

**The ban on movement out of moved elements in the phasal/labeling system\***

Željko Bošković

University of Connecticut

zeljko.boskovic@uconn.edu

**Abstract:** The paper provides a deduction of the traditional ban on movement out of moved elements within the phasal/labeling system which provides a new perspective on the ban in question. Under the proposed analysis, the problem with the movement of YP out of moved element XP does not arise at the point of movement of YP out of XP, as has been previously assumed; the problem arises already with the movement of XP, i.e. XP itself cannot undergo movement in this case—any later movement out of moved XP is then trivially blocked. The proposed deduction of the ban in question leaves room for movement out of moved elements to take place in one well-defined context, which is shown to be borne out. The paper also has consequences for the timing of labeling and provides a new perspective on the traditional Adjunct Condition (i.e. the ban on movement out of adjuncts). It is shown that movement out of adjuncts is possible in the same configuration as movement out of moved elements. The proposed account of the ban on movement out of moved elements is then extended to the Adjunct Condition based on a new treatment of adjuncts.

## **1. Movement out of moved elements**

One of the lines of research within the domain of locality of movement that has attracted a considerable amount of 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-Echevarria (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), Freidin (1992), Diesing (1992), Collins (1994), Müller (1998, 2010), Lasnik (1999), Stepanov (2001), Rizzi (2006), Boeckx (2008), Gallego (2009), Lohndal (2011), Uriagereka (2012), among many others (see Corver in press for a review of the relevant literature and arguments).

### **(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 in SpecIP (2), is one instantiation of (1), given that under the VP Internal Subject Hypothesis extraction out of a subject in SpecIP involves extraction out of a moved element.

---

\*This work is based upon research supported by the NSF under Grant BCS-0920888. For helpful comments, I thank the audiences at CRISSP, KU Leuven (Brussels), University of Geneva, University of Paris 8/L'UMR 7023, FDSL 11 (University of Potsdam), and University College London.

(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 discussed in Stepanov (2007) and Takahashi (1994) with respect to a number of languages, movement from subjects that remain in SpecvP is possible, which led Stepanov (2007) and Takahashi (1994) 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 moved and unmoved 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 also shown that movement from moved objects is disallowed. Thus, Lasnik (1999, 2001) argues that objects that survive pseudogapping undergo object shift, pseudogapping involving VP-ellipsis. Crucially, movement from a pseudogapping object is not possible. Thus, (4b) contrasts with (5), a contrast which Lasnik argues illustrates the different behavior of moved (4b) and unmoved (5) objects with respect to extraction. The same holds for the contrast in (7), given Lasnik’s claim that objects that precede particles undergo object shift (see also Johnson 1991 and Gallego and Uriagereka 2007).<sup>2</sup>

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

(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 2006)

It should be noted that Chomsky (2008) discusses some examples where he claims extraction from subjects is allowed in English. While the grammaticality status of those cases is controversial (see for example the references in Gallego and Uriagereka 2006), their defining property is that they involve passive/ergative subjects (Chomsky analyzes such cases as involving extraction from the base position, which actually does not violate (1)) and that the moved element must be a PP, P-stranding being disallowed, as discussed in Broekhuis (2005), Gallego and Uriagereka (2006), and Lohndal (2007) (see also Boeckx 2008), who argue based on these properties (and additional evidence) against Chomsky’s analysis of such cases. Particularly convincing are arguments given in Broekhuis (2005), who provides evidence that the relevant cases do not involve extraction at all but base-generation of the relevant PPs outside of the subject DP.

<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 object shift even in English (see also Diesing 1996).

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

- (4) a. Bill selected a painting of John, and Susan should [a photograph of Mary]<sub>i</sub> [<sub>VP</sub> select <sub>t<sub>i</sub></sub>]  
 b. ??\*Who will Bill select a painting of, and who<sub>j</sub> will Susan [a photograph of <sub>t<sub>j</sub></sub>]<sub>i</sub> [<sub>VP</sub> select <sub>t<sub>i</sub></sub>]  
 (5) Who<sub>i</sub> will Bill select a painting of <sub>t<sub>i</sub></sub>?  
 (6) a. ??Who<sub>j</sub> did you call [friends of <sub>t<sub>j</sub></sub>]<sub>i</sub> up <sub>t<sub>i</sub></sub>?  
 b. Who<sub>i</sub> did you call up friends of <sub>t<sub>i</sub></sub>?

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

- (7) ??[De quién]<sub>j</sub> has visitado [<sub>DP</sub> a muchos amigos <sub>t<sub>j</sub></sub>]<sub>i</sub> [<sub>VP</sub> ... <sub>t<sub>i</sub></sub>]  
 of whom have-2sg visited a many friends  
 ‘Who have you visited many friends of?’ (Gallego and Uriagereka 2006)

The effect is not limited to extraction out of elements in A-positions. Thus, a number of authors have shown that extraction out of elements located in SpecCP and out of topics is not possible (on the impossibility of such extraction, see Cinque 1990, Corver in press, Grewendorf 1989, Lasnik and Saito 1992, Müller 1998, 2010, and Takahashi 1994, among many others), as illustrated by the following examples.<sup>4 5</sup>

- (8) a. ??/\*Whose book<sub>i</sub> do you wonder [<sub>CP</sub> [how many reviews of <sub>t<sub>i</sub>]<sub>j</sub> John read <sub>t<sub>j</sub></sub>]  
 (Corver in press)  
 b. ??Vowel harmony, I think that [articles about <sub>t<sub>i</sub>]<sub>j</sub> you should read <sub>t<sub>j</sub></sub> carefully.</sub></sub>

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

<sup>4</sup> German (8c) involves remnant vP-fronting to the embedded SpecCP (with finite V-movement to C), which is otherwise possible in German (cf. (8d)), followed by extraction out of the fronted vP. Note that (8a-c) give the judgments from the original works. (Corver in press actually notes that his informants find examples like (8b) even worse; it should, however, be noted that we are dealing here with argument extraction, which means Subjacency-strength violations. Takahashi 1994 shows that, as expected, extraction of an adjunct out of a phrase moved to SpecCP leads to a stronger, ECP-strength violation; it is of course unclear how to capture the argument/adjunct difference in this respect in the current framework, though see Chomsky and Lasnik 1993).

<sup>5</sup> Torrego (1985) (see also Chomsky 1986) claims that extraction out of SpecCP is possible in Spanish based on examples like (i). However, Gallego (2007) shows that such examples involve a prothetic object structure, the extracted element being an object of the higher verb, as in the structure in (ii). When the prothetic object analysis is blocked by a reconstruction effect, as in (iii), such constructions become unacceptable (the same quite generally holds with verbs that do not allow a prothetic object).

(i) Este es la autor del que no sabemos qué libros leer  
 this is the author by whom not (we) know what books read  
 (ii) Este es la autor [del que]<sub>i</sub> no sabemos <sub>t<sub>i</sub></sub> [<sub>CP</sub> [qué libros]<sub>j</sub> leer <sub>t<sub>j</sub></sub>]  
 (iii) \*[<sub>CP</sub> [De qué hijo suyo]<sub>i</sub> C sabes [<sub>CP</sub> [qué novelas <sub>t<sub>i</sub>]<sub>j</sub> C ha leído todo padre]<sub>j</sub>]?  
 of what son his know-2.SG what novels have-3.SG read every father  
 ‘which son of his do you know which novels by has every father read?’</sub>

c. \*Was<sub>i</sub> denkst du [<sub>CP</sub> [<sub>VP</sub> t<sub>i</sub> gelesen]<sub>j</sub> hat<sub>k</sub> [<sub>IP</sub> keiner t<sub>k</sub> t<sub>j</sub>]]?

what think you read has no one

‘What do you think no one read?’

d. cf. Ich denke [<sub>CP</sub> [<sub>VP</sub> das Buch gelesen]<sub>j</sub> hat<sub>k</sub> [<sub>IP</sub> keiner t<sub>k</sub> t<sub>j</sub>]]?

