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On The Coordinate Structure Constraint, Across-the-Board-Movement, Phases, and Labeling*

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Abstract: The paper deduces a modified version of the ban on extraction out of conjuncts (CSC) based on the claim that conjuncts are phases which also captures the across-the-board-movement (ATB) exception and a number of other cases where extraction from conjuncts is shown to be possible in violation of the CSC (left-branch extraction in Serbo-Croatian, *r*-pronouns in Dutch, V-2 movement in German, clitic doubling in Dutch and Romance, quantifier-float in Japanese, article-incorporation in Galician, and object shift in English). Based on these cases the paper shows that the CSC holds only for successive-cyclic movement out of conjuncts, as in **Who$_i$ did you see [t_i friends of t_i] and Sue*: elements that are base-generated at the edge of a conjunct or move there independently of successive-cyclic movement can extract. It is also shown that ATB can license an additional extraction from a conjunct in violation of the CSC. The discussion in the paper also leads to establishment of a new type of ATB, where movement must take place out of each conjunct though it is not the same element that is extracted from the conjuncts but different elements. Additionally, the paper shows that unlabeled elements do not count as interveners, a rather natural generalization given the nature of intervention effects, where features of the intervener matter (projecting features requires projecting a label). The discussion also sheds light on the ban on local wh-movement from SpecTP to SpecCP which is argued to require a return to split IP: it is shown that subjects undergoing wh-movement cannot move to the highest projection in the split IP even when the next step of movement is not SpecCP.

1. Introduction

Islandhood has been in the center of theorizing in generative grammar ever since Ross (1967). In spite of numerous works on islands, one island in particular has resisted a satisfactory account, which holds for both the GB tradition and the Minimalist Program, namely the Coordinate Structure Constraint (CSC). The CSC was traditionally assumed to have two parts, one banning extraction of conjuncts, and the other extraction out of conjuncts. It has, however, been shown that the two should be divorced (Grosu 1973, Postal 1998, Bošković 2017, Oda 2017), the main argument being that there are languages which are sensitive to only one part of the CSC (see especially Oda 2017). I will also separate the two parts of the CSC, focusing on the ban on extraction from conjuncts, given in (1) (I will refer to it as the CSC) and illustrated by (2)-(3).

(1) Extraction out of conjuncts is disallowed.
(2) *Who$_i$ did you see [enemies of t_i] and John?
(3) *Who$_i$ do you think [Mary likes t_i] and [Jane hates Peter]?

The CSC is inextricably connected to the across-the-board-movement (ATB) exception: Extraction from a conjunct is possible if it takes place from each conjunct.

(4) Who$_i$ did you see [friends of t_i] and [enemies of t_i]?

ATB is what makes accounting for the CSC particularly difficult. CSC was a rare island that was not accounted for in Chomsky (1986). It appears that capturing it within the *Barriers* system would have been easy. All that was needed was to assume that conjuncts are barriers (which they are) and that adjunction to conjuncts is prohibited. However, (4) would then raise a massive problem. Given the cumulative nature of crossing barriers, if (2) is unacceptable because it involves movement that crosses a barrier, (4) should be even worse since it involves two such movements. I suspect this is the reason why Chomsky didn't attempt to analyze the CSC within *Barriers*. In fact, it appears that the ATB exception is bound to raise its head in any attempt to extend existing accounts of islands to the CSC.[1]

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The goal of this paper is to provide an account of the CSC that will also capture the ATB exception. Importantly, the account will leave room for extraction from conjuncts to take place even in the absence of ATB in well-defined contexts, which will be shown to indeed be possible with a variety of constructions, namely left-branch extraction in Serbo-Croatian, *r*-pronouns in Dutch, V-2 movement in German, clitic doubling in Dutch and Romance, quantifier-float in Japanese, article-incorporation in Galician, and object shift in English. The proposed analysis will also be shown to account for an exception to the CSC from Postal (1998). The predictions of the analysis will also reveal new cases of ATB where movement must take place out of each conjunct though it is not the same element that is extracted out of the conjuncts, as in traditional ATB, but different elements.

The account also has a number of theoretical consequences. It crucially appeals to phases and Chomsky's (2013) labeling approach, which allows unlabeled elements during the derivation. To the extent that it is successful, it thus provides evidence for these theoretical mechanisms. It also provides an argument for Nunes's (2004) sideward-movement approach to ATB (a locality condition on sideward movement is also established) and a particular contextual approach to phases (based on the claim that conjuncts are phases). Perhaps the most important theoretical consequence of the proposed analysis concerns the notion of interveners. It is well-known that traces do not count as interveners (Chomsky 1995): turning an intervener into a trace voids intervention effects. This paper shows that it is not just traces that do not count as interveners, but also elements that have a trace at their edge: turning the edge of an intervener into a trace also voids intervention effects. The paper shows that this otherwise puzzling effect can be captured naturally in the labeling system, which in turn provides evidence for it. The effect in question, to be established below, is given in (5).

(5) Unlabeled elements do not count as interveners.

