling algorithm. Successive-cyclic movement then does not delabel its target here; as a result, the boldfaced CP, which is targeted by successive-cyclic movement, can still move. Incorporating Saito's analysis of Japanese into the current account of (1) thus captures the exceptional status of (i) with respect to (1).

- (i) [Sono hon-o<sub>1</sub> [John-ga [<sub>CP</sub> [<sub>IP</sub> [<sub>CP</sub> t<sub>1</sub> [<sub>IP</sub> Mary-ga t<sub>1</sub> katta to]]]<sub>2</sub> [<sub>IP</sub> Bill-ga t<sub>2</sub> itta]] to] omotteiru].  
 that book-ACC John-NOM Mary-NOM bought that Bill-NOM said that think  
 'That book<sub>1</sub>, John thinks that [that Mary bought t<sub>1</sub>]<sub>2</sub>, Bill said t<sub>2</sub>.'  
 (Bošković and Takahashi 1998:357)

### 3 Extensions and Exceptions to the Ban on Movement out of Moved Elements

The deduction of the ban on movement out of moved elements proposed in section 2, which does not introduce any new mechanisms but simply relies on independently made existing proposals regarding phases and labeling,<sup>14</sup> provides a new perspective on the ban on movement out of moved elements. Under the analysis from section 2.2, the problem with movement of YP out of moved element XP does not arise at the point of movement of YP out of XP (as in previous accounts of the ban in question). The problem arises already with the movement of XP; that is, XP itself cannot undergo movement in this case—any later movement out of XP is then trivially blocked. In other words, it is not that movement of XP freezes its internal structure; rather, movement of YP to the edge of XP (for successive-cyclic reasons, as discussed below) prevents movement of XP.

All the cases given above to illustrate (1) involve successive-cyclic movement of YP via the edge of XP (i.e., Spec,XP). As a result, they also involve movement of the Spec itself since it is the very nature of successive-cyclic movement that YP undergoing it cannot stay in an intermediate Spec for independent reasons. This is why these cases involve movement out of a moved element. This movement has masked the real reason for the ill-formedness of the relevant cases, leading to the illusion that this later movement is responsible for it.

Since under the current analysis movement out of a moved element is incidental in the relevant cases, the violation having taken place before such movement occurs, the proposed analysis also extends to cases where movement out of a moved element does not take place. One such case involves the otherwise puzzling immobility of verb-second (V2) clauses in German. As Webelhuth (1992) notes (see also Reis 1997, Wurmbrand 2014, Holmberg 2015), V2 clauses in German cannot undergo movement. Consider (22). A V2 clause moves to Spec,IP in (22a) and to Spec,CP in (22b). Both examples are unacceptable, in contrast to (22c), where the V2 clause stays in situ.

- (22) a. \*... weil [<sub>CP</sub> den Peter mag niemand] allgemein bekannt ist.  
           since the.ACC Peter likes nobody.NOM commonly known is  
           ‘... since nobody likes Peter is commonly known.’  
           (Wurmbrand 2014:155)
- b. \*[E<sub>i</sub> sei unheimlich beliebt], möchte jeder<sub>i</sub> gern glauben.  
           he is.SUBJ immensely popular would.like everyone like believe  
           ‘Everyone would like to believe he is immensely popular.’  
           (Wurmbrand 2014:155)
- c. Sie sagte den Peter mag niemand.  
           she said the.ACC Peter likes nobody.NOM  
           ‘She said nobody likes Peter.’  
           (Wurmbrand 2014:153)

<sup>14</sup> Of course, one can question the assumptions that underlie these proposals. Comprehensively examining the motivation for these assumptions is beyond the scope of this article, whose goal is more modest: to point out that the assumptions in question deduce (1) for the vast majority of the relevant cases, which was done in section 2.2, and to explore whether the assumptions allow for any legitimate violations of (1), which will be done in this section.

V2 clauses are notorious for their nonpickiness, in that anything can fill their Spec,CP. This has led to proposals that such clauses do not involve agreement at all—they involve EPP without agreement (i.e., a filled-Spec requirement without Agree; see, e.g., Haegeman 1996, Roberts and Roussou 2002, Roberts 2004, Joutteau 2008). Since feature sharing is tied to agreement, the most natural interpretation of this is that V2 clauses do not involve feature sharing, which in turn means that they are not labeled (see in fact Blümel 2017). But that provides an immediate account of their immobility given that unlabeled elements cannot undergo movement. Under accounts like that of Roberts (2004), the V2 movement to Spec,CP is treated essentially like successive-cyclic movement in Chomsky 2013: neither involves an agreement relation. Under the current analysis, phrases with nonagreeing Specs cannot undergo movement, since a nonagreeing Spec delabels the relevant phrase, making it impossible for it to move. It is then not surprising that, just like phrases that host successive-cyclic movement, V2 clauses cannot undergo movement.<sup>15</sup>

Returning now to the cases that do involve movement out of a moved element, in all the cases of (1) discussed above, YP *moves* to the edge of XP (this was in fact the reason why XP could not undergo movement). What would happen if YP is base-generated at the edge of XP? Finding such cases, where we can be sure that YP is base-generated at the edge of XP, is not easy. Before we attempt to find such cases, consider what we may expect to find with respect to such cases in the current system. If YP is base-generated at the edge of XP, and YP is otherwise able to stay at the edge of XP, this means that the result of the merger of YP and XP can be labeled. Given that both YP and XP are phrases, it follows then that YP and XP undergo feature sharing. This crucially affects the timing of labeling that is relevant to the account of (1) proposed above.

In the cases we have discussed so far (which involve successive-cyclic movement), labeling of the YP-XP merger was simply not possible (due to the lack of feature sharing); we had to wait for YP to move away so that it could be ignored for the purpose of labeling, which was too late for the concerns of section 2.2. The wait is not forced in the case of labeling via feature sharing. In other words, while in the case of successive-cyclic movement (i.e., the non-feature-sharing case) labeling must be delayed, since it is simply not possible to label until one element moves away, with feature-sharing Spec-merger labeling is possible when the relevant structure is created—movement of one of the elements is not required to make labeling possible in this case. The analysis presented in section 2 then makes a prediction: (1) should not hold for cases where an element that undergoes movement out of a moved element is base-generated at the phasal edge and is otherwise able to stay in that position, an indication that it undergoes feature sharing with the element it merges with in the labeling framework (for ease of exposition, I will refer to

<sup>15</sup> The analysis implies that some unlabeled objects can still be interpreted at the interface, which can be taken to be what is special about V2 clauses (see, however, Bošković 2016b for an alternative account of the immobility of V2 clauses that also unifies the immobility of V2 clauses and (1) but where V2 clauses are labeled). Notice also that the lack of labeling does not fully strip V2 clauses of phasehood effects. The result of the merger of C and IP is still labeled as an instance of a head-phrase merger, which is enough to send the IP to Spell-Out.

such elements as *base-generated Specs*<sup>16</sup>). (1) should be violable in such a case, given that feature-sharing configurations result in labeling. Movement out of a moved element should then be allowed in this particular case: the labeling problem of the kind discussed in section 2.2 would not arise here because all labeling would take place *before* the relevant movements.<sup>17</sup>

The upshot of the above discussion is that under the analysis presented in section 2.2, unless additional assumptions are adopted (1) is not expected to hold for base-generated Specs, which undergo feature sharing. In other words, movement out of a moved element should be possible for a base-generated Spec of the moved element. However, while the prediction is clear, it is rather difficult to find clear cases of the relevant type, where we can be sure that the relevant element is base-generated at the phasal edge (we also need to make sure that the edge itself can independently move). In fact, I am not aware of any clear cases of that sort in English.