I think that book read has no one

‘I think no one read the book.’

(Corver in press)

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

(9) a. ?\*What<sub>i</sub> did you give t<sub>j</sub> to John [a movie about t<sub>i</sub>]<sub>j</sub>?

b. ?\*What<sub>i</sub> did you see t<sub>j</sub> yesterday [a movie about t<sub>i</sub>]<sub>j</sub>?

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

(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). In light of them I will take the empirical validity of (1) for granted.<sup>6</sup> The goal of the paper is to show that the

---

<sup>6</sup>There have been occasional claims that there are counterexamples to (1), see e.g. Abels (2007), Collins (2005), Gallego and Uriagereka (2006), and Neeleman and de Koot (2010). The arguments for (1) offered in the literature are simply too numerous to dismiss. It should, however, be noted that the deduction of (1) proposed below does leave room for exceptions to (1), i.e. under the analysis proposed below (1) is not expected to be completely exceptionless. (I leave for future research examining the cases discussed in the works cited above from that perspective (some of them do seem to fit the exceptional pattern discussed below). 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 of Abels (2007), could be involved there. Given the variety and the subtlety of the differences in question, it is, however, likely that more than one factor is involved (see in this respect Haegeman et al 2014). As an illustration, Bošković (1992) observes 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 that are not introduced by *that*, which is in turn worse than extraction out of ECM infinitival subjects. While the last case could represent the more general infinitival island-weakening effect (some islands, e.g. wh-islands, are often weakened with infinitives though only for argument extraction), this cannot be responsible for the difference between *that* and *that*-less finite clauses.

One more general exception to (1) concerns scrambling in Japanese: as discussed in Bošković and Takahashi (1998), movement is allowed out of scrambled elements in Japanese. (Japanese scrambling is insensitive to some other movement constraints too, e.g. relativized-minimality effects, see Saito and Fukui 1998; see also Bošković 2004 for a general island-weakening effect with Japanese scrambling). Based on this (and other issues), Bošković and Takahashi (1998) argue Japanese scrambling involves base-generation

generalization in (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 demonstrate that these mechanisms deduce (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 a well-defined context. Evidence will be provided which indicates that such extraction is indeed possible in the context in question.

## **2. On phases and labels**

### *2.1. Deducing the ban on movement out of moved elements*

Chomsky (2000, 2001) gives a number of criteria that differentiate phases from non-phases. One of them is that only phases can undergo movement, as argued in Chomsky (2000, 2001) (see also Rackowski and Richards 2005, Cheng 2012, Matushansky 2005, Harwood 2013, Bošković 2015, among others). Assume that this is indeed the case, i.e. that (11) holds.

(11) 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 where in the case where a head and a phrase merge, the head projects (i.e. provides the label for the resulting object). Regarding the case where two non-minimal 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

---

(not movement) of the relevant element, which would make it irrelevant to (1). (PF movement accounts, as in Sauerland and Elbourne 2002, would also make it irrelevant to (1).) Under the analysis of (1) presented below there are also ways of accommodating Japanese scrambling even under an overt syntactic movement analysis. E.g., 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 element would be allowed under the analysis of (1) below. (The well-known radical reconstruction effect of scrambling (see e.g. Saito 1992, Tada 1993, Bošković and Takahashi 1998) may also be relevant here). It should, however, be noted that Saito (in press) argues that due to the lack of agreement, labeling in Japanese proceeds quite differently from other languages examined in this paper. Interestingly, under the deduction of (1) given below and Saito's approach to labeling in Japanese, movement out of scrambled elements in Japanese is actually expected to be possible (see footnote 11). Japanese may thus provide a rather dramatic confirmation of the analysis presented below. A comprehensive discussion of Japanese would, however, take us way beyond the scope of this paper.

<sup>7</sup> It should, however, be noted that the goal of this paper is not to justify, or argue for, the mechanisms in question but simply to demonstrate that they deduce (1) (though this in itself can be taken as an argument in their favor). I will also not discuss here other attempts to (partially) deduce (1), see Corver (in press) for a (historical) overview of such attempts (see also Abels 2007 for a different perspective on the phenomenon).

traces are ignored for the purpose of labeling. To illustrate the former, when *what* is merged with interrogative C (actually CP at the point of merger) in (12), 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.

(12) I wonder [<sub>CP</sub> what<sub>i</sub> [<sub>C</sub> C [John bought t<sub>i</sub>]]]

(13) illustrates the latter case of merger of two phrases, involving label resolution via traces. ((14) gives the relevant structure, discussed below.)

(13) What<sub>i</sub> do you think [<sub>CP</sub> t'<sub>i</sub> [<sub>C</sub> that [John bought t<sub>i</sub>]]]

(14) v [<sub>VP</sub> think [<sub>?</sub> what [<sub>CP</sub> that [John bought t<sub>i</sub>]]]

Chomsky assumes that successive-cyclic movement, i.e. intermediate steps of movement, do not involve feature sharing, which essentially follows Bošković (1997, 2002, 2007, 2008a).<sup>9</sup> This means that there is no feature sharing between the declarative complementizer *that* and the wh-phrase that passes through its edge in (13). As a result, labeling through feature sharing is not an option here. The embedded clause then cannot be labeled at the point of movement of *what* to its edge, as indicated in (14) by using ?-notation. When *v* is merged, *what* moves away. The element merged with the CP now being a trace, it is ignored for the purpose of labeling, hence ? is labeled as CP after movement of *what*. Only at this point the status of t'<sub>i</sub> in (13) can be determined as the Spec of CP. However, prior to the movement (see (14)), ? is not a CP, it is simply undetermined regarding the issue in question.

(13)-(14) illustrate how successive-cyclic movement is quite generally treated in the labeling framework. Significantly, this treatment of successive-cyclic movement, in conjunction with (11), deduces the generalization in (1). Consider (15a), involving movement of YP out of a moved element, XP. Before any movement takes place, XP and YP are in the configuration in (15b).

(15) a. YP<sub>i</sub> [<sub>XP</sub> ... t<sub>i</sub> ...]<sub>j</sub> ... t<sub>j</sub>  
       b. [<sub>XP</sub> ... YP ...]

Since only phases can move (11), for XP to be able to move XP must be a phase. Furthermore, given the PIC, any movement out of XP itself has to proceed via the edge of XP, i.e. for YP to move out of XP, YP first has to move to the edge of XP, movement which has to precede the movement of XP itself given the cycle. The merger of YP and XP results in an unlabeled element,

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

<sup>9</sup>Bošković's (2007, 2008a) argues that intermediate wh-movement steps do not involve agreement/feature-checking, only the final step of wh-movement does. (Bošković 2008a argues that cases that have been assumed to involve morphological reflexes of such agreement with intermediate Cs actually do not involve successive-cyclic movement via SpecCPs, see here footnote 28).

as is generally the case with successive-cyclic movement, as discussed above. For Chomsky, phases are CPs, vPs, and DPs (I am ignoring other proposals made in the literature regarding what counts as a phase since they do not affect the current discussion; (11) in fact most naturally fits with Bošković's (2014) phasal system, 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 it does not count as a phase (in other words, phases require label-determination (see the discussion below), hence unlabeled objects cannot be phases).