The labeling system does not merely allow for an easy statement of this effect, but also captures it in a natural way. The notion of intervention is picky, it depends on the nature of the intervener.[2] For Rizzi (1990), this involved the A/A' distinction; recent work states it in terms of featural properties of the interveners. Labeling plays a crucial role here. Consider a case where X and Y merge, and the resulting object ? functions as an intervener. For an intervention effect to occur, either X or Y must have the relevant feature that is involved in the intervention and pass this feature to ? by labeling it. In other words, if X has the relevant feature, then X must project and label ?. What this boils down to is that labeling is necessary for ? to function as an intervener, which means that unlabeled elements should not function as interveners. In other words, since intervention is feature-sensitive, the intervener must have the relevant feature. This is trivially not possible with unlabeled elements (due to the lack of projection the relevant feature is not projected either).

The proposed analysis of the CSC will also be shown to shed light on the ban on local wh-movement from SpecTP to SpecCP, attested in many languages, by enabling us to pinpoint the culprit for this ban.

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[1]A rare exception that analyzes both the CSC and ATB is Takahashi (1994), which can be considered a predecessor of this work. (I refer here to the spirit of Takahashi's analysis, since its implementation is quite different; note also that under Takahashi's (but not the current) analysis the CSC holds only for A'-movement). The same holds for Sag et al's (1985) account, which, though implemented in a different framework, is even closer to the analysis given below in its spirit. However, we will see that the current analysis predicts extraction from conjuncts to be possible in a number of contexts, none of which are allowed under Sag et al (1985).

Still, Sag et al (1985) and Takahashi (1994) are important predecessors of the current work in that, like the account given below, they invoke Coordination-of-Likes in the account of the CSC. However, as will become obvious below, the current work significantly differs from these works both theoretically (in terms of implementation and theoretical consequences) and empirically (in terms of the empirical predictions the accounts make and the resulting empirical coverage).

[2]I am putting aside occasional exceptions, like wh-movement from Romance DPs, which is subject to the poss-agent-theme hierarchy (Torrego 1987, Ticio 2003, among others).

The gist of the analysis is the following: Conjuncts are phases. As a result, any movement out of a conjunct must proceed via its edge. In Chomsky (2013), successive-cyclic movement via a conjunct edge delabels the conjunct, i.e. it changes its category. The intuition is then that if movement takes place only out of one conjunct, a violation of the Coordination-of-Likes requirement ensues, the violation being remedied if movement takes place out of each conjunct, as with ATB. While the basic idea is quite straightforward, we will see that it has important theoretical and empirical consequences for a number of phenomena. Significantly, we will see that it predicts that in a number of (non-ATB) environments extraction out of conjuncts should be possible, which will be shown to be borne out.

Section 2 will give the relevant background. The account of the CSC, as well as ATB and a number of previously unnoticed exceptions, is given in sections 3-4. Sections 5-6 discuss the phasehood of conjuncts and an intervening factor regarding subject questions, which concerns the ban on SpecTP-to-SpecCP movement. Section 7 discusses intervention effects with extraction from conjuncts which will also involve establishing the generalization that unlabeled elements don't count as interveners and reveal a new type of ATB where ATB involves movement of different elements. Another new case where the CSC is violated is also noted. Section 8 examines a CSC exception from Postal (1998).

2. Phases, Labels, and Coordination-of-Likes

The first ingredient of the account proposed below is the phase theory, the crucial mechanism being the Phase-Impenetrability Condition (PIC), which forces movement to proceed via phasal edges.

The second ingredient is the well-known Coordination-of-Likes requirement (CL), which requires conjuncts to be parallel in their categorial status. (CL goes back to Chomsky 1957; see also Schachter 1977, Williams 1978, Sag et al 1985, Bowers 1993, Beavers & Sag 2004, Chaves 2006, among others.)[3]

The last ingredient is Chomsky's (2013) labeling system, where labeling is not forced as part of Merge. Chomsky proposes a labeling algorithm where when a head and a phrase merge, the head projects (providing the label for the resulting object). When two phrases merge, there are two ways to implement projection/labeling: through feature-sharing or traces, traces being ignored for labeling.[4] (6) illustrates the former: when *which book* merges with interrogative CP, both the wh-phrase and the CP have the Q-feature; what is projected (determining the label of the resulting object) is the Q-feature. (This is reminiscent of Spec-Head agreement).

(6) I wonder $[_{CP}$ which book$_i$ $[_{C'}$ C [John bought t_i]]]

As for non-feature-sharing phrase-phrase merger, Chomsky (2013) crucially assumes that successive-cyclic movement does not involve feature-sharing (which essentially follows Bošković 1997a, 2002, 2007, 2008). Successive-cyclic movement cases like (7) are then relevant. There is no feature-sharing between *that* and the wh-phrase which passes through its edge. Since labeling via feature-sharing is not an option the embedded clause cannot be labeled when *what* moves to its edge (indicated by ? in (8)). When v is merged, *what* moves. The element merged with *that*-CP being a trace, it is ignored for labeling (see fn 4), hence ? is labeled as CP after *what* moves.

(7) What$_i$ do you think $[_{CP}$ t'$_i$ $[_{C'}$ that [John bought t_i]]]
(8) v $[_{VP}$ think $[_{?}$ what $[_{CP}$ that [John bought t_i]]]]

This is the general treatment of successive-cyclic movement in the labeling framework.