Consider for example possessors (having in mind the issue of whether possessors can move out of a moved DP). English possessors are often assumed to be base-generated in Spec,DP, where they undergo agreement/feature sharing with D.<sup>18</sup> However, a number of authors have argued that their surface position is Spec,PossP (see, e.g., Kayne 1994), PossP being dominated by DP, which means that the possessor is not located at a phasal edge, hence would need to undergo (non-feature-sharing) successive-cyclic movement to Spec,DP if it is to move outside of the DP. Finally, possessors simply do not move outside of their DP in English; hence, (1) cannot be tested with possessor extraction in English anyway.

However, Serbo-Croatian (SC) possessors do provide a relevant case, hence can be used as a testing ground here. Consider the following contrast between English and SC, noted by Despić (2011, 2013):

- (23) a. His<sub>i</sub> latest movie really disappointed Kusturica<sub>i</sub>.  
 b. Kusturica<sub>i</sub>'s latest movie really disappointed him<sub>i</sub>.  
 c. \*Kusturicin<sub>i</sub> najnoviji film ga<sub>i</sub> je zaista razočarao.  
 Kusturica's latest movie him is really disappointed

<sup>16</sup> Note that not all base-generated Specs undergo feature sharing (however, those that do not *must* move). Thus, Chomsky (2013) argues that the subject in Spec,vP and its sister do not undergo feature sharing in English, which then forces subject movement in English (in fact, the most natural way of capturing the situation where a Spec cannot remain in its base-generated position in the labeling framework is to assume that the configuration in question causes a labeling problem, hence forces movement).

<sup>17</sup> As in Bošković 2015, I assume that labeling can take place as soon as it is possible (Shlonsky (2014), Rizzi (2016), and Saito (2016) also argue for this position), which means that with feature sharing, labeling can take place prior to any movement of the elements that undergo feature sharing.

The situation is slightly more complicated in Chomsky's (2013) approach to the timing of labeling, but the result is the same. Chomsky assumes that labeling takes place at the phasal level, for the whole phase. Under this approach, nothing changes with respect to the prediction discussed in the text: a label for the result of the merger of a base-generated Spec of phase XP that undergoes feature sharing with the element that it merges with is determined at the phasal level of XP, hence prior to any movement of the elements in question (crucially, prior to the movement of XP).

The proposal in Bošković 2016c that the result of a head-phrase merger is labeled immediately while the result of a phrase-phrase merger is labeled as in Chomsky 2013, when the structure is sent to the interfaces, can also be accommodated if the latter is interpreted as in Chomsky 2013, with the labeling for such cases taking place at the phasal level for the whole phase.

<sup>18</sup> However, Munn (1995), Radford (2000), and Alexiadou (2005) argue that possessors are base-generated within NP and move to Spec,DP from an NP-internal position.

- d. \*Njegov<sub>i</sub> najnoviji film je zaista razočarao Kusturicu<sub>i</sub>.  
 his latest movie is really disappointed Kusturica  
 (Despić 2011:31, 2013:245)

Under the assumption that traditional Specs c-command out of the phrase where they are located, Kayne (1994) takes the acceptability of (23a–b) to indicate that English possessors are located not in Spec,DP but in the Spec of a lower phrase, Spec,PossP, with the DP confining the c-command domain of the possessor. Despić (2011, 2013) observes that in SC, a language without articles that has been argued to lack DP (see, e.g., Corver 1992, Zlatić 1997, Trenkić 2004, Bošković 2005, 2008c, 2012, 2014, Marelj 2008, 2011, Despić 2011, 2013, Takahashi 2012, Runić 2014a,b, Talić 2014, 2015), possessors do c-command out, as indicated by the binding violations in (23c–d), which contrast with English (23a–b). Despić takes the contrast in question as indicating that DP is missing in SC, with the possessor located in the highest projection of the traditional NP (TNP).<sup>19</sup> Since possessors can stay in that position, they must be undergoing feature-sharing labeling in that position—they in fact overtly agree in  $\phi$ -features and case with the noun.<sup>20</sup> (Note that following Bošković 2008c, 2012, Despić (2013) argues that the TNP is a bare NP in such cases in SC; hence, the possessor is located at the edge of the TNP.) Furthermore, possessors in principle can undergo movement in SC, as shown by (24).<sup>21</sup> Moreover, it is argued in Bošković 2013a, 2014 that the highest projection in the extended domain of a noun (or any lexical category) functions as a phase, which makes NP a phase in SC due to the lack of DP;<sup>22</sup> see Bošković 2013a, 2014 for a number of arguments to this effect.

- (24) Jovanov<sub>i</sub> je on vidio [<sub>NP</sub> t<sub>i</sub> sliku].  
 John's.ACC.FEM.SG is he seen picture.ACC.FEM.SG  
 'He saw John's picture.'

We thus have everything we need to test whether (1) holds for extraction of base-generated Specs. In (24), the phrase from which the possessor is extracted could be located in the base position. We need an example where this is clearly not the case. In fact, possessor extraction is possible in such cases too. In (25a) the possessor is extracted out of a fronted object, and in (25b) it is extracted out of the subject of a passive construction that nevertheless precedes the verb. Both of these cases involve movement out of a moved element. Another case is given in (25c), where the subject precedes a sentential adverb, indicating movement to Spec,IP prior to possessor extraction. (For ease of exposition, I only indicate case agreement below.)

<sup>19</sup> I use the term *TNP* neutrally here, for whatever the categorial status of the relevant element is.

<sup>20</sup> They thus differ from adnominal genitive complements. While the possessors in question precede the noun and agree with it in case and  $\phi$ -features, nominal complements follow the noun and are assigned genitive case by the noun; they do not agree with the noun in either case or  $\phi$ -features.

<sup>21</sup> There are accounts of possessor fronting in terms of remnant movement (Abels 2003, Franks and Progovac 1994) and scattered deletion (Fanselow and Čavar 2002). However, both types face rather serious problems (see, e.g., Bošković 2005, 2013a, Stjepanović 2010, 2011, Talić 2014, to appear, Despić 2015; note also that possessor extraction in SC is island-sensitive).

<sup>22</sup> PossP would be a phase if it is present. What is important here is that the possessor is located at the edge of the highest projection of the TNP in SC and that that projection is a phase; both matters have been extensively and independently argued for.

- (25) a. Jovanovu<sub>i</sub> je on [<sub>NP</sub> t<sub>i</sub> sliku]<sub>j</sub> vidio t<sub>j</sub>.  
 John's.ACC is he picture.ACC seen  
 'He saw John's picture.'
- b. Jovanova<sub>i</sub> je [<sub>NP</sub> t<sub>i</sub> slika]<sub>j</sub> ukradena t<sub>j</sub>.  
 John's.NOM is picture.NOM stolen  
 'John's picture was stolen.'
- c. Jovanov<sub>i</sub> je [<sub>NP</sub> t<sub>i</sub> prijatelj]<sub>j</sub> vjerovatno t<sub>j</sub> otpustio Mariju.  
 John's.NOM is friend.NOM probably fired Maria.ACC  
 'John's friend probably fired Maria.'

The above discussion indicates that (1) can be violated (i.e., it does not hold) if the element undergoing the movement that tests (1) is base-generated at the edge of the relevant phrase. As discussed above, this is exactly what is expected under the current account of (1) since labeling via feature sharing resolves the problem that arose with respect to labeling with the cases discussed in section 2.2, given that labeling here takes place before the relevant movement occurs.