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

(16) \*I wonder who<sub>i</sub> [*friends of t<sub>i</sub>*] left

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 (17), the abstract structure of the relevant part of (16), yields an unlabeled element, which, not having a label, is not a phase. The italicized phrase marked with ? in (17) then cannot undergo movement, given (11). The account extends to all the cases of movement out of moved elements discussed in section 1.<sup>10 11</sup>

(17) [<sub>IP</sub> I ...[<sub>vP</sub> [<sub>? who</sub> [<sub>DP subject</sub>]] ]]

## 2.2. On the Adjunct Condition

It should be noted here that Takahashi (1994) attempts to unify the Adjunct Condition (i.e. the ban on extraction out of adjuncts) and the Coordinate Structure Constraint (CSC, i.e. the ban on

<sup>10</sup>This will become clear given the discussion later in the text regarding what counts as a phase (on the phasehood of PPs (cf. (10)), see Bošković 2013, 2014 and the discussion below).

<sup>11</sup> It is worth noting here that under Saito's (in press) approach to labeling in Japanese, the above account of (1) would predict that (1) can be violated in some cases in Japanese. Such violations are indeed found in Japanese; thus scrambling out of scrambled elements is clearly possible in Japanese, as noted in footnote 6 and illustrated by (i). Saito argues that due to the lack of agreement, labeling in Japanese proceeds quite differently from the feature-sharing languages discussed in Chomsky (2013) and in this paper. According to Saito, due to the lack of agreement Japanese lacks feature sharing. The way labeling is accomplished in Japanese when two phrases are merged 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 (i) from this perspective. Under Saito's analysis, when *sono hon-o* moves to the edge of the most embedded clause in (i) (the CP in bold), no labeling problem arises in spite of 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 bolded CP in (i), which is targeted by successive-cyclic movement, can still undergo movement. Incorporating Saito's analysis of Japanese into the current deduction of (1) thus captures the exceptional status of (i) with respect to (1). A more comprehensive evaluation of Japanese from this perspective is, however, beyond the scope of this paper.

(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)

extraction out of conjuncts) with (1), though in a rather roundabout way, by extending a condition on chains, which on his analysis is the culprit behind (11), to coordinations (and by treating adjuncts as coordinations). There may, however, be a more natural extension of (11) to the Adjunct Condition and the CSC.

Consider first the Adjunct Condition, i.e. the ban on extraction out of adjuncts, illustrated by (18).

(18) ?\*What<sub>i</sub> did you fall asleep [after John had fixed t<sub>i</sub>]?

There are two types of treatments of adjuncts in the literature: a more traditional approach where adjuncts are adjoined to, or function as additional Specs of, existing phrases, for example vP or VP, and a Cinque (1999)-style analysis, where adjuncts are located in the Specifiers of dedicated functional projections, each traditional adjunct being located in the Spec of a distinct FP. On a somewhat speculative note, suppose 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>12</sup> Movement out of adjuncts will then involve movement out of moved elements. Since elements that function as adjuncts (typically CPs, PPs, and DPs) have all independently been argued to be phases (see Bošković 2013, 2014), the above account of (11) can then extend to the Adjunct Condition. Below I will show that extraction out of adjuncts is allowed exactly in the context where extraction out of moved elements is allowed, which may be interpreted as an argument for a unified account of the two.

The account may even be extendable to the CSC, if coordinations involve richer functional structure where each conjunct undergoes movement to a functional projection introduced by the coordination (with the conjunction head itself also moving). Movement out of a conjunct will then involve movement out of a moved element. I will, however, not attempt a unification of (1) with the CSC in this paper (apart from this highly speculative remark), leaving it for another occasion.<sup>13</sup>

---

<sup>12</sup> I am generalizing here 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, Bošković 2001, Bošković and Nunes 2007, Franks 1998, Landau 2003, among many others, on the mechanism in question ).)

<sup>13</sup> It is, however, worth noting here that there are exceptions to both the Adjunct Condition and the CSC, some of which are rather similar in nature (see Truswell 2011 and references therein for the former and Postal 1998 and references therein for the latter). E.g., extraction from an adjunct is possible in some cases where there is a contingent relationship between the relevant events, and the same kind of exception is found with the CSC. The former is illustrated by (i) and the latter by (ii).

(i) a. What<sub>i</sub> did you come around [to work on t<sub>i</sub>]?

b. What<sub>i</sub> did Christ die [to save us from t<sub>i</sub>]?

(Truswell 2011:131)

(ii) a. This is the drug which<sub>i</sub> athletes [take t<sub>i</sub>] and become quite strong.

b. the stuff which<sub>i</sub> Arthur sneaked in and [stole t<sub>i</sub>]

(Postal 1998:53)

From the current perspective, this could be interpreted as indicating that under certain semantic conditions, which includes the one noted above, the movement of adjuncts and conjuncts discussed above does not take place, which means (i-ii) do not involve movement out of a moved element. This is of course a highly



### 2.3. Remnant movement

A question however arises regarding remnant movement: does the analysis given above block traditional remnant movement in general? In fact, it doesn't. With remnant movement, movement of YP out of XP 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 (19)).

(19) [<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 merger of the subject and vP in (19) cannot be labeled (cf. (20a)). The subject moves to SpecIP; since its trace is ignored for the purpose of labeling, the relevant element is labeled as vP (20b). Since vP is a phase it is allowed to move (19).

- (20) 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 makes a difference between cases like (16) and cases like (19), 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.

## 3. Exceptions to the ban on movement out of moved elements

### 3.1. The basic case

The deduction of the ban on movement out of moved elements proposed in section 1, which did not introduce any new mechanisms but simply simply relied on independently-made existing proposals regarding phases and labeling,<sup>14</sup> provided a new perspective on the ban on movement out of moved elements. Under the analysis from section 2.1., the problem with movement of YP

---

speculative remark since we are dealing here with rather ill-understood issues (there are really no good explanations for why under certain semantic conditions the Adjunct Condition effect and the CSC effect are voided, and a unified approach to the two has not been attempted before even at a descriptive level; what complicates the situation even further is that only argument (both DP and PP) extraction is allowed in the exceptional contexts discussed in the works cited above, non-argument extraction is still unacceptable). However, the similarities in the exceptional contexts for the Adjunct Condition and the CSC may be interpreted as calling for a unified analysis; the suggestion regarding the Adjunct Condition and the CSC made here can then be interpreted as providing a potential direction for such a unification.

<sup>14</sup> Of course, one can question the assumptions in question. Comprehensively examining the motivation for these assumptions is way beyond the scope of this work; the scope of this work is more modest: simply to point out that the assumptions in question deduce (1) for the vast majority of the relevant cases, which was done in section 2.1, and to explore whether the assumptions would allow for any legitimate violations of (1), which will be done in this section.

out of moved element XP does not arise at the point of movement of YP out of XP (as in the previous accounts of the ban in question); the problem arises already with the movement of XP, i.e. XP itself cannot undergo movement in this case—any later movement out of XP is then trivially blocked.

In all the cases of (11) 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 attempting 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 merger of YP and XP can be labeled. Assuming both YP and XP to be phrases, it follows then that YP and XP undergo feature sharing. The crucial question then becomes when labeling via feature-sharing takes place.