[3]The references also explain away a number of reported counterexamples to CL. A comprehensive discussion of CL is beyond the scope of this paper. I simply adopt CL and the phase theory here. To the extent that the proposed account is successful it can in fact be interpreted as providing evidence for them.

[4]A trace is taken to be invisible to the labeling algorithm since it is part of a discontinuous element (a chain), where the element to be labeled does not dominate every occurrence of the moving element (Chomsky 2013 argues that traces do not function as interveners for the same reason).

3. Deducing the CSC

The above mechanisms rather straightforwardly deduce the CSC. Consider (9).

(9) *Who$_i$ did you see [enemies of t_i] and John?

Movement from the conjunct must proceed successive-cyclically through its edge. As shown in (10), this movement, which involves merger of *who* and the conjunct DP, yields an unlabeled object, as is always the case with successive-cyclic movement. Importantly, as a result of this movement, the conjuncts differ in their categorial status: the second conjunct is a DP while the first conjunct is ? (it is unlabeled). This configuration is ruled out by CL, which requires that conjuncts be parallel in their categorial status. (I assume that CL is checked at the point when ConjP is formed, hence it is not affected by later movement outside of ConjP.)

(10) [$_{ConjP}$[$_?$ who$_i$ [$_{DP}$ enemies of t_i]] and [$_{DP}$ John]]

The crucial ingredient of the account is that successive-cyclic movement changes the category of the element it targets in the labeling framework, which induces a CL violation.

I will argue below that conjuncts are phases, which follows from a contextual approach to phases. As a result, the phasal/labeling account of (2) extends to other cases that have motivated positing (1), like (3). In other words, it deduces the CSC.

Not only does the account deduce the CSC, it also captures the ATB exception. Consider (11).

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

Here, successive-cyclic movement takes place to the edge of both conjuncts, delabeling them. Since both conjuncts are ? (i.e. unlabeled), CL is not violated. ((12) shows the stage of the derivation when CL applies, which is when ConjP is formed).

(12) [$_{ConjP}$[$_?$ who$_i$ [$_{DP}$ friends of t_i]] and [$_?$ who$_i$ [$_{DP}$ enemies of t_i]]

The phasal/labeling system thus provides a rather straightforward deduction of the CSC, which also captures the ATB exception. In fact, no additional assumptions were needed. Movement from a conjunct must proceed via the conjunct edge. This delabels the conjunct, yielding a CL violation unless movement also takes place from the other conjunct. Both conjuncts are then delabeled, so that there is no CL violation.[5]

I emphasize here an important feature of the above account. As noted above, in typical accounts of islands, like Chomsky (1986), island violations are cumulative: the more islands are crossed the worse the sentence gets. Treating conjuncts as islands (as barriers which cannot be adjoined to in Chomsky 1986) then has the effect that ATB example (11) should be even worse than CSC violations like (9) since (9) involves one extraction from a conjunct island and (11) involves two such extractions. The phasal/labeling account, on the other hand, easily captures the ATB improvement.

4. Non-ATB exceptions

Deductions of principles often have the effect that they don't fully overlap with the deduced principles in that they allow "violations" of the relevant principles in well-defined configurations. In such cases their success should be evaluated with respect to whether such "violations" are indeed attested.

The current deduction of the CSC in fact predicts that the CSC can be violated in well-defined configurations. Since the deduction is based on movement out of a conjunct delabeling the conjunct, it

[5]The moving element doesn't actually delabel what it merges with. Movement creates another structural layer on top of it—it is this new structural layer that lacks a label (I will be using the term delabeling for this situation for ease of exposition).

predicts such movement to be possible if the relevant element is base-generated at the conjunct edge, and can otherwise stay there, which indicates that it undergoes feature-sharing at the conjunct edge. Such movement in violation of the CSC is indeed possible. One relevant case involves possessor-extraction in Serbo-Croatian (SC), which I turn to next.

4.1. CSC-violating extraction of base-generated Specs

SC possessors have been argued to be base-generated at the edge of the traditional NP (TNP) based on the fact that they extract and bind out of their TNP, as (13) shows for the latter (see Bošković 2012, 2013a, Despić 2011, 2013, among others). They also undergo agreement in Φ-features and case.[6]

(13) [Kusturicin$_j$ najnoviji film] ga$_{i/*j}$ je zaista razočarao.
Kusturica's$_{NOM.MASC.SG}$ latest movie$_{NOM.MASC.SG}$ him is really disappointed
'Kusturica's latest movie really disappointed him.' (Despić 2013)

SC normally disallows extraction from conjuncts, as in (14), where the genitive complement of N is extracted. Crucially, as (15) shows, such extraction is allowed with possessors.

(14) *Fizike$_i$ je on [studenta t$_i$] i [Ivanovu sestru] vidio.
physics$_{GEN}$ is he student$_{ACC}$ and Ivan's$_{ACC}$ sister$_{ACC}$ seen
'He saw a student of physics and Ivan's sister.'
(15) ?Markovog$_i$ je on [t$_i$ prijatelja] i [Ivanovu sestru] vidio.
Marko's$_{ACC.MASC.SG}$ is he friend$_{ACC.MASC.SG}$ and Ivan's$_{ACC.FEM.SG}$ sister$_{ACC.FEM.SG}$ seen
'He saw Marko's friend and Ivan's sister.'