From this perspective, consider the full derivation of (25a) (under the assumptions discussed above). The possessor is base-generated at the TNP edge, where it undergoes feature sharing so that the TNP in question is labeled (26a). The TNP in question is a phase under the approach to phases proposed in Bošković 2014; hence, it can undergo movement, as in (26b), without violating (12). After the object moves to the preverbal position, the possessor undergoes extraction (26c).<sup>23</sup>

- (26) a. vidio [<sub>NP</sub> Jovanovu sliku]  
 seen John's.ACC picture.ACC  
 b. [<sub>NP</sub> Jovanovu sliku]<sub>j</sub> vidio t<sub>j</sub>  
 c. Jovanovu<sub>i</sub> je on [<sub>NP</sub> t<sub>i</sub> sliku]<sub>j</sub> vidio t<sub>j</sub>.

What is important here is that while (25a) violates (1), it still conforms with the deduction of (1) proposed in section 2.2 (more precisely, what was deduced in section 2.2 is a modified version of (1); (25a) conforms with this modified version of (1) that was deduced above although it violates (1) itself). Notice also that, as expected given the above discussion, the TNP with the possessor remaining in its Spec can also move, as in (27).

- (27) [Jovanovu sliku]<sub>j</sub> je on vidio t<sub>j</sub>.  
 John's.ACC picture.ACC is he seen

<sup>23</sup> The point made here regarding possessor extraction can also be made regarding AP left-branch extraction in SC (see (29)), given that APs are also base-generated at the TNP edge in SC (see Bošković 2012, 2013a).

What about extraction of genitive nominal complements, which are not generated at the NP edge? An issue here is that extraction of such complements is in general somewhat degraded in SC, as in (ia) (see Zlatić 1994, Bošković 2014; I argue in the latter work that the reason why such constructions are degraded in SC is that they must involve movement from the complement to the Spec of NP (NP being a phase in SC), which is disallowed (see Abels 2003)). However, such extraction gets even worse when the remnant is fronted, as in (ib). This is in contrast to the case of agreeing possessors, where most speakers actually prefer constructions in which the remnant is fronted.

- (i) a. ??Kojeg doktora<sub>i</sub> si ti vidio [prijatelja t<sub>i</sub>]?  
 which doctor.GEN are you seen friend.ACC  
 'Which doctor did you see a friend of?'  
 b. ?\*Kojeg doktora si ti prijatelja vidio?

Another relevant case involves attributive adjectives, given that, as argued in Bošković 2013a, 2014, adjectives project phasal domains. (More precisely, in those works I argue that the highest projection in the extended domain of an adjective is a phase. I will use the term *traditional AP* (TAP) to refer to AP and any functional projections in the extended domain of AP; the highest projection in the TAP functions as a phase in the system in Bošković 2014.) What is important for present purposes is that intensifier extraction from APs is possible in SC, as discussed in Talić 2015 and illustrated by (28).

- (28) ?Izuzetno<sub>i</sub> su kupili [t<sub>i</sub> skup]      automobil.  
 extremely are bought    expensive car  
 ‘They bought an extremely expensive car.’

Such extraction is not possible in English; the English counterpart of (28) is unacceptable. Independently of present concerns, Talić (2015) argues that the difference between languages like SC, which allow such extraction, and languages like English, which disallow it, is that the intensifier is base-generated at the edge of the TAP phase in SC, while it is base-generated in a lower position in English and must undergo successive-cyclic movement to the edge of the TAP phase if it is to move out of it, given the PIC. Talić provides an analysis where this movement leads to a violation.<sup>24</sup> Under Talić’s analysis, the SC construction in question then provides another test case, given that, in contrast to English, in SC the intensifier is base-generated at the edge of the TAP phase (since it can stay in this position, it must be able to undergo feature sharing).

Now, in contrast to English, SC allows left-branch extraction of APs (see, e.g., Corver 1992, Bošković 2005, 2012).

- (29) Skup<sub>i</sub>      su kupili [t<sub>i</sub> automobil].  
 expensive are bought    car  
 ‘They bought an expensive car.’

Crucially, intensifier extraction is possible out of APs that undergo movement. Thus, in (30) the AP itself has moved out of its TNP, with the intensifier moving out of the moved AP.

- (30) ?Izuzetno<sub>i</sub> su [t<sub>i</sub> skup]<sub>j</sub>      kupili [t<sub>j</sub> automobil].  
 extremely are    expensive bought    car  
 ‘They bought an extremely expensive car.’

This is then another instance of movement out of a moved element that is predicted to be acceptable under the current account of (1).

<sup>24</sup> More precisely, an antilocality violation (see Talić 2015 for details of the analysis). Talić actually argues that the intensifier is generated in the same position in both English and SC, but the TAP has a functional projection above the base-generated position of the intensifier in English, but not in SC. (More generally, Talić argues that just as the structure of the TNP is richer in English than in SC, so the structure of the TAP is richer in English than in SC, the same factor being responsible for both differences. This enables Talić to provide a unified account of the SC/English contrast regarding constructions like (28) and the SC/English contrast regarding AP left-branch constructions like (29), discussed below.) As a result, the intensifier is not base-generated at the phasal TAP edge in English, while it is in SC, which is what is important for present purposes. (Talić’s account of the SC/English contrast regarding constructions like (28) (which she extends to AP left-branch constructions like (29)) may actually also be extendable to the SC/English contrast regarding constructions like (47) below, which are also unacceptable in English.)



#### 4 Restating (1)

If correct, the above discussion indicates that the generalization in (1) is fundamentally misguided. The right generalization is in fact (31), which we have seen above can be deduced from independent assumptions—in other words, it is a theorem.<sup>25</sup>

(31) Phases that host successive-cyclic movement (at their edge) cannot undergo movement.

There is nothing that is in principle wrong with movement out of moved elements; what was wrong in the relevant cases that were used in the literature to motivate positing (1) was that the element that was later moved out of could not undergo movement itself. A phase with an agreeing Spec (see footnote 25) can undergo movement, but a phase with a nonagreeing Spec (which is the case with successive-cyclic movement) cannot. Since nonagreeing Specs cannot stay where they are for independent reasons (i.e., that's the very nature of successive-cyclic movement), all the cases of the latter type also involve movement of the Spec itself, which means that they involve movement out of a moved element. This has led to the illusion that this later movement is what is responsible for the ungrammaticality of the relevant constructions, which I have argued is not the case. That this later movement is indeed accidental was confirmed by the extension of the proposed account of (31) to the immobility of V2 clauses, where movement out of a moved element does not even take place. In fact, taking the extension to the immobility of V2 clauses into consideration, (31) can be restated as (32).

(32) Phases with nonagreeing Specs cannot undergo movement.

(32) in turn can be restated as (33) within the labeling framework.

(33) Unlabeled elements cannot undergo movement.

The analysis proposed in this article, which took the traditional ban on movement out of moved elements (i.e., (1)) as the point of departure, in fact has deduced (32)/(33), rather than (1).

In principle, as long as nothing else interferes, it should then not be too difficult to find acceptable cases of movement out of moved elements. In fact, it appears that we do not need to confine our attention to base-generated Specs, as in the discussion in section 3. Even elements that move to a feature-sharing position could in principle provide relevant cases: an agreeing Spec of XP (even if it is created by movement) should be able to move out of XP after XP undergoes movement. The problem is that in almost all relevant cases something else interferes—in particular, the criterial freezing effect discussed in a number of works (see, e.g., Epstein 1992, Rizzi 2006, Bošković 2008b).<sup>26</sup>

<sup>25</sup> As discussed above, the issue here is that the relevant phrases are actually not phases; for ease of exposition I ignore this point here. (Note also that (also for ease of exposition) in the following discussion I will interchangeably use the terms *feature sharing* and *agreeing*.)