In the cases we have discussed so far (which involve successive-cyclic movement), labeling of the YP-ZP merger is simply not possible (due to the lack of feature-sharing); we had to wait for YP to move away so that YP can be ignored for the purpose of labeling (which was too late for the concerns from section 2.1). The wait is not in principle 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 in principle possible at the creation of the relevant structure—movement away is not required to make labeling possible in this case. The question is then whether there are other factors that would delay labeling beyond the creation of the relevant structure in the case of feature-sharing Spec merger. The resolution of this issue affects the answer to the question we are interested in here: whether (1) should hold for the cases where the relevant element (i.e. 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 such elements as base-generated Specs<sup>15</sup>). If feature-sharing labeling must be delayed, (1) would hold for such cases too. On the other hand, (1) could be violated in such a case if feature-sharing configurations can result in immediate labeling; this would allow for movement out of a moved element in this particular case (no labeling problem of the kind discussed in section 2.1 would then arise since all labeling would take place before the relevant movements). The question is then when labeling via feature sharing takes place.

Several proposals have been made in the literature regarding the timing of labeling of such cases. For Chomsky (2013), all labeling, including feature-sharing labeling, takes place when the structure is sent to the interfaces. If we interpret this to mean that labeling takes place at the phasal

---

<sup>15</sup> The reader should bear in mind that not all base-generated Specs undergo feature sharing (however, those that do not must move). Thus, Chomsky (2013) argues that the subject in SpecvP and its sister do not undergo feature sharing in English (though he leaves the case of languages where subjects can remain in SpecvP open), which then forces subject movement (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 it forces movement).

level for what is sent to the interfaces, i.e. the phasal complement, which appears to be the most natural implementation of the label-when-sent-to-the-interfaces position (this is actually not what Chomsky assumes, see the discussion below), even with feature-sharing Specs labeling would take place too late for our concerns since labeling at the phasal edge itself would quite generally be delayed beyond the creation of the relevant structure. As a result, (1) would be expected to hold in this case too.

However, this approach to labeling has several problems, as discussed in Bošković (2015, in press). Thus, as discussed in Bošković (in press), to determine that a phasal level has been reached, some labeling may be necessary. For example, we really cannot determine whether a phasal level has been reached with the object in (21) before the labeling of the object in question. But if labeling is done only when a phasal level is reached, we have an obvious chicken-or-the-egg problem here.

(21) [<sub>?</sub> X Y]

Another problem arises in the cases where both relevant elements (i.e. both the Spec/complement and the head of a phrase) undergo movement, given that traces are ignored for the purpose of labeling (see also Shlonsky 2014). As a result, Bošković (2015) argues that labeling can take place as soon as it is possible (see also Rizzi in press, Saito in press, Shlonsky 2014, who also argue for this position), which means that in the case of feature-sharing, labeling can take place prior to any movement of the relevant elements. As a result, (1) would not be expected to hold with base-generated Specs, which undergo feature sharing.

Putting the two issues noted above aside and returning to Chomsky's (2013) interpretation-driven approach to labeling, above I have considered an implementation of this approach where labeling takes place at the point of spell-out, for the element that is undergoing spell-out. However, Chomsky adopts a slightly different position, where labeling also takes place at the phasal level, but for the whole phase. Under this position, labeling is actually not delayed in the case we are interested in: a label for the result of a merger of a base-generated Spec of phase XP which undergoes feature sharing with the element that it is merged with is then determined at the phasal level of XP, hence prior to any movement of the elements in question (crucially, prior to the movement of XP). In other words, while the labeling with base-generated Specs would be delayed (beyond the creation of the relevant structure) under an approach where labeling takes place at the point of spell-out for the spelled-out element, it is not delayed under the label-when-you-can approach and the phase-labeling approach.

Given the above discussion, movement of base-generated Specs out of moved elements can be used as a testing ground that can tease apart different possibilities regarding the timing of labeling in feature-sharing configurations. However, as already noted above, 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 whether possessors can move out of a moved DP). English possessors are often assumed to be base-generated in SpecDP, where

they undergo agreement/feature-sharing with D.<sup>16</sup> However, a number of authors have argued that their surface position is SpecPossP (see for example 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 SpecDP 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. Serbo-Croatian (SC) possessors, however, provide a relevant case, hence can be taken as a testing ground to tease apart the different possibilities regarding the timing of labeling discussed above.

Consider the following contrast between English and SC, noted in Despić (2011, 2013).

- (22) 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  
 d. \*Njegov<sub>i</sub> najnoviji film je zaista razočarao Kusturicu<sub>i</sub>.  
     his latest movie is really disappointed Kusturica

Under the assumption that traditional Specs c-command out of the phrase where they are located, Kayne (1994) takes the acceptability of (22a-b) to indicate that English possessors are not located in SpecDP, but in the Spec of a lower phrase, SpecPossP, with the DP confining the c-command domain of the possessor. Despić (2011, 2013) observes that in SC, a language without articles which has been argued by a number of authors to lack DP (for example Corver 1992, Zlatić 1997, Trenkić 2004, Bošković 2005, 2012, 2014, Marelj 2008, 2011, Despić 2011, 2013, Runić 2014, in press, Takahashi 2012, Talić 2014, in press), possessors do c-command out, as indicated by the binding violations in (22c-d), which contrast with English (22a-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.<sup>17</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>18</sup> (Note that following Bošković 2012, Despić 2013 argues that the traditional NP is a bare NP in such cases in SC, hence the possessor is located at the edge of the NP.) Furthermore, possessors in principle can undergo movement in SC, as shown by (23).<sup>19</sup> Moreover, Bošković (2013, 2014) argues that the highest projection in the extended domain of a noun (or any

<sup>16</sup> See, however, see Alexiadou (2005), Munn (1995), and Radford (2000), who argue that possessors are base-generated within NP and move to SpecDP from an NP-internal position.

<sup>17</sup> The term TNP (traditional Noun Phrase) is used neutrally, for whatever the categorial status of the relevant element is.

<sup>18</sup> They thus differ from adnominal 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>19</sup> It should be noted that there are accounts of possessor-fronting constructions in terms of remnant movement (Abels 2003, Franks and Progovac 1994) and scattered deletion (Fanselow and Ćavar 2002). They both, however, face rather serious problems (see Bošković 2005, 2013, Stjepanović 2010, 2011, Talić 2014, Despić 2015, among others).

lexical category) functions as a phase, which makes NP a phase in SC due to the lack of DP;<sup>20</sup> the reader is referred to Bošković 2013, 2014 for a number of arguments to this effect.)

- (23) Jovanovu<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 here everything we need to test the options noted above. In (23), 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 (24a), the possessor is extracted out of a fronted object, and in (24b) it is extracted out of a subject of a passive construction which nevertheless precedes the verb. Both of these cases involve movement out of a moved element. Another case is given in (24c), where the subject precedes a sentential adverb, indicating movement to SpecIP prior to possessor extraction. (For ease of exposition, I only indicate case agreement below.)

- (24) 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 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 expected under the current deduction of (1) if feature-sharing configurations can yield immediate labeling, i.e. if more generally, labeling can be done as soon as the relevant configuration is created (or at the phasal level, for the whole phase).

Consider the full derivation of (24a) from this perspective (under the assumptions discussed above). The possessor is base-generated at the NP-edge, where it undergoes feature-sharing so that the TNP in question is labeled (25a). The TNP in question is a phase under Bošković's (2014) approach to phases, hence it can undergo movement, as in (25b), without violating (11). (Under the most natural interpretation of (24a), the movement in question is focus

---

<sup>20</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 of which have been independently argued for.

movement--*sliku* is focalized.) After the object moves to the preverbal position (undergoing focus movement), the possessor undergoes extraction (25c).<sup>21</sup>

- (25) 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 for us is that while (24a) violates (1), it still conforms with the deduction of (1) proposed in section 2.1. Notice also that, as expected given the above discussion, the TNP with the possessor remaining in its Spec can also move.