In (15), the possessor is base-generated at the conjunct edge, undergoing feature-sharing, so that the conjunct is labeled (I assume that labeling occurs as soon as it's possible, see Bošković 2015, Shlonsky 2015, Rizzi 2016, Saito 2016).[7] In contrast, in (14) the moving element needs to undergo successive-cyclic movement to the conjunct edge, which delabels the conjunct, yielding a CL violation.

What is important here is that (15) is a counterexample to the CSC since it involves extraction from a conjunct but its grammaticality is captured under the proposed account of the CSC.

4.2. CSC-violating head-movement

Under the above account, a base-generated phasal edge is expected to be extractable from conjuncts, in violation of the traditional CSC. This holds not only for the Spec of a phase, but also its head, given that both are located at the phasal edge. One relevant case of this kind is provided by article-to-V incorporation in Galician, illustrated by (16).

(16) Vimo-lo$_j$ [$_{DP}$[$_{D'}$t$_j$ [$_{NP}$ Kremlin]]]
(we)saw-the Kremlin (Uriagereka 1988)

Importantly, article-incorporation is possible out of a conjunct.

(17) Vistede-lo$_j$ [$_{DP}$ t$_j$ [$_{NP}$ amigo de Xan]] e-mais [a Diego] onte.
(you)saw-the friend of Xan and Diego yesterday

Movement from the conjunct does not create a labeling problem for CL here: the conjunct from which article-incorporation takes place is labeled as DP before the incorporation, given that when a head and

[6]The precise identity of the projection where the possessor is located is not important. I use the neutral term TNP, which stands for whatever is the highest projection in the nominal domain (see Bošković 2012, Despić 2011 for the structure of constructions like (13) in SC, as well as languages like English that do not show the binding effect in question).

[7]Nothing would change if labeling occurs at the phasal level, as in Chomsky (2013), given that the projection where the possessor is located, which is the highest projection in the nominal domain, is a phase (see Bošković 2014).

a phrase merge the head projects. Consequently, there is no CL violation in (17), hence its grammaticality is captured.

(17) appears to differ regarding the possibility of a CSC violation with head-movement from (18), involving T-to-C movement from a conjunct.

(18) *Should John buy a car and Peter might sell a house?

Under the proposed analysis, locality can always be satisfied with traditional CSC violations; however, satisfying it induces a CL violation. We have seen that there is no CL violation with head-movement from the conjunct in (17), and the same reasoning should extend to (18). I therefore suggest that (18) is ruled out by independent factors.

This is indeed the case under Chomsky's (2008) C-T association analysis, where C and T share features. As Bošković (2016a) notes, this means that when there is a Q-feature in C, there is also a Q-feature in T. We then have both Cq and Tq in (18). Now, English has a requirement that in matrix clauses Tq moves to Cq: the association requires actual movement here. The problem is that the Tq of the second conjunct did not undergo it. The difference between (17) and (18) is then that the CSC-violating head-movement in (17) is in principle optional, which enables us to leave the relevant head in place in one conjunct, moving it only in the other, while in (18) it is obligatory: this independently prohibits failing to do it in one conjunct. The point here is that the CSC test for head-movement is conductable only with head-movement that is in principle optional.

4.3. CSC-violating extraction of Specs created by movement

The above account, which allows extraction from conjuncts under well-defined conditions, enables us to explain a number of additional CSC violations. Notice first that the account extends to Specs created by movement, but crucially only when the relevant element can stay in the Spec, i.e. if it moves there independently of successive-cyclic movement, which indicates it undergoes feature-sharing. In other words, the account only blocks successive-cyclic movement from a conjunct, since such movement delabels the conjunct (see Bošković 2018a for a labeling account of the ban on movement from moved elements, which allows such movement in the same contexts as the current account does for the CSC).

This enables us to explain some otherwise puzzling CSC violations in German, in a way which also sheds light on the nature of the SOV order in German. Consider (19).

(19) Die Suppe$_i$ wird der Hans [t_i essen] und [sich hinlegen]
the soup will the Hans eat and self down-lie
'The soup, Hans will eat and lie down.' (Johnson 2002)

(20) gives the structure of (19) before movement from ConjP. Assuming movement of the object to SpecvP in German is obligatory due to its SOV nature (Kayne 1994, Zwart 1993), the object does not move to the edge of the vP phase in (20) for reasons of successive-cyclicity. We are dealing here with regular movement where the moving element can stay in the position in question, which means that it involves feature-sharing, which enables labeling. Consequently, this movement does not create the labeling problem that successive-cyclic movement creates: while successive-cyclic movement through the edge of a conjunct delabels it, the movement under consideration does not do that, allowing further movement out of the conjunct.[8]

(20) wird der Hans [$_{ConjP}$[$_{vP}$ Die Suppe$_i$ essen [$_{VP}$ t_i]] und [$_{vP}$ sich hinlegen]]
will the Hans the soup eat and self down-lie

[8]Since German allows subjects to remain in-situ the second conjunct is also labeled as vP at the point when ConjP is formed, before subject movement.