<sup>26</sup> Some languages have often been assumed to involve morphologically manifested agreement with successive-cyclic movement out of declarative CPs (i.e., in intermediate Spec,CPs). However, such languages have also been quite convincingly argued to involve very different derivations in the relevant cases, which is not surprising under the labeling approach to successive-cyclic movement, where the impossibility of labeling essentially drives such movement.

Consider in this respect the French example (34). Here, the *wh*-phrase moves to the Spec,CP of the clause embedded under *demandé* ‘asked’. This clause itself then undergoes movement, which is followed by movement of the *wh*-phrase out of the CP in question.

- (34) \*Où<sub>j</sub> Anne a dit que [<sub>CP</sub> t<sub>i</sub> [<sub>IP</sub> Pierre a embrassé Marie t<sub>j</sub>]]<sub>i</sub> Jean a  
 where Anne has said that Pierre has kissed Marie Jean has  
 demandé t<sub>j</sub>.  
 asked  
 ‘Anne said that Jean asked where Pierre kissed Marie.’

(34) thus involves movement out of a moved element, the interrogative CP. The interrogative CP itself can move here, as indicated by (35a–b), which are clearly better than (34).

- (35) a. [<sub>CP</sub> Où<sub>j</sub> [<sub>IP</sub> Pierre a embrassé Marie t<sub>j</sub>]]<sub>i</sub>, Jean a demandé t<sub>i</sub>.  
 where Pierre has kissed Marie Jean has asked  
 ‘Jean asked where Pierre kissed Marie.’  
 b. ?Anne a dit qu’ [<sub>CP</sub> où<sub>j</sub> [<sub>IP</sub> Pierre a embrassé Marie t<sub>j</sub>]]<sub>i</sub>, Jean a  
 Anne has said that where Pierre has kissed Marie Jean has  
 demandé t<sub>i</sub>.  
 asked

Is (34) then an instance of (1) where there is nothing wrong with the movement of the element that is later to be moved out of (namely, the most deeply embedded interrogative clause), as indicated by (35), which would be unexpected under the current analysis? The answer is no, since even if the CP in question itself does not move, *wh*-movement out of it is impossible, as shown by (36).

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Most such languages do not actually involve agreement between a *wh*-phrase and an intermediate C. Rather, what happens is that a *wh*-phrase that moves out of a clause disrupts object agreement between the higher verb and the clause. Thus, in Selayarese, one of the standard cases of putative intermediate *wh*-agreement languages, there is actually no *wh*-C agreement. Rather, object agreement that normally happens between a higher verb and its clausal complement is blocked when a *wh*-phrase moves out of the clausal complement. In Bošković 2008a, I in fact analyze this situation in terms of (1): Agreeing clauses undergo object shift. A *wh*-phrase cannot move out of an agreeing clause since such movement would involve movement out of a moved element. I also suggest a similar account of the Irish case; however, Noonan (1999) argues that such cases in fact involve an even more different derivation, with what was considered to be an agreeing C actually being an object shift marker. As discussed in Bošković 2008a, Kinande may be the most uncontroversial case of a language with true intermediate *wh*-agreement, since in this language *wh*-phrases can belong to a number of different classes, which is reflected in the morphological makeup of the complementizers (both final and intermediate). This rules out the possibility of an account in terms of object agreement (cf. the case of Selayarese). However, as discussed in Boeckx 2003, Bošković 2008a, Schneider-Zioga 2009, and Den Dikken 2010, the relevant cases in Kinande do not involve movement at all: the fronted *wh*-phrases are blocked from reconstructing into lower positions and they are also island-insensitive (they essentially involve resumption). In light of this, I will not discuss such cases here.

Space considerations prevent discussion of a number of potentially relevant cases. The cases discussed in the text should, however, indicate what we may expect to find—that is, how the potentially relevant cases not discussed here should be analyzed. Thus, if, more generally, there are cases that involve feature sharing with true successive-cyclic movement (see here Van Urk 2015), the expectation would be that the freezing effect discussed in this article would not hold in such cases; one potentially relevant case, which involves quantifier float, is discussed below.

- (36) \*Où<sub>i</sub> Anne a dit que Jean a demandé [<sub>CP</sub> t<sub>i</sub> [<sub>IP</sub> Pierre a embrassé  
 where Anne has said that Jean has asked Pierre has kissed  
 Marie t<sub>i</sub>]].  
 Marie  
 ‘Anne said that Jean asked where Pierre kissed Marie.’

(36) shows that (1) is irrelevant to the ungrammaticality of (34). The *wh*-phrase cannot move out of the interrogative CP in question regardless of whether this CP undergoes movement or not. Of course, what we are dealing with here is what Rizzi (2006) refers to as the criterial freezing effect (see also Epstein 1992, Bošković 2008b). An interrogative Spec,CP is a position from which further movement is not possible; that is, *Q/wh*-feature sharing has a freezing effect on movement (once *où* ‘where’ moves to the Spec of the most embedded CP, which is an interrogative Spec,CP, it cannot undergo further movement). While the current account of (1), which actually restates it as (31)/(32), predicts that feature-sharing Specs can in principle move out of moved elements, the problem is that most feature-sharing Specs are actually criterial Specs, hence banned from undergoing movement for independent reasons (whether they move from a moved element or from an element located in its base-generated position). This is in fact the reason for the ungrammaticality of (34).

However, Luis Vicente (pers. comm.) brings up a case that is similar to (34) but where the criterial freezing effect is not involved. It concerns German and Dutch PPs with *r*-pronouns, like the ones in (37) (I illustrate the relevant point with respect to German, but the discussion extends to Dutch). *R*-pronouns are exceptional in that they must precede the preposition, although German adpositions are otherwise always prepositional. Compare in this respect (37) and (38).

- (37) a. davon/damit  
 it.of/it.with  
 b. \*von da/\*mit da
- (38) a. von/mit dem Mann  
 of/with the man  
 b. \*dem Mann von/mit

Let us focus on *davon* ‘of it’. *Davon* is standardly analyzed as involving movement of *da* to Spec,PP (or a higher position in the extended projection of the preposition; I will refer to the former below for ease of exposition). Since *da* can stay in that position, and is in fact located in that position when the PP is moved, as in (39), it must be the case that it undergoes feature sharing with its sister, which makes labeling possible.

- (39) Er hat davon<sub>i</sub> noch nicht [das Vorwort t<sub>i</sub>] gelesen.  
 he has it.of yet not the preface read  
 ‘He hasn’t yet read the preface of it.’  
 (Den Besten and Webelhuth 1990:90)

Notice that the DP-P order is highly restricted in German; it is restricted to the small group of *r*-pronouns and about twenty prepositions. This in itself can be taken to suggest that agreement/

feature sharing is involved here: only elements that undergo the relevant agreement/feature sharing occur in this configuration (following Van Riemsdijk 1997, I will refer to the feature in question as the *R-feature*; see that work for some discussion of its nature). At any rate, what is important here is that the fact that *da* must move to Spec,PP (see (37b)) and stays in Spec,PP (see (37a), (39)) provides evidence that movement of *da* to Spec,PP does not take place strictly for reasons of successive cyclicity; that is, *da* moves to the position in question independently of successive cyclicity.