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

### 3.2. *The ban on extraction out of adjuncts*

Consider now extraction out of adjuncts. Recall that I have suggested above that the Adjunct Condition should be unified with (1), which can be achieved if traditional adjuncts obligatorily undergo movement: movement out of an adjunct then always involves extraction out of a moved element. Given the discussion from the previous section, the analysis makes a prediction: the Adjunct Condition effect should be voided with base-generated Specs, i.e. in the case of elements that are base-generated at the adjunct edge. There is some evidence that this is indeed the case. Thus, *koliko/izuzetno* are plausibly base-generated at the edge of the adjunct in SC (27). Importantly, they are allowed to move out of it.<sup>22</sup>

- (27) 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.’

<sup>21</sup> What about extraction of genitive nominal complements, which are not generated at the NP-edge? The problem is that extraction of such complements is in general somewhat degraded in SC, as in (ia) (see Bošković 2014, Zlatić 1994; Bošković argues 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)). Such extraction does, however, get even worse when the remnant is fronted, as in (ib). This is in contrast to the case of possessors, where most speakers actually prefer constructions where the remnant is focus-fronted.

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

b. \*Kojeg doktora si ti prijatelja vidio?

<sup>22</sup> Not surprisingly, (i) is also possible.

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

Another case which can be handled in the same way is given below.

- (28) Izuzetno<sub>i</sub> se on [t<sub>i</sub> loše] ponašao?  
extremely is he bad behaved  
'He behaved extremely bad.'

Another relevant case may involve attributive adjectives. Traditionally, adjectives are analyzed as NP-adjuncts/Specs, while a Cinque-style analysis places them in the Spec of various FPs. The analysis suggested above would combine these two approaches, with adjectives moving to Cinque's FPs.<sup>23</sup> Note in this respect that Bošković (2014) argues that APs are phases (more precisely, the highest projection in the extended domain of an adjective is a phase), which means that such movement conforms with (11). Interestingly, extraction from APs is possible in SC, as discussed in Talić (in press) and illustrated by (29). (From now on 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 Bošković's 2014 system.)

- (29) ?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 (29) is unacceptable. Independently of our current concerns, Talić (in press) 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 has to undergo (non-feature sharing) successive-cyclic movement to the edge of the TAP phase if it is to move out of it, given the PIC.<sup>24</sup> In other words, under Talić's analysis we have here the test case we are looking for. Extraction of intensifiers like *extremely* involves extraction out of a traditional adjunct. However, in SC the intensifier is base-generated at the edge of the adjunct (since it can stay in this position it must be able to undergo feature-sharing) while this is not the case in English—in English the intensifier has to move to the edge of the adjunct. What the English/SC contrast here then indicates is that extraction is possible out of traditional adjuncts as long as the extracted element is base-generated at the edge of the adjunct, which is exactly what the analysis suggested above predicts.

---

<sup>23</sup>It should, however, be noted that the account of clause-level adjuncts from section 2.2. does not necessarily require an extension to adjectives.

<sup>24</sup> Talić actually argues that the intensifier is generated in the same position in both English and SC, but the TAP in English has a functional projection above the base-generated position of the intensifier in English, but not in SC (more generally, Talić argues that just like the structure of the TNP is richer in English than in SC, the structure of the TAP is richer in English than in SC, the same factor being responsible for both differences). 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 our purposes. (Talić's analysis of the SC/English contrast with respect to constructions like (29) might be extendable to the SC/English contrast with respect to constructions like (28), which are unacceptable in English.)

It is also worth noting the following example, another clear instance of movement out of a moved element. In (30), the AP itself has moved out of its TNP (SC allows left-branch extraction of APs, see Bošković 2005, 2012), with the intensifier moving out of the moved AP.<sup>25</sup>

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

Returning to clausal-level 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 the current proposal that extraction out of an adjunct is in principle possible for elements base-generated at the adjunct edge. One relevant case is given below, where an instrumental nominal functions as an adjunct (see Bošković 2006 for discussion of such adjuncts).<sup>26</sup>

- (31) Trčao je šumom.  
 run is forest.instr  
 ‘He ran through a/the forest.’

That the instrumental nominal in (31) 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 (32).

- (32) 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 (cf. footnote 21), (33a), which involves extraction out of the nominal under consideration, is clearly worse than (33b), which involves extraction out of an object.

<sup>25</sup> The example is somewhat marginal for independent reasons having to do with the discourse properties of left-branch extraction examples, which need not concern us here.

<sup>26</sup> It may be worth noting 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 Bošković 2001, Stjepanović 1998, 1999), participles are not a reliable diagnostic for determining the structural position of elements that are adjacent to them.



- (33) 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.’

Now, *my grandfather* must undergo movement to the edge of the adjunct TNP in (33a) (or it could not move out of it, the TNP being a phase). Under the current analysis, we would predict that movement out of the adjunct TNP should be possible if the element moving out of it is base-generated at its edge. The prediction can be tested by using possessor extraction. As discussed above, possessors are base-generated at the TNP-phase edge in SC. We then predict that in contrast to extraction of the complement of the TNP-adjunct in question, extraction of the possessor of the TNP-adjunct in question should be possible. This is indeed the case.

- (34) 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 (33a) and (34) is exactly what is expected, given that the moving element has to move to the edge of the relevant TNP in (33a) while it is base-generated at its edge in (34).

Another relevant case is provided by a particular type of cognate objects. 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 accusative cognate objects like the one in (36) are arguments, while instrumental cognate objects like the one in (35) are adjuncts. Notice in this respect that the verb in (35) is ergative (the only theta-role the verb has is discharged by *he*), and that (35) can be used to answer an adjunct question like the one in (37). (Furthermore, the cognate object in question behaves like the adjunct TNP from (31) with respect to the extraction tests noted above, see Marelj 2015. See Marelj 2015 for a number of additional arguments for the adjunct status of the nominal in question; she shows that the cognate objects in (35) and (36) consistently show different behavior with respect to the relevant tests.)

- (35) Umro je prirodnom smrću.  
 died is natural.instr death.instr  
 ‘He died a natural death.’  
 (36) Sanja san  
 dreams.acc dream  
 ‘He dreams a dream.’  
 (37) Kako je umro? Užasnom smrću.  
 how is died terrible.instr death.instr  
 ‘How did he die? A horrible death.’

Given that the nominal in question is an adjunct, the prediction is that extraction out of it will still be possible for elements generated at its edge. (38) involves extraction of an agreeing possessor that was discussed above. Importantly, the example is fully acceptable.

- (38) Isusovom je umro [<sub>i</sub> smrću].  
 Jesus'.instr is died death.instr  
 'He died the death of Jesus.'

Quite independently of the analysis proposed here, the data pertaining to extraction out of adjuncts discussed above 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 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. While I certainly do not rule out the possibility of an alternative analysis, we have seen that the account of the Adjunct Condition suggested here, which ties it to the generalization in (1), can account for this state of affairs. The account, however, has far reaching consequences which cannot be properly explored within the confines of this paper.

#### 4. Restating (1)

If correct, the above discussion indicates that the generalization in (1) is fundamentally misguided. The right generalization is in fact (39), which we have seen above can be deduced from independent assumptions, i.e. it is a theorem.<sup>27</sup>

- (39) 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 which 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 27) can undergo movement, but a phase with a non-agreeing Spec (which is the case with successive-cyclic movement) cannot. Since non-agreeing 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 this paper has argued is not the case.

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 don't need to confine our attention to base-generated Specs, as in the discussion in section 3.1. Even elements

---

<sup>27</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.)

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 for example Epstein 1992, Rizzi 2006, Bošković 2008b).<sup>28</sup>

Consider in this respect French (40).