Note also that the analysis provides evidence for the movement account of the SOV order in German.

Another relevant case concerns *r*-pronouns in Dutch. They are exceptional in that they must precede a preposition (21), although Dutch adpositions are otherwise always prepositional (22).

(21) a. daar op/van
there on/of
b. *op daar/*van daar

(22) a. op/van deze tafel
on/of this table
b. *deze tafel op/van

This is analyzed as involving *r*-pronoun movement to SpecPP (or a higher position in extended PP). The fact that *daar* must move to SpecPP (21b) and can stay in SpecPP (23) provides evidence that its movement to SpecPP does not occur for reasons of successive-cyclicity–it is independent of it.

(23) a. $[_{PP}$ Daar op$]_i$ heb ik boeken t_i gelegd.
there on have I books put
b. Ik heb boeken $[_{PP}$ daar op] gelegd.

We then seem to have another testing case here. There is, however, an interfering factor. There are strong restrictions on P-stranding in Dutch and German which in fact make it impossible to test the CSC here in German. Den Besten and Webelhuth (1990) note that P-stranding in German is possible only if the P is adjacent to the verb/its trace (24). Since, as shown in section 7, for independent reasons only extraction from the first conjunct is in principle allowed under the current analysis, this makes it impossible to test *r*-pronoun extraction from coordinated PPs in German.

(24) a. Er hat da_i noch nicht [das Vorwort [t_i von t_i]] gelesen.
he has it yet not the foreword of read
b. Er hat da_i [das Vorwort $t_j]_k$ noch nicht [t_i von $t_i]_j$ t_k gelesen.
c. *Da_i hat er [t_i von] noch nicht das Vorwort gelesen.
d.$[_{VP}$ t_k t_j gelesen$]_m$ hat er da_i [das Vorwort$]_k$ noch nicht $[_{PP}$ t_i von$]_j$ t_m (den Besten&Webelhuth 1990)

However, at least for some speakers P-stranding in Dutch is less restrictive, allowing us to test the CSC.

(25) gives the initial paradigm. (25a) involves a regular PP, with a P-DP order, and (25b) a PP with an *r*-pronoun, which moves out of it.

(25) a. Ik heb boeken [op deze tafel] gelegd.
I have books on this table put
b. ik heb daar boeken op gelegd.
I have there books on put

I now turn to coordinated PPs. Importantly, *r*-pronoun movement is possible from coordinated PPs.[9]

[9]Such cases require particular prosody. In (26a), there needs to be an intonational break after first *op* or *daar* should be stressed; (26b) requires an intonational break after *op*. I assume this is necessary due to non-V-adjacency of the stranded P. It is actually possible that the correct generalization regarding P-stranding in Dutch/German is that stranded Ps must be either adjacent to a verb or followed by an intonational-phrase boundary, which is reflected in the presence of a pause ((24d), where the P is not V-adjacent, fits this generalization). Any differences between Dutch and German regarding P-stranding may then be due to differences in intonational phrasing/the requirement in question (in work in preparation I argue for a prosody-based account, where these Dutch/German data are analyzed within a broader crosslinguistic context regarding the possibility of dropping the host of phonologically weak elements). At any rate, what is particularly interesting here is that extraction is unacceptable from the second conjunct, although in that case the stranded P is V-adjacent. As discussed below, this is exactly what the current analysis predicts.

(i) *Ik heb daar boeken op deze tafel en op gelegd.
I have there books on this table and on put

(26) a. Ik heb daar$_i$ boeken [$_{PP}$ t$_i$ op t$_i$] en [$_{PP}$ op deze tafel] gelegd.
I have there books on and on this table put
b. ?Daar$_i$ heb ik boeken [$_{PP}$ t$_i$ op t$_i$] en [$_{PP}$ op deze tafel] gelegd. (Paula Fenger,p.c.)

The current approach straightforwardly captures these CSC violations. Before extraction from the coordinated PPs, the *r*-pronoun undergoes regular obligatory movement to SpecPP. Its extraction from the coordination then doesn't create the problem successive-cyclic movement creates:while successive-cyclic movement through the conjunct edge delabels the conjunct, *r*-pronoun movement does not do it.

Clitic doubling provides additional evidence. Van Craenenbroeck and van Koppen (2008) note that Wambeek Dutch allows clitic doubling of a conjunct, in violation of the CSC (27). This is not a quirk of Wambeek Dutch: Spanish (28) and Brazilian Portuguese ((29), Minas Gerais dialect, which allows clitic doubling) also allow it.