Now, *da* can also move alone, stranding the preposition, as in (40).<sup>27</sup> Furthermore, as Luis Vicente (pers. comm.) notes, it is possible to combine these two movements, by first moving the whole PP and then moving *da* out of it, as in (41). (The DP [*das Vorwort t<sub>j</sub>*] undergoes remnant movement, which is in accordance with the approach to remnant movement from section 2.3; see also Thiersch to appear for discussion of such examples.)<sup>28</sup>

(40) Er hat *da<sub>i</sub>* noch nicht [*das Vorwort [t<sub>i</sub> von t<sub>i</sub>]*] gelesen.  
 he has it yet not the preface of read  
 (Den Besten and Webelhuth 1990:90)

(41) Er hat *da<sub>i</sub>* [*das Vorwort t<sub>j</sub>]<sub>k</sub>* noch nicht [*t<sub>i</sub> von t<sub>i</sub>]<sub>j</sub> t<sub>k</sub> gelesen.  
 he has it the preface yet not of read  
 (Den Besten and Webelhuth 1990:90)*

The same point is illustrated for Dutch by (42), which does not involve remnant movement. (*Waar* ‘where’ in (42a) is an *r*-pronoun, which, when not moved out of the PP, must precede the preposition, in contrast to the DP in (42b). Without P-stranding, what would be *wh*-moved in (42a) is *waar mee*.) The PP in (42a) moves out of the embedded clause, and then *waar* moves out of this PP.

- (42) a. *Waar<sub>i</sub>* had jij dan [*t<sub>i</sub> mee t<sub>i</sub>]<sub>j</sub> gedacht dat je de vis t<sub>j</sub> zou moeten snijden?  
 where had you then with thought that you the fish would must cut  
 ‘What did you think you should cut the fish with?’  
 (Barbiers 2002:49)*
- b. ?Ik had met een scheermes gedacht dat je de vis zou moeten snijden.  
 I had with a razor thought that you the fish would must cut  
 ‘I thought that you should cut the fish with a razor.’  
 (Den Dikken 2010:98)

<sup>27</sup> There are ill-understood restrictions on P-stranding in German that I will not discuss here; see Thiersch to appear and references therein. (The restrictions in question interfere with testing extraction out of conjuncts, discussed in appendix B, with the *r*-pronoun movement discussed in this section.)

<sup>28</sup> Another relevant example is (i), where *da* moves out of a PP that has moved out of a VP that undergoes remnant fronting.

- (i) [*t<sub>j</sub> gerechnet*]<sub>k</sub> hatte Peter *da<sub>i</sub>* nicht [*t<sub>i</sub> mit t<sub>i</sub>]<sub>j</sub> t<sub>k</sub>.  
 counted had Peter there not with  
 ‘Peter had not expected that to happen.’  
 (Den Besten and Webelhuth 1990:87)*

Under the above analysis, (41) and (42a) are the same kind of case as SC (25), except that they involve not a base-generated Spec but movement to the relevant Spec position: *da* in (41) moves to the Spec of *von*, and the whole PP then moves out of the DP, with *da* moving out of the PP. In Dutch (42a), *waar* moves to the Spec of *mee* and the PP then moves to the matrix clause, followed by *wh*-movement of *waar* out of the PP. As noted above, that the moving elements *da* and *waar* otherwise remain in the relevant Spec position indicates that they can undergo the feature sharing needed for labeling in that position; hence, no labeling problem of the kind discussed in section 2.2 arises here.<sup>29</sup> (41)–(42a) are then another acceptable case of movement out of a moved element that is predicted to be acceptable by the account (and the reformulation) of the freezing effect in question proposed in this article.

What is important for present purposes is that in all the cases where I have argued that (1) can be violated, the element that is able to move out of a moved element (XP) is independently able to stay at the edge of the moved element (in fact, the edge of XP is its obligatory surface position within XP). This provides evidence that labeling at the relevant edge position is possible; in other words, in the relevant cases we are not dealing with true successive-cyclic movement, where the moving element is not able to remain in the intermediate position. The account of (1) proposed in this article, which confines the effect of (1) to true successive-cyclic movement,<sup>30</sup> can capture the exceptional cases as well as the unacceptable cases that have been standardly used in the literature to illustrate the effects of (1), of the kind reviewed in section 1.

Another relevant case may be provided by floating quantifiers in Janitzio P'urhepecha (JP). This case is somewhat different from the cases discussed above in that it is not clear that the moving element can stay in the relevant edge position, though there is independent evidence for feature sharing in the relevant edge position.

Zyman (2016) shows that in JP, as in several other languages, without quantifier float the quantifier and the noun optionally agree, while with quantifier float they must agree. This is illustrated in (43)–(44) (note that *uatsapi-cha* ‘child-PL’ and *iamindu-eecha* ‘all-PL’ need not be adjacent in (44b)).

- (43) a. **Iamindu uatsapi-cha** ch'ana-xa-θ-ti=sī           juata-rhu.  
 all       child-PL     play-DUR-PRS-IND+3=3pS hill-LOC  
 ‘All the kids are playing on the hill.’  
 (Zyman 2016:4)

<sup>29</sup> In contrast to *wh*-feature (i.e., Q) checking/sharing (see the movement of the *wh*-phrase to the most embedded Spec,CP in (36)), R-feature sharing does not induce a criterial freezing effect (otherwise, *da/waar* would not be able to move outside of the PP, stranding the preposition).

It may be worth noting here that Van Riemsdijk (1997) suggests that the relevant PPs always undergo movement in Dutch; this would explain why P-stranding is generally restricted to *r*-pronouns (only elements that undergo feature sharing (i.e., *r*-pronouns) could then move out of PPs since such movement would always involve movement out of a moved element).

<sup>30</sup> Recall that the movement to Spec,CP of V2 clauses is abstractly similar to successive-cyclic movement, hence the extension of the current account of (1) to the immobility of V2 clauses.

- b. **Iamindu-eecha uatsapi-cha** ch'ana-xa- $\emptyset$ -ti=sĩ juata-rhu.  
 all-PL child-PL play-DUR-PRS-IND+3=3pS hill-LOC  
 'All the kids are playing on the hill.'  
 (Zyman 2016:4)
- (44) a. \***Uatsapi-cha iamindu** ch'ana-xa- $\emptyset$ -ti=sĩ juata-rhu.  
 child-PL all play-DUR-PRS-IND+3=3pS hill-LOC  
 Intended: 'The kids are all playing on the hill.'  
 (Zyman 2016:6)
- b. ?**Uatsapi-cha iamindu-eecha** ch'ana-xa- $\emptyset$ -ti=sĩ juata-rhu.  
 child-PL all-PL play-DUR-PRS-IND+3=3pS hill-LOC  
 'The kids are all playing on the hill.'  
 (Zyman 2016:5)

The analysis presented in this article provides a new perspective on the paradigm in (43)–(44). As I have shown elsewhere (Bošković 2004a), quantifier float of the kind discussed by Sportiche (1988) is quite generally crosslinguistically disallowed in  $\emptyset$ -positions. This means that quantifier float necessarily involves movement of the phrase within which the quantifier is to be stranded, followed by the stranding movement (I will refer to the phrase where the quantifier is located/stranded as *QP* (see also Shlonsky 1991); see Bošković 2013a, 2014 for arguments that this phrase is a phase). In other words, quantifier float necessarily involves movement out of a moved element. (44a) can then be seen as an instance of the traditional ban on movement out of moved elements (i.e., (1)), while (44b) can be seen as a case where the ban is voided since the element that is undergoing movement out of a moved phrase undergoes agreement at the edge of the moved phrase. In other words, both (44a) and (44b) involve movement out of a moved QP. In (44b), the moving element undergoes agreement at the edge of QP, voiding the effect of the traditional ban on movement out of moved elements for reasons discussed above.<sup>31</sup>

## 5 On the Adjunct Condition

In this section, I will discuss the Adjunct Condition (i.e., the traditional ban on extraction out of adjuncts), illustrated by (45).