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

(40) involves movement out of a moved element, the interrogative CP. The interrogative CP itself can move here, as indicated by (41a-b), which are clearly better than (40).

- (41) a. [Où Pierre a embrassé Marie]<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' [où Pierre a embrassé Marie]<sub>i</sub>, Jean a demandé t<sub>i</sub>.  
 Anne has said that where Pierre has kissed Marie Jean has asked

---

<sup>28</sup> Some languages have often been assumed to involve morphologically-manifested agreement with successive-cyclic movement out of declarative CPs (i.e. in intermediate SpecCPs). 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. 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. Bošković (2008a) in fact analyzes 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. Bošković also suggests 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 in fact be the only uncontroversial case of a language with intermediate wh-agreement, since in this language wh-phrases can belong to a number of different classes, which are reflected in the morphological make up of the complementizers (both final and intermediate complementizers). This rules out the possibility of an account in terms of object agreement (cf. the case of Selayarese). However, as discussed in Schneider-Zioga (2009), Bošković (2008a), and Boeckx (2003), 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 resumptivization). In light of this, I will not discuss such cases here. (At any rate, space considerations prevent a discussion of a number of potentially relevant cases. The cases discussed in the text should, however, indicate what we may expect to find, i.e. how the potentially relevant cases not discussed here should be analyzed. Thus, if, more generally, there are cases that involve feature sharing with the steps of successive-cyclic movement (see here van Urk 2015), the expectation would be that the freezing effect discussed in this paper would not hold in such cases.)

Do we then have here (i.e. in (40)) a true instance of (1), where there is nothing wrong with the movement of the element that is later to be moved out of (the most deeply embedded interrogative clause), 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.

- (42) \*Où<sub>i</sub> Anne a dit que Jean a demandé [Pierre a embrassé Marie t<sub>i</sub>] ?  
 where Anne has said that Jean has asked Pierre has kissed Marie  
 'Anne said that Jean asked where Pierre kissed Marie.'

(42) shows that (1) is irrelevant to the ungrammaticality of (40). Of course, what we are dealing with here is what Rizzi (2006) referred to as the criterial freezing effect, which Bošković (2008b) stated as the ban on further movement of the operator in operator-variable constructions. An interrogative SpecCP is a position from which further movement is not possible (once *où* moves to the Spec of the most embedded CP, which is an interrogative SpecCP, it cannot undergo further movement). While the current account of (1), which actually restates it as (39), 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 an element located in its base-generated position).

Recall, however, that under the current account of (1), later movement out of the moved element is actually irrelevant; the issue is whether the element in question can move in the first place. While phases hosting successive-cyclic movement cannot move, phases hosting the final step of movement can in principle move. The grammaticality of examples like (41) then actually provides a confirmation of the current analysis.

## 5. Conclusion

To conclude, I have shown that the freezing effect, i.e. the ban on movement out of moved elements, naturally falls out from the phasal/labeling system: since successive-cyclic movement does not result in labeling, it “delabels” the element whose edge it targets. Since labels are a prerequisite for phases, this way it also devoids 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). I have also pointed out that the proposed deduction of (1) may leave room for legitimate “violations” of (1) in one well-defined configuration, providing evidence that movement out of moved elements may indeed take place in the configuration in question. (The discussion in question also bears on the issue of the precise timing of labeling.)

It is worth emphasizing here that the current analysis provides a new perspective on the ban on movement out of moved elements. Under the current analysis, the problem with the case 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); the problem arises already

with the movement of XP, i.e. XP itself cannot undergo movement in this case—what should be later movement out of moved XP is then trivially blocked.

The discussion in the paper also provides a new perspective on the traditional Adjunct Condition, i.e. the ban on movement out of adjuncts, where movement out of adjuncts may be possible in one well-defined configuration, in fact 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 which however has far-reaching consequences that cannot be fully explored here.

## References

- Abels, Klaus. 2003. Successive cyclicity, anti-locality, and adposition stranding. Doctoral dissertation, University of Connecticut, Storrs.
- Abels, Klaus. 2007. Towards a restrictive theory of (remnant) movement. *Linguistic Variation Yearbook* 7: 57-120.
- Alexiadou, Artemis. 2005. Possessors and (in)definiteness. *Lingua* 115: 787-819.
- Bobaljik, Jonathan. 1995. Morphosyntax: The syntax of verbal inflection. Doctoral dissertation, MIT, Cambridge, Mass.
- Boeckx, Cedric. 2003. *Islands and Chains*. Amsterdam: John Benjamins.
- Boeckx, Cedric. 2008. *Bare Syntax*. Oxford: Blackwell.
- Broekhuis, Hans. 2005. Extraction from subjects: some remarks on Chomsky's *On phases*. In *Organizing the Grammar: Studies in Honor of Henk van Riemsdijk*, ed. by Hans Broekhuis, Norbert Corver, Riny Huybregts, Ursula Kleinhenz and Jan Koster, 59-68. Berlin: Mouton de Gruyter.
- Bošković, Željko. 1997. *The Syntax of Nonfinite Complementation: An Economy Approach*. Cambridge, Mass.: MIT Press.
- Bošković, Željko. 2001. *On the Nature of the Syntax-phonology Interface: Cliticization and Related Phenomena*. Amsterdam: Elsevier Science.
- Bošković, Željko. 2002. A-movement and the EPP. *Syntax* 5: 167-218.
- Bošković, Željko. 2004. Topicalization, focalization, lexical insertion, and scrambling. *Linguistic Inquiry* 35: 613-638.
- Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia Linguistica* 59: 1-45.
- Bošković, Željko. 2006. Case checking vs Case assignment and the Case of adverbial NPs. *Linguistic Inquiry* 37: 522-533.
- Bošković, Željko. 2007. On the locality and motivation of Move and Agree: An even more minimal theory. *Linguistic Inquiry* 38: 589-644.
- Bošković, Željko. 2008a. On successive cyclic movement and the freezing effect of feature checking. In *Sounds of Silence: Empty Elements in Syntax and Phonology*, ed. by Jutta M. Hartmann, Veronika Hegedüs, and Henk van Riemsdijk, 195-233. Amsterdam: Elsevier North Holland.
- Bošković, Željko. 2008b. On the operator freezing effect. *Natural Language and Linguistic Theory* 26: 249-287.