(27) Ik paus da **se** [**zaailn** en waailn] dui suimen wel oitgeruiken.
I think that they$_{CLITIC}$ they$_{STRONG}$ and we$_{STRONG}$ there together PRT out.come
'I think that they and we will solve that together.' (Van Craenenbroeck and van Koppen 2008:208)
(28) Yo la vi **a María** y a Juan.
I her$_{CL}$ saw María and Juan
'I saw Mary and Juan.' (Gabriel Martínez Vera,p.c)
(29) Que Deus **te** ilumine **você** e sua família.
that God 2$_{SG.ACC}$ illuminate you and your family
'May God illuminate you and your family.' (Machado-Rocha 2016:88)

Many have argued for the big-DP account, where the clitic and the double are base-generated together, with the clitic moving away (e.g. Uriagereka 1995, Cecchetto 2000, Kayne 2002, Boeckx 2003, Belletti 2005). Runić (2014) provides strong evidence for it. She shows the big-DP is preserved in some languages, where the clitic and the double cannot be split (30). These languages then minimally differ from those in (27)-(29) in that the clitic doesn't move out of the big-DP; more importantly, they provide evidence that the clitic and the double indeed form a constituent at one point in the derivation.

(30) a. *Je l' **me** čekaš **mene**?
AUX Q me$_{CL.ACC}$ wait$_{2SG}$ me$_{ACC}$
b. Je l' **me** **mene** čekaš?
'Are you waiting for me?' (Prizren-Timok Serbian)

From this perspective, (27)-(29) are not surprising: since the clitic and the doubled conjunct are generated as a single DP conjunct clitic doubling can be easily captured under the current account. The account can actually help us determine more precisely the structure of the big-DP, which is otherwise not easy to do since we are dealing with a pre-movement structure. To be able to extract, the clitic must be located at the edge of the big-DP, either as its Spec (in which case (27)-(29) parallel CSC violations with SC possessors (15)) or its head (in which case they parallel CSC violations with Galician article-incorporation (17)).

Clitic doubling thus provides another case of extraction that violates the CSC which is captured under the current deduction of the CSC.

Consider also Japanese numeral constructions:

(31) a. John-wa [hon-o san satsu] kata b. Hon-o John-wa san-satsu kata
John-$_{TOP}$ book-$_{ACC}$ 3 CL bought
'John bought three books.'

Following Watanabe (2006), I assume that *hon-o* moves to the edge of the bracketed TNP (I will refer to it as ClasP). The NP can move outside of ClasP (31b). Importantly, the movement is also possible from coordinations:

(32) Ringo-o_i Taro-wa [t_i san ko] to [banana-o ni hon] tabeta
apple-$_{ACC}$ Taro-$_{TOP}$ 3 CL and banana-$_{ACC}$ 2 CL ate
'Taro ate three apples and two bananas.' (Satoshi Oku,p.c)

(32) represents another case of movement from conjuncts that is captured under the proposed analysis. Consider now extraction from conjuncts with English ECM.

(33) ?I've believed John$_i$ for a long time now [t_i to be a liar] and [Peter to be trustworthy].

(33) is somewhat degraded, though clearly better than typical CSC violations like (2)-(3). I interpret this as indicating the CSC is not violated in (33), putting aside the reason for its residual awkwardness (it may have to do with the presence of the adverbial in only one conjunct though see Bošković 2017 for an alternative account where the CSC effect is only partially voided in (33)). Lasnik (1999) argues that object shift is optional in English. The first conjunct subject in (33) must have undergone object shift since it precedes a matrix adverbial. This is then another case of movement from a conjunct.[10]

As noted above, Lasnik (1999) argues object shift is optional here. This means that the infinitival subject can remain in the Spec of the infinitive, which means that movement to the Spec of ECM infinitives is independent of successive-cyclicity. In other words, it results in labeling. Both infinitival conjuncts are then labeled, enabling extraction of the infinitival subject in violation of the CSC.

(15), (17), (19), (26), (27)-(29), (32), and (33) all involve acceptable extractions from a conjunct, in violation of the traditional CSC ban in (1). They are, however, captured under the proposed account of (1), which also captures ATB exceptions like (11). The account then doesn't actually deduce the CSC ban in (1), but a modified version of it which allows extraction from conjuncts under well-defined conditions. In particular, the account confines the CSC effect to successive-cyclic movement from conjuncts. The labeling framework enables us to make a principled distinction between successive-cyclic movement on one hand, and obligatory movement (i.e. movement that can be the final landing site) and base-generation on the other hand, since they have a different effect on labeling. What we have seen above is that we find exactly this cut with extraction from conjuncts, which enables the labeling system to account for the ban on extraction from conjuncts in a way that also captures the exceptions to this ban.[11]

5. Conjuncts as phases

Conjuncts are traditionally assumed to be islands. In the phasal system, it is natural to assume that they are phases, given that phases have a potential for inducing locality violations.[12] The islandhood-phasehood connection has an interesting consequence: since each conjunct is an island even if the relevant phrase is otherwise not an island, this means that each conjunct should be a phase even when the relevant phrase otherwise would not be a phase. The assumption, which I show below follows from a contextual approach to phases, is motivated by examples like (34). (34) appears to involve coordination of IPs, which is not a phase in Chomsky (2000). In the current system, wh-movement

[10] I assume we are dealing here with coordination of two infinitives (but see Bošković 1997). Johnson (2002) also notes the CSC can be violated under ECM movement based on *I made Sally$_i$ out [[t_i to be honest] and [Mark to be trustworthy]]*.

[11]Johnson (2009) gives an account of gapping involving ATB VP-fronting with movement of the subject out of only one conjunct. If subjects in their base-position can be involved in labeling in English (a possibility in Chomsky 2015, though not Chomsky 2013, see also fn 18), Johnson's analysis can be accommodated in the current system and would represent another case of an acceptable CSC "violation".