<sup>31</sup> I take (43) to indicate that the relevant agreement is in principle optional. The agreement option is forced in the context of quantifier float by the current account of (1). There are other languages that exhibit this kind of pattern (e.g., German and Hebrew); in fact, as far as I know, if agreement between the Q and the NP is in principle possible, it is forced under quantifier float. In principle, the above analysis could be extended to languages like English (though I leave this open here), the only difference being that the relevant agreement relation is never morphologically realized in English (in fact, agreement is rarely morphologically realized in English, though it is standardly assumed to take place even when it is not morphologically realized). JP is particularly useful here since the agreement in question is morphologically manifested, but also because, as Zyman (2016) shows, JP floated quantifiers cannot be analyzed as adverbs (see Bobaljik 2003 and references therein); that is, JP quantifier float indeed involves Sportiche (1988)–style quantifier stranding.

It should also be noted that there are other cases where subextraction has been reported to require agreement (see, e.g., Bošković 2009). The account presented here may provide a new perspective on all such cases; that is, it may provide a general explanation for the cases exhibiting the forced-agreement-under-subextraction effect. However, establishing this would require a detailed examination of the relevant cases, which cannot be undertaken here for reasons of space.

(45) ?\*What<sub>i</sub> did you fall asleep [because John was reading t<sub>i</sub>]?

I will show that adjuncts exhibit the same pattern of extraction as moved elements, suggesting that a unification may be in order here. Takahashi (1994) in fact attempts to unify the Adjunct Condition with (1), though in a rather roundabout way (see also Chametzky 1996, Hunter 2015). There may, however, be a more natural extension of (1) to the Adjunct Condition. It turns out that extraction out of adjuncts is allowed exactly in the context where extraction out of moved elements is allowed, which argues for a unified account of the two. In particular, the most straightforward interpretation of this state of affairs seems to be that adjuncts undergo movement, in which case extraction out of an adjunct involves extraction out of a moved element (see below for an implementation of this suggestion).<sup>32</sup>

Recall that the ban on movement out of moved elements is voided with base-generated Specs. The same in fact holds for adjuncts: the ban on extraction out of adjuncts is voided for elements that are base-generated at the adjunct edge. Thus, *koliko/izuzetno* ‘how’/‘extremely’ are plausibly base-generated at the edge of the adjunct in SC (46). Importantly, they are allowed to move out of it.<sup>33</sup>

(46) *Koliko/Izuzetno<sub>i</sub> je on [t<sub>i</sub> visoko] skočio*  
 how/extremely is he high jumped  
 ‘How high did he jump?/He jumped extremely high.’

Another case that can be handled in the same way is (47).

(47) *Izuzetno<sub>i</sub> se on [t<sub>i</sub> loše] ponašao.*  
 extremely is he badly behaved  
 ‘He behaved extremely badly.’

Turning now to TNP adjuncts, SC is rather productive regarding the possibility of TNPs functioning as adjuncts. Such cases are important in that we can take advantage of possessor extraction to test whether extraction out of an adjunct is indeed in principle possible for elements

<sup>32</sup> See also Bošković to appear for an extension of the current account of (1) to the islandhood of inherently case-marked elements, noted by Starke (2001) and illustrated by SC (i), which involves extraction out of an inherently (i.e., dative) case-marked object.

(i) ?\*Kojeg doktora<sub>i</sub> si prijetio [prijatelju t<sub>i</sub>]?  
 which doctor.GEN are threatened friend.DAT  
 ‘Which doctor did you threaten a friend of?’

As I show in Bošković to appear, such inherently case-marked elements exhibit the same kind of locality as moved elements: contexts that exceptionally allow extraction out of moved elements also exceptionally allow extraction out of inherently case-marked elements, as illustrated in (ii) with SC possessor extraction.

(ii) Čijem<sub>i</sub> si prijetio [t<sub>i</sub> prijatelju]?  
 whose.DAT are threatened friend.DAT  
 ‘Whose friend did you threaten?’

On that basis, in Bošković to appear I argue that the islandhood of inherently case-marked elements should be unified with the islandhood of moved elements, which means that inherently case-marked elements undergo movement (this also provides motivation for Torrego’s (1998) movement of *a*-marked DPs in Spanish).

<sup>33</sup> Not surprisingly, (i) is also possible.

(i) [*Koliko/Izuzetno visoko*] je on skočio  
 how/extremely high is he jumped



base-generated at the adjunct edge. One relevant case is (48), where an instrumental nominal functions as an adjunct (see Bošković 2006 for discussion of such adjuncts).<sup>34</sup>

- (48) Trčao je šumom.  
 run is forest.INSTR  
 'He ran through a/the forest.'

That the instrumental nominal in (48) is indeed an adjunct is confirmed by extraction. First, extraction of the nominal in question out of an island yields an ECP-strength, not a Subjacency-strength violation, as illustrated by the contrast in (49).

- (49) a. \*Šumom<sub>i</sub> se pitaš [kad je trčao t<sub>i</sub>].  
 forest.INSTR REFL wonder when is run  
 'You wonder when he ran through a/the forest.'  
 b. ??Šumu<sub>i</sub> se pitaš [kad je posjekao t<sub>i</sub>].  
 forest.ACC REFL wonder when is cut.down  
 'You wonder when he cut down a/the forest.'

Furthermore, while extraction of genitive complements of nouns is in general somewhat degraded in SC (see footnote 23), (50a), which involves extraction out of the nominal under consideration, is clearly worse than (50b), which involves extraction out of an object.

- (50) a. \*Moga djeda<sub>i</sub> je trčao [šumom t<sub>i</sub>].  
 my.GEN grandfather.GEN is run forest.INSTR  
 'He ran through the forest of my grandfather.'  
 b. ??Moga djeda<sub>i</sub> je volio [šumu t<sub>i</sub>].  
 my.GEN grandfather.GEN is loved forest.ACC  
 'He loved the forest of my grandfather.'

'My grandfather' must undergo movement to the edge of the adjunct TNP in (50a) (or it could not move out of it, the TNP being a phase). While (50a) is unacceptable, movement out of the adjunct TNP in question turns out to be possible if the element moving out of it is base-generated at its edge. As discussed above, possessors are base-generated at the TNP phase edge in SC. Importantly, in contrast to extraction of the complement of the TNP adjunct in question, extraction of the possessor of the TNP adjunct in question is possible.

- (51) Ivanovom<sub>i</sub> je on trčao [t<sub>i</sub> šumom].  
 Ivan's.INSTR is he run forest.INSTR  
 'He ran through Ivan's forest.'

The contrast between (50a), where the moving element has to move to the edge of the relevant TNP, and (51), where it is base-generated at its edge, mirrors the pattern of extraction out of

<sup>34</sup> It may be worth noting here that the word order in SC is rather free; thus, *šumom je trčao* is also possible. In fact, since even participles that follow auxiliaries in SC undergo movement (see Stjepanović 1998, 1999, Bošković 2001), participles are not a reliable diagnostic for determining the structural position of elements that are adjacent to them.

moved elements, and can be captured if extraction out of adjuncts also involves extraction out of moved elements.

Another relevant case is provided by a particular type of cognate object. There is a great deal of literature regarding the argument/adjunct status of cognate objects. Marelj (2015) shows that such objects do not behave uniformly regarding the issue in question in SC. In particular, she shows that instrumental cognate objects like the one in (52) are adjuncts, while accusative cognate objects like the one in (53) are arguments. Notice in this respect that the verb in (52) is ergative (the only  $\theta$ -role the verb has is discharged by ‘he’), and that (52) can be used to answer an adjunct question like the one in (54). (Furthermore, the cognate object in question behaves like the adjunct TNP from (48) with respect to the extraction tests noted above; see Marelj 2015. Marelj gives a number of additional arguments for the adjunct status of the nominal in question; she shows that the cognate objects in (52) and (53) consistently display different behavior with respect to the relevant tests.)