- Bošković, Željko. 2012. On NPs and clauses. In *Discourse and Grammar: From Sentence Types to Lexical Categories*, ed. by Günther Grewendorf and Thomas Ede Zimmermann, 179-242. Berlin: Mouton de Gruyter.
- Bošković, Željko. 2013. Phases beyond clauses. In *The Nominal Structure in Slavic and Beyond*, ed. by Lilia Schürcks, Anastasia Giannakidou, and Urtzi Etxeberria, 75-128. Berlin: Mouton De Gruyter.
- Bošković, Željko. 2014. Now I'm a phase, now I'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry* 45: 27-89.
- Bošković, Željko. 2015. From the Complex NP Constraint to everything: On deep extractions across categories. *The Linguistic Review* 32: 603-669.
- Bošković, Željko. in press. On the timing of labeling: Deducing Comp-trace effects, the Subject Condition, the Adjunct Condition, and tucking in from labeling. *The Linguistic Review: Special Issue on Labeling*.
- Bošković, Željko, and Jairo Nunes. 2007. The copy theory of movement: A view from PF. In *The copy theory of movement*, ed. by Norbert Corver and Jairo Nunes, 13-74. Amsterdam: John Benjamins.
- Bošković, Željko and Daiko Takahashi. 1998. Scrambling and last resort. *Linguistic Inquiry* 29: 347-366.
- Cheng, Hsu-Te. 2012. Ellipsis: its correlates with phases and movement. Presented at GLOW 35, University of Potsdam.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, Mass: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries. In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89-155. Cambridge: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, 1-52. Cambridge, Mass.: MIT Press.
- Chomsky, Noam. 2008. On phases. In *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, ed. by Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133-166. Cambridge, Mass: MIT Press.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130: 33-49.
- Chomsky, Noam. 2015. Problems of projection: Extensions. In *Structures, Strategies and Beyond: Studies in Honour of Adriana Belletti*, ed. by Elisa Di Domenico, Cornelia Hamann, and Simona Matteini, 3-16. Amsterdam/Philadelphia: John Benjamins.
- Chomsky, Noam, and Howard Lasnik. 1993. The theory of principles and parameters. In *Syntax: An international handbook of contemporary research*, ed. by Joachim Jacobs, Arnim van Stechow, Wolfgang Sternefeld, and Theo Vennemann, 506-569. Berlin: Walter de Gruyter.
- Cinque, Guglielmo. 1990. *Types of A'-dependencies*. Cambridge, Mass.: MIT Press.
- Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-linguistic Perspective*. Oxford: Oxford University Press.
- Collins, Chris. 1994. Economy of derivation and the generalized proper binding condition. *Linguistic Inquiry* 25: 45-61.
- Collins, Chris. 2005. A smuggling approach to raising in English. *Linguistic Inquiry* 36: 289-298.

- Corver, Norbert. 1992. Left branch extraction. In *Proceedings of the 22<sup>nd</sup> Conference of the North East Linguistic Society (NELS 22)*, ed. by Kimberly Broderick, 67-84. Amherst: GLSA, University of Massachusetts.
- Corver, Norbert. in press. Freezing effects. *The Syntax Companion*.
- Culicover, Peter and Kenneth Wexler. 1977. Some syntactic implications of a theory of language learnability. In *Formal Syntax*, ed. by Peter Culicover, Thomas Wasow, and Adrian Akmajian, 7-60. New York: Academic Press.
- Despić, Miloje. 2011. Syntax in the absence of determiner phrase. Doctoral dissertation, University of Connecticut, Storrs.
- Despić, Miloje. 2013. Binding and the structure of NP in Serbo-Croatian. *Linguistic Inquiry* 44: 239-270.
- Despić, Miloje. 2015. Some issues in the theory of nominal domain: Reflexive possessives, left branch extraction, and quantifier raising. Presented Mie University, Mie, Japan, July 10 2015.
- Diesing, Molly. 1992. *Indefinites*. Cambridge, Mass.: MIT Press.
- Diesing, Molly. 1996. Semantic variables and object shift. In *Studies in Comparative Germanic Syntax. Vol. 2*. ed. by Höskuldur Thráinsson, Samuel D. Epstein, and Steve Peter, 66-84.
- Epstein, Samuel David. 1992. Derivational constraints on A'-chain formation. *Linguistic Inquiry* 23: 235-259.
- Fanselow, Gisbert and Damir Ćavar. 2002. Distributed deletion. In *Theoretical Approaches to Universals*, ed. by Artemis Alexiadou, 65-107. Amsterdam: John Benjamins.
- Franks, Steven. 1998. Clitics in Slavic. Paper presented at the Comparative Slavic Morphosyntax Workshop, Spencer Creek, Indiana, June 1998.
- Franks, Steven, and Ljiljana Progovac. 1994. On the placement of Serbo-Croatian clitics. In *Indiana Linguistic Studies 7, Proceedings of the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature, and Folklore*, 69-78. Bloomington: Indiana University Linguistic Club.
- Freidin, Robert, 1992. *Foundations of Generative Syntax*. Cambridge, Mass.: MIT Press.
- Gallego, Ángel J. 2007. Phase theory and parametric variation. Doctoral dissertation. Universitat Autònoma de Barcelona.
- Gallego, Ángel. 2009. On freezing effects. *Iberia: An International Journal of Theoretical Linguistics* 1: 33-51.
- Gallego, Ángel and Juan Uriagereka. 2006. Sub-extraction from subjects: A phase-based theory. Ms., Universitat Autònoma de Barcelona and University of Maryland College Park.
- Gallego, Ángel and Juan Uriagereka. 2007. Conditions on sub-extraction. In *Coreference, Modality, and Focus*, ed. by Luis Eguren and Olga Fernández-Soriano, 45-70. Amsterdam: John Benjamins.
- Grewendorf, Günther. 1989. *Ergativity in German*. Dordrecht: Foris.
- Haegeman, Liliane, Ángel L. Jiménez-Fernández, and Andrew Radford. 2014. Deconstructing the Subject Condition in terms of cumulative constraint violation. *The Linguistic Review* 31(1):73-150.
- Harwood, William. 2013. Being progressive is just a phase: Dividing the functional hierarchy. Doctoral dissertation, University of Gent.

- Huang, C.-T. James. 1993. Reconstruction and the structure of VP: Some theoretical consequences. *Linguistic Inquiry* 24: 103-138.
- Huybregts, M. A. C. 1976. Vragende(r)wijs: Progressieve taalkunde. In *Lijnen van taaltheoretisch onderzoek*, ed. by Geert Koefoed and Arnold Evers, 303–366. Groningen: H. D. Tjeenk Willink.
- Johnson, Kyle. 1986. A case for movement. Doctoral dissertation, MIT, Cambridge, Mass.
- Johnson, Kyle. 1991. Object positions. *Natural Language & Linguistic Theory* 9: 577-636.
- Kayne, Richard. 1994. *The Antisymmetry of Syntax*. Cambridge, Mass.: MIT Press.
- Landau, Idan. 2003. Modular recoverability: Chain resolution in Hebrew V(P)-fronting. Ms., Beer-Sheva, Israel.
- Lasnik, Howard. 1999. *Minimalist analysis*. Oxford: Blackwell.
- Lasnik, Howard. 2001. Subjects, objects, and the EPP. In *Objects and other subjects: Grammatical functions, functional categories, and configurationality*, ed. by William D. Davies and Stanley Dubinsky, 103–121. Dordrecht: Kluwer.
- Lasnik, Howard and Mamoru Saito. 1992. *Move  $\alpha$ : Conditions on its Application and Output*. Cambridge, Mass.: MIT Press.
- Lohndal, Terje. 2007. Sub-extraction and the freezing effect. Ms., University of Oslo.
- Lohndal, Terje. 2011. Freezing effects and objects. *Journal of Linguistics* 47: 163-199.
- Marelj, Marijana. 2008. Probing the relation between binding and movement: A left branch extraction and pronoun insertion strategy. In *Proceedings of North East Linguistic Society 37 (NELS 37)*, ed. by Emily Elfner and Martin Walkow, 73-86. Amherst: GLSA, University of Massachusetts.
- Marelj, Marijana. 2011. Bound-variable anaphora and Left Branch Condition. *Syntax* 14:205-229.
- Marelj, Marijana. 2015. On arguments and predicates: In the realm of COs. Paper presented at Formal Description of Slavic Languages (FDSL) 11, Potsdam, Germany, December 2015.
- Matushansky, Ora. 2005. Going through a phase. In *MIT Working Papers in Linguistics* 49: *Perspectives on Phases*, ed. by Martha McGinnis and Norvin Richards, 157–181. Cambridge, Mass.: Department of Linguistics, MITWPL.
- Müller, Gereon. 1998. *Incomplete Category Fronting: A Derivational Approach to Remnant Movement in German*. Dordrecht: Kluwer.
- Müller, Gereon. 2010. On deriving CED effects from the PIC. *Linguistic Inquiry* 41: 35-82.
- Munn, Alan. 1995. The possessor that stayed close to home. In *Proceedings of the 24th Western Conference on Linguistics*, ed. by Vida Samiian and Jeanette Schaeffer, 181-195. Fresno: California State University, Department of Linguistics.
- Neeleman, Ad, and Hans van de Koot. 2010. A local encoding of syntactic dependencies and its consequences for the theory of movement. *Syntax* 13(4): 331–372.
- Noonan, Máire. 1999. Successive cyclicity phenomena in wh-movement constructions. *Proceedings of the West Coast Conference on Formal Linguistics* 18 (WCCFL 18), 406-419. Somerville: Cascadilla Press.
- Ormazabal, Javier, Juan Uriagereka, and Miriam Uribe-Etxebarria. 1994. Word order and wh-movement: Towards a parametric account. Paper presented at the 18<sup>th</sup> GLOW Colloquium, Vienna, April 1994.