[12]I don't mean to suggest that phases in general are islands, just that phases have the potential to induce locality violations, which can then capture islandhood.

needs to proceed via the conjunct edge here, which means the conjunct needs to be a phase. Successive-cyclic movement to the edge of the conjunct delabels it, inducing a CL violation.[13]

(34) *I wonder what$_i$ Betsy purchased t_i and Sally advertised it.

In the current approach, if phrases that are not phases when they are not coordinated are also not phases when coordinated it would in principle be possible to extract from such non-phasal conjuncts. However, it turns out that under Bošković's (2014) approach to phases, the coordinated IPs in (34) are anyway phases (even though the embedded IP is not a phase in *I wonder what Betsy purchased*); there is no need to stipulate that conjuncts are always phases, independently of whether the coordinated phrases are phases on their own.

While Chomsky (2000) assumes that a particular phrase is a phase or not regardless of its syntactic context (CP is always a phase and IP is never a phase), many have argued for various contextual approaches where the phasal status of α depends on the syntactic context where it occurs (as Bošković 2014 notes, this follows the spirit of *Barriers* where we cannot determine whether CP is a barrier or not without knowing its syntactic context—CP is sometimes a barrier and sometimes not, depending on its structural position). Focusing on IP, Bošković (2014, 2015, 2016a) and Wurmbrand (2013) argue that the highest clausal projection is a phase, which makes IP a phase when not dominated by CP. However, it appears that the relevant IP would still not be a phase in (34), since it is dominated by CP. This is actually not the case in Bošković (2014).

Bošković (2014) argues that the highest projection in the extended domain of a lexical head and the highest clausal projection function as phases (i.e. the highest phrase in a phasal domain functions as a phase, phasal domains being the domains of lexical heads and the clause[14]). This makes vP (the highest projection in the V-domain) and CP (the highest projection in the clausal domain) phases in (35), as in Chomsky (2000). However, in contrast to Chomsky (2000), if V takes an IP complement in (35) this IP will be a phase as the highest projection in the clausal domain.

(35) [$_{vP}$[$_{VP}$[$_{CP}$[$_{IP}$

Consider how this system applies to coordinations, i.e. how the presence of ConjP affects it. The issue here is that ConjP disrupts domain projection for the clausal phasal domain. In contrast to (35), CP does not immediately dominate IP in (36). ConjP separates CP and IP into separate domains, making IP the highest phrase in its phasal domain, just like when V takes an IP complement. (More generally, merger of (a projection of) the Conj head with a conjunct closes the extended domain of the conjunct in Bošković's 2014 system, making the highest projection of the conjunct a phase; see also Oda 2018.)

(36) [$_{vP}$[$_{VP}$[$_{CP}$[$_{ConjP}$[$_{IP}$

The presence of ConjP then affects the phasal status of IP in Bošković (2014), making it a phase (this actually holds for all conjuncts). In other words, coordination makes coordinated IPs phases, which is exactly the effect we saw at work in (34). The gist of the discussion here is that IP is a phase if it is not immediately dominated by CP, as argued independently in Wurmbrand (2013) and Bošković (2014,

[13]Under the natural assumption that A'-Specs are higher than A-Specs (when a phrase has both, see Abels 2007, Bošković 2018a), wh-movement will proceed via the outmost conjunct edge in (34). There is actually no need to assume this. Under Bošković's (2016b) approach to the PIC, where only the outmost Spec of a phase is accessible from the outside, *who* is anyway inaccessible outside of the conjunct phase unless it moves through the outmost Spec (above *Betsy*). (There is no issue regarding the possibility of multiple Specs for the relevant IP in (34) given the standard assumption that phase heads in general can have multiple Specs (see Bošković 2007) if this IP is a phase by virtue of being a conjunct, as argued here).

[14]See Bošković 2014:74-75 regarding how this is implemented without a look-ahead.

2015, 2016a). Though the cases discussed in these works do not involve coordination, ConjP has the same effect in that the relevant IP is not immediately dominated by CP, which makes it a phase.

We may also be in a position to capture the claim from Oda (2017) and Bošković (2017) that both conjuncts and ConjP are islands,[15] which means phases given the above discussion. In Bošković (2014) the clausal domain and the domains of lexical heads are phasal domains, the highest phrase in these domains being a phase. ConjP does not naturally belong to either of these domains. Now, Epstein and Seely (2002) argue each phrase is a phase (see also Boeckx 2007, Müller 2010). Suppose we combine that view and Bošković (2014) in a way that each phrase has the potential to be a phase; however, the phasehood is voided if the phrase belongs to a phasal domain and is not the highest projection within the domain. Under this view, ConjP, which, as noted above, doesn't belong to Bošković's (2014) phasal domains, would then be a phase (since its potential phasehood would not be voided by virtue of not being the highest phrase in a phasal domain). Both ConjP and the conjuncts are then phases. Since this paper focuses on extraction from conjuncts I will put the phasehood of ConjP aside below.[16]

6. Subject questions

This section discusses an interfering factor which arises with subject wh-extraction in IP&IP coordinations (I use the term IP neutrally, similar to TNP). Consider (37) (which differs from (33), where the subject undergoes object shift).