- (52) Umro je prirodnom smrću.  
 died is natural.INSTR death.INSTR  
 ‘He died a natural death.’
- (53) Sanja san.  
 dreams.ACC dream  
 ‘He dreams a dream.’
- (54) Kako je umro? Užasnom smrću.  
 how is died terrible.INSTR death.INSTR  
 ‘How did he die? A horrible death.’

The nominal in (52) is thus an adjunct. Importantly, extraction out of it is still possible for elements base-generated at its edge, as illustrated by (55), which involves extraction of an agreeing possessor that was discussed above.

- (55) Isusovom<sub>i</sub> je umro [<sub>t<sub>i</sub></sub> smrću].  
 Jesus’.INSTR is died death.INSTR  
 ‘He died the death of Jesus.’

The data discussed in this section indicate that adjuncts exhibit the same pattern of extraction as moved elements: just as the ban on movement out of moved elements is voided for elements base-generated at the edge of the moved element, so the ban on extraction out of adjuncts is voided for elements base-generated at the adjunct edge. The parallelism can be captured if adjuncts undergo movement, in which case extraction out of adjuncts involves extraction out of moved elements.<sup>35</sup>

I tentatively suggest the following as an implementation of this adjunct movement. There are two types of treatments of adjuncts in the literature: a more traditional approach where adjuncts

<sup>35</sup> See also Zyman 2016 for a case from Janitzio P’urhepecha where the Adjunct Condition effect is voided because the moving element undergoes feature sharing at the edge of the adjunct, which makes labeling at the adjunct edge possible.

are adjoined to, or function as additional Specs of, existing phrases (e.g., vP or VP) and a Cinque (1999)–style analysis, where adjuncts are located in the Specs of dedicated functional projections, each traditional adjunct being located in the Spec of a distinct FP. Suppose now that both of these are correct: adjuncts start as Specs of/adjuncts to existing phrases (which are not adjunct-dedicated) like vP or VP, and then move to the Spec of Cinque-style FPs.<sup>36</sup> Movement out of adjuncts will then involve movement out of moved elements. Since elements that function as adjuncts have all independently been argued to be phases (see Bošković 2013a, 2014), the account of (1) from section 2 can then extend to the Adjunct Condition.

It should be noted that I do not rule out the possibility of an alternative analysis. In fact, quite independently of the analysis suggested above, the data pertaining to extraction out of adjuncts discussed in this section suggest that the problem with extraction out of adjuncts is getting to the edge of the adjunct; if an element can be base-generated at the edge of the adjunct, it can extract. This in itself is potentially a rather important point regarding the still mysterious nature of the ban on extraction out of adjuncts. I certainly do not rule out the possibility that there can be ways of capturing the problem with getting to the edge of an adjunct that do not tie it to the generalization in (1).

## 6 Conclusion

To conclude, I have shown that the gist of the freezing effect—that is, the ban on movement out of moved elements (see (1))—naturally falls out from the phasal/labeling system. The proposed account of (1) leaves room for legitimate “violations” of (1) in well-defined configurations, where movement out of moved elements was shown to indeed take place. The proposed analysis thus actually does not deduce (1), which rigidly bans movement out of moved elements; rather, it deduces a modified version of (1), which does allow such movement in certain contexts. This means that the traditional ban on movement out of moved elements itself should be restated; in fact, we have seen that its original formulation, given in (1), is both too strong (it incorrectly rules out acceptable instances of movement out of moved elements) and too weak (it fails to rule out certain constructions that do not involve movement out of a moved element but that I have argued should be unified with the unacceptable cases of extraction out of moved elements). In that vein, I have argued for a reformulation of the traditional ban on movement out of moved elements as in (56) (see also (31)), which in turn can be restated as in (57) in the labeling framework.

(56) Phases with nonagreeing Specs cannot undergo movement.

(57) Unlabeled elements cannot undergo movement.

<sup>36</sup> Here, I am generalizing Cinque’s analysis to all traditional clausal-level adjuncts. (I leave the details of implementation open: it is possible that we are dealing (in some cases) with rightward movement, or leftward movement with pronunciation of a lower copy motivated by prosodic reasons (e.g., the prosodic heaviness of clauses; see Bobaljik 1995, Franks 1998, Bošković 2001, Landau 2003, Bošković and Nunes 2007, among many others, on the mechanism in question.)

The generalizations in (56)–(57) capture all the cases given in the literature to support the traditional ban in (1). They also capture a number of cases where movement out of a moved element is allowed to take place (as in German/Dutch *r*-pronoun constructions, Slavic left-branch extraction, and quantifier float more generally), which are problematic for (1). Moreover, since they do not appeal to movement out of a moved element, the generalizations can also be extended to some cases where such movement does not take place (as with the immobility of V2 clauses in German), which the traditional ban in (1) has nothing to say about. (56)–(57) are thus better-supported empirically than the traditional ban in (1). What the phase/labeling-based analysis proposed in this article deduces is in fact the generalizations in (56)–(57), not the traditional ban in (1).

Under the proposed analysis, the traditional freezing effect arises with successive-cyclic movement: since successive-cyclic movement does not result in labeling (due to the lack of feature sharing), it “delabels” the element whose edge it targets. Since labels are a prerequisite for phases, this way it also voids the element in question (XP) of phasehood, making it impossible for it to undergo movement. Given that the cycle forces movement to the edge of XP to occur before movement of XP, we then deduce the empirical effects of (1) (more precisely, the generalizations in (56)–(57)).

It is worth emphasizing here that the current analysis provides a new perspective on movement out of moved elements. Under the current analysis, the problem with the unacceptable cases of movement of YP out of moved element XP does not arise at the point of movement of YP out of XP (as is generally the case in other accounts of the ban in question). Instead, the problem arises already with the movement of XP; that is, XP itself cannot undergo movement in this case—what should be later movement out of moved XP is then trivially blocked. In other words, it is not the case that movement of XP freezes its internal structure; rather, movement of YP to the edge of XP (for successive-cyclic reasons) prevents movement of XP.

The discussion in the article also provides a new perspective on the traditional Adjunct Condition (i.e., the ban on movement out of adjuncts). We have seen that movement out of adjuncts is possible in the same configuration as movement out of moved elements. To capture this, I have suggested a unified account of the traditional Adjunct Condition and the ban on movement out of moved elements, a suggestion that however has far-reaching consequences that cannot be fully explored here. More neutrally (i.e., independently of the suggested account), the data pertaining to extraction out of adjuncts discussed in this article indicate that the problem with extraction out of adjuncts is getting to the edge of the adjunct; if an element can be base-generated at the edge of the adjunct, it can extract.

## Appendix A: Smuggling and the Ban on Movement out of Moved Elements

I will end the discussion of the ban on movement out of moved elements on a somewhat speculative note.<sup>37</sup> The cases where movement out of a moved element takes place that are blocked by

<sup>37</sup> The discussion in this appendix was prompted by comments from Luigi Rizzi.

(56)–(57) involve successive-cyclic movement, the reason for this being that successive-cyclic movement delabels the element it targets due to the lack of agreement. This is also the reason why the effect in question is generally confined to phases. Given the PIC, only phases must be targeted by successive-cyclic movement, hence the freezing effect that successive-cyclic movement has on the element it targets. Now, there are proposals in the literature where movement out of a moved element takes place where the latter is not a phase. This is for example the case with Collins's (2005b) smuggling account of passives. Collins argues that (58) is derived as follows: PartP moves to Spec,VoiceP, crossing *Mary*, after which *John* moves out of moved PartP. (Collins actually assumes that *John* moves to Spec,PartP although, as far as I can tell, the movement is not necessary. I therefore assume that it does not take place.) Under Collins's analysis, (58) then involves movement out of a moved element.