- Postal, Paul M. 1972. On some rules that are not successive cyclic. *Linguistic Inquiry* 3: 211-222.
- Postal, Paul M. 1998. Three investigations of extraction. Cambridge, Mass.: MIT Press.
- Rackowski, Andrea and Norvin Richards. 2005. Phase edge and extraction: A Tagalog case study. *Linguistic Inquiry* 36: 565-99.
- Radford, Andrew. 2000. NP shells. *Essex Research Reports in Linguistics* 33: 2-20.
- Rizzi, Luigi. 2006. On the form of chains: Criterial positions and ECP effects. In *Wh-movement: Moving on*, ed. by Lisa Lai-Shen Cheng and Norbert Corver, 97-133. Cambridge, Mass.: MIT Press.
- Rizzi, Luigi. in press. Labeling, maximality and the head-phrase distinction. In *The Linguistic Review: Special Issue on Labeling*.
- Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral dissertation, MIT, Cambridge, Mass.
- Ross, John Robert. 1974. Three batons for cognitive psychology. In *Cognition and the Symbolic Processes*, ed. by Walter B. Weimer and David Stuart Palermo, 63-124. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Runić, Jelena. 2014. A new look at clitics, clitic doubling, and argument ellipsis: Evidence from Slavic. Doctoral dissertation, University of Connecticut, Storrs.
- Runić, Jelena. in press. A new look at argument ellipsis: Evidence from Slavic. In *Proceedings of the North East Linguistic Society 43 (NELS 43)*. Amherst: GLSA, University of Massachusetts.
- Saito, Mamoru. 1992. Long distance scrambling in Japanese. *Journal of East Asian Linguistics* 1: 69-118.
- Saito, Mamoru. in press. (A) case for labeling: Labeling in languages without phi-feature agreement. In *The Linguistic Review: Special Issue on Labeling*.
- Saito, Mamoru and Naoki Fukui. 1998. Order in phrase structure and movement. *Linguistic Inquiry* 29: 439-474.
- Sauerland, Uli and Paul Elbourne. 2002. Total reconstruction, PF movement, and derivational order. *Linguistic Inquiry* 33:283-319.
- Schneider-Zioga, Patricia. 2009. Wh-agreement and bounded and unbounded movement. In *Merging Features*, ed. by Jose Brucart, Anna Gavorro, and Juame Sola, 46-59. Oxford: Oxford University Press.
- Shlonsky, Ur. 2014. A note on labeling, Berber states and VSO order. In *The Form of Structure, the Structure of Form: Essays in Honor of Jean Lowenstamm*, ed. by Sabrina Bendjaballah, Noam Faust, Mohamed Lahrouchi, and Nicola Lampitelli, 349-360. Amsterdam: John Benjamins.
- Stepanov, Arthur. 2001. Cyclic domains in syntactic theory. Doctoral dissertation, University of Connecticut, Storrs.
- Stepanov, Arthur. 2007. The end of CED?: Minimalism and extraction domains. *Syntax* 10: 80-126.
- Stjepanović, Sandra. 1998. VP ellipsis in a V raising language: implications for verbal morphology. In *Proceedings of ESCOL 14*, 192-203. Ithaca, NY: CLC Publications, Cornell University (Cornell Linguistics Circle).

- Stjepanović, Sandra. 1999. What do second position cliticization, scrambling, and multiple wh-fronting have in common. Doctoral dissertation, University of Connecticut, Storrs.
- Stjepanović, Sandra. 2010. Left branch extraction in multiple wh-questions: A surprise for question interpretation. In *Proceedings of Formal Approaches to Slavic Linguistics 18 (FASL 18)*, ed. by Wayles Browne, Adam Cooper, Alison Fisher, Esra Kesici, Nikola Predolac, and Draga Zec, 502-517. Ann Arbor, MI: Michigan Slavic Publications.
- Stjepanović, Sandra. 2011. Differential object marking in Serbo-Croatian: Evidence from left branch extraction in negative concord constructions. In *Proceedings of Formal Approaches to Slavic Linguistics 19 (FASL 19)*, ed. by John Bailyn, Ewan Dunbar, Yakov Kronrod, and Chris LaTerza, 99-115. Ann Arbor, MI: Michigan Slavic Publications.
- Tada, Hiroaki. 1993. A/A' partition in derivation. Doctoral dissertation, MIT, Cambridge, Mass.
- Takahashi, Daiko. 1994. Minimality of movement. Doctoral dissertation, University of Connecticut, Storrs.
- Takahashi, Masahiko. 2012. Phases and the structure of NP: A comparative study of Japanese and Serbo-Croatian. In *Proceedings of Formal Approaches to Slavic Linguistics 21 (FASL 21)*, ed. by Steven Franks, Markus Dickinson, George Fowler, Melissa Whitcombe, and Ksenia Zanon, 359-372. Ann Arbor: Michigan Slavic Publications.
- Talić, Aida. 2014. Extraordinary complement extraction: PP-complements and inherently case-marked nominal complements. *Studies in Polish Linguistics* 8: 127-150.
- Talić, Aida. in press. Adverb extraction, specificity, and structural parallelism. *Canadian Journal of Linguistics*.
- Torrego, Esther. 1985. On empty categories in nominals. Ms., University of Massachusetts, Boston.
- Torrego, Esther. 1998. *The Dependencies of Objects*. Cambridge, Mass.: MIT Press.
- Trenkić, Danijela. 2004. Definiteness in Serbian/Croatian/Bosnian and some implications for the general structure of the nominal phrase. *Lingua* 114: 1401-1427.
- Truswell, Robert. 2011. *Events, phrases, and questions*. Oxford: Oxford University Press.
- Uriagereka, Juan. 1988. On government. Doctoral dissertation, University of Connecticut, Storrs.
- Uriagereka, Juan. 2012. *Spell-out and the Minimalist Program*. Oxford: Oxford University Press.
- van Urk, Coppe. 2015. A uniform syntax for phrasal movement: A case study of Dinka Bor. Doctoral dissertation, MIT, Cambridge, MA.
- Wexler, Kenneth and Peter Culicover. 1980. *Formal Principles of Language Acquisition*. Cambridge, Mass.: MIT Press.
- Zlatić, Larisa. 1994. An asymmetry in extraction from noun phrases in Serbian. In *Proceedings of the 9th Biennial Conference on Balkan and South Slavic Linguistics, Literature, and Folklore (=Indiana Linguistic Studies 7)*, 207-216. Bloomington: Indiana University Linguistic Club.
- Zlatić, Larisa. 1997. The structure of the Serbian noun phrase. Doctoral dissertation, University of Texas at Austin.