(37) *I wonder who$_i$ [t_i left] and [Mary disappeared].

It appears that on the IP&IP derivation, (37) involves extraction of a conjunct edge that is created by obligatory movement (to SpecIP), which should not cause a labeling problem. Why is then (37) unacceptable?

This brings us to the puzzle of *who left*, where apparently there is no movement to SpecIP although English otherwise requires it (see Bošković 2016a, Messick 2016). There are a number of accounts of *who left*. There are strong arguments against accounts where *who* stays in SpecIP. E.g., (38)-(39) indicate that *wh-the-hell* phrases are only possible with wh-movement. (40) then shows that the wh-phrase is not located in SpecIP.

(38) What the hell did John buy?
(39) *Who bought what the hell?
(40) Who the hell arrested Mary?

Further, in contrast to (42), (41) is unambiguous. Since (42) shows that an object quantifier can scope over a quantifier in SpecIP, as Mizuguchi (2014) notes, *who* in (41) should not be located in SpecIP.

(41) Who loves everyone? (who>everyone;*everyone>who)
(42) Someone loves everyone. (someone >everyone;everyone>someone)

Particularly important are West Ulster English (WUE) (43)-(44), which show not only that subject questions involve movement to SpecCP but also that the movement does not proceed via SpecIP.

(43) Who$_i$ was arrested all t_i in Duke Street?
(44) *They$_i$ were arrested all t_i last night. (McCloskey 2000)

[15]Their motivation is attempting to capture both parts of the traditional CSC.

[16]Phasehood doesn't necessarily equate with islandhood. However, Bošković (2016c) argues that a double-phase configuration, where a phase dominates a phase, creates islandhood. Given that both ConjP and conjuncts are phases, coordination would then always bring in islandhood, resulting in a locality effect (unless the effect is voided in one of the ways discussed here and Bošković 2016c, 2017).

In contrast to standard English, WUE allows Quantifier(Q)-float under wh-movement. Still, in spite of allowing (43), like standard English WUE disallows (44). McCloskey (2000) observes that given that Q-float is disallowed from SpecIP in (44), *all* cannot be floated under movement to SpecIP in (43). He then concludes that *who* moves here directly to SpecCP, without moving via SpecIP.

This is an issue that has been discussed for many languages, e.g. Italian, Kaqchikel, Kinande. There are well-known arguments from these languages that subject movement to SpecIP cannot feed movement to SpecCP, as assumed under the previously standard treatment of *who left* (what makes *who left* puzzling is that movement to SpecIP is otherwise obligatory in English, which means the EPP requirement is voided here).[17]

This is exactly the problem with (37). Movement of *who* to SpecIP is needed due to the coordination structure independently of whatever is going on in *who left*. Given that conjuncts are phases, this movement is required by the PIC. Consequently, even if the way of voiding the EPP requirement in *who left* is available in (37), movement of *who* to SpecIP is independently needed in (37) because of the coordination structure. Whatever is responsible for the impossibility of subject SpecIP-to-SpecCP movement will then block (37). (Another issue is that, as discussed above, the I of the second conjunct is Iq, due to C-I association; what we have in (37) is then a wh-question (not a yes-no question) where there is no wh-phrase/wh-trace in the IPq of the second conjunct, which may cause a problem—the issue here being whether IPwh-q must contain a wh-phrase/wh-trace.)[18]

Also relevant is (45):

(45) Who can leave and must work harder?

There are many arguments that the traditional IP domain contains more than just TP–there is additional structure between vP and the phrase whose Spec the subject occupies (see Belletti 1990, Cinque 1999, Bošković 2001 regarding intermediate V-movement, Bobaljik and Jonas 1996 regarding multiple subject positions and Bošković 2004 regarding Q-float). In fact, sentential adverbs can intervene even between the subject and modals/auxiliaries in English, which also indicates that the subject is located in the Spec of a projection that is higher than the projection where modals/auxiliaries are located. Within Pollock-style split IP, Bošković (1997) and Watanabe (1993) place the subject in (46) in SpecAgrsP and the modal in T (Kayne 1989 also proposes such an analysis).[19]

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[17]See Messick (2016), Bošković (2016a) for labeling accounts within Chomsky's (2013, 2015) approaches respectively.

[18] Consider also (i), which involves ATB subject movement (not shown) and wh-movement from the first conjunct.

(i) *Who$_i$ did John hire t_i and fire Mary?

There are several ways of analyzing (i) due to uncertainty regarding how several relevant issues should be treated (the open questions are the level of coordinaton, whether such examples involve object shift before wh-movement and whether this movement lands in a position higher than the subject base-position, whether the base-merger of the subject results in labeling…) I give here one way of analyzing (i) involving a particular set of assumptions regarding these issues. Suppose that objects undergoing wh-movement undergo object shift on the way up, and that the object-shift position is higher than the subject base-position, as argued in Bošković (1997b) (and as was the case in the system that assumed that object shift targets AgroP; with the elimination of AgroP, this means that object shift targets a SpecvP above the subject base-position (the subject SpecvP can