(58)  $John_i$  was [<sub>VoiceP</sub> [<sub>PartP</sub> arrested  $t_i$ ]<sub>j</sub> [<sub>Voice'</sub> by [<sub>VP</sub> Mary [<sub>v'</sub> v  $t_j$ ]]]].

The smuggling derivation in (58) is not blocked by (56)–(57).<sup>38</sup> As discussed above, the issue that the generalizations in (56)–(57) put their finger on is raised by successive-cyclic movement, which delabels its target due to the lack of agreement. The issue in question inevitably arises only with phases, since only phases must be targeted by successive-cyclic movement due to the PIC. The movement-out-of-a-moved-PartP derivation does not involve movement of a phase;<sup>39</sup> hence, the issue in question does not arise with this derivation. Since nothing in (56)–(57) in principle bans movement out of a moved element, the derivation in question is then not blocked by (56)–(57). The issue that does arise with the derivation in (58) concerns (12): if only phases can undergo movement, the derivation in question is ruled out independently.

As noted above, the derivation in (58) conforms with the restatement of the traditional ban on movement out of moved elements argued for here, namely, (56)–(57). However, it actually does not conform with the deduction of (56)–(57) proposed in this article for the simple reason that the deduction relies on (12). Therefore, if derivations like the one in (58) were to be allowed, (56)–(57) could still be maintained, but a new deduction of (56)–(57) would be needed that would not appeal to (12). As a brief speculation regarding this issue, consider (57) in this respect. (57) may be deducible independently of (12) on the view on which movement is driven by an uninterpretable/unvalued feature of the moving element, as in Bošković 2007, 2011, since an unlabeled element could not have such a feature under the assumption that projection/labeling is necessary for projecting any features. The same may hold on the view where movement is motivated by the EPP feature, as in Chomsky 2000, 2001, if satisfaction of the EPP feature is tied to for example categorial features in that the moving element would need to have a categorial feature to satisfy the EPP feature (the underlying assumption again being that projection/labeling is necessary for projecting any features).

<sup>38</sup> Collins (2005a) proposes a smuggling derivation for the *seem*+experiencer raising construction in English. His derivation can be easily modified so that the discussion of (58) in this appendix also applies to it.

<sup>39</sup> For Collins (2005b), VoiceP is the phase here.

At any rate, returning to (58), if (12) holds, derivations where a nonphase moves, like the one in (58), will be ruled out. The generalizations in (56)–(57) are, however, themselves independent of the issue of whether (12) holds; that is, they do not depend on only phases being able to undergo movement. They kick in in the case of successive-cyclic movement because successive-cyclic movement delabels the element it targets due to the lack of agreement.<sup>40</sup> Their effect is confined to phases because only phases *must* be targeted by successive-cyclic movement, given the PIC. If nonphases can in principle move, their movement would not be affected by (56)–(57) and the freezing effect more generally, since the PIC would not force movement through their edge.

## Appendix B: On the Coordinate Structure Constraint

I will end the article by noting that, as shown in Bošković in preparation b, the mechanisms used in the current account of the ban on movement out of moved elements can also account for an island that has resisted a satisfactory account both in the Government-Binding tradition and within Minimalism, namely, the ban on extraction out of conjuncts, given in (59) and illustrated by (60).<sup>41</sup>

(59) Extraction out of conjuncts is disallowed.

(60) \*Who<sub>i</sub> did you see [enemies of t<sub>i</sub>] and John?

Consider the derivation of (60). Movement out of the first conjunct has to proceed successive-cyclically through the edge of the conjunct. This movement, which involves merger of *who* and the conjunct DP, yields an unlabeled object (as is always the case with successive-cyclic movement), as shown in (61). The two conjuncts then differ in their categorial status; the second conjunct is a DP while the first conjunct is ? (i.e., it is unlabeled). I argue in Bošković in preparation b that this configuration is ruled out by the coordination-of-likes (CL) requirement, which requires that conjuncts be parallel in their categorial status (see, e.g., Chomsky 1957, Williams 1978, Sag et al. 1985, Beavers and Sag 2004, Chaves 2006; note that I argue that the requirement applies derivationally, when ConjP is formed, so that it is not affected by any later movement outside of ConjP).

(61) [<sub>ConjP</sub> [? who<sub>i</sub> [<sub>DP</sub> enemies of t<sub>i</sub>]] and [<sub>DP</sub> John]]

I also show in Bošković in preparation b that this analysis of (60) can be extended to other cases that have motivated positing (59), thus deducing (59). Importantly, the analysis also captures the across-the-board movement exception to the CSC, illustrated by (62).

<sup>40</sup> For ease of exposition, I am putting aside here cases like V2 movement to Spec,CP in Germanic, which, as discussed above, is formally the same as successive-cyclic movement in the relevant respect. Such cases are not in principle confined to phases (unless we assume that only phases can have the EPP property; see here Chomsky 2008).

<sup>41</sup> (59) is one part of the Coordinate Structure Constraint (CSC), which was traditionally assumed to have two parts, the ban on extraction out of conjuncts and the ban on extraction of conjuncts. A number of works have argued that the two should be divorced (e.g., Grosu 1973, Postal 1998, Oda to appear). For ease of exposition, I will refer only to (59) as the CSC.

(62) Who<sub>i</sub> did you see [friends of t<sub>i</sub>] and [enemies of t<sub>i</sub>]?

Here, successive-cyclic movement takes place to the edge of both conjuncts, delabeling both conjuncts. Since both conjuncts are ? (i.e., unlabeled), the CL requirement is not violated here.

The analysis predicts that movement out of a conjunct will be possible if the relevant element is base-generated at the conjunct edge, and is otherwise able to remain there, which indicates that it undergoes feature sharing at the conjunct edge. Movement in violation of (59) is indeed possible in this context. One relevant case involves SC possessor extraction. SC normally disallows extraction out of conjuncts, as in (63), where the genitive complement of N is extracted. Crucially, possessors, which are base-generated at the TNP edge (see section 3), can undergo extraction in violation of (59), as in (64).

(63) \*Fizike<sub>i</sub> je on [studenta t<sub>i</sub>] i [Ivana] vidio.  
 physics.GEN is he student.ACC and Ivan.ACC seen  
 'He saw a student of physics and Ivan.'

(64) Markovog<sub>i</sub> je on [t<sub>i</sub> prijatelja] i [Ivanovu sestru] vidio.  
 Marko's.ACC is he friend.ACC and Ivan's.ACC sister.ACC seen  
 'He saw Marko's friend and Ivan's sister.'

In (64), the possessor is base-generated at the conjunct edge, undergoing feature sharing at the conjunct edge, so that the conjunct is labeled. There is then no problem with respect to the CL requirement in (64), in contrast to (60) (and (63)).<sup>42</sup> In Bošković in preparation b, I provide a number of additional cases where an element that undergoes agreement/feature sharing at a conjunct edge is able to undergo movement out of the conjunct, as expected under the labeling account of the CSC.<sup>43</sup>

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<sup>42</sup> (64) also involves movement out of a moved element (ConjP), which is expected to be acceptable. In Bošković in preparation b, I argue that ConjP is a phase. Under Chomsky's (2000, 2001) approach to the PIC, the possessor is located at the edge of ConjP in its base-generated position (the first conjunct being the Spec of ConjP), hence need not move within ConjP to be accessible from the outside.

<sup>43</sup> For example, I show that a number of otherwise puzzling CSC violations in German discussed in Johnson 2002 can be captured under this analysis.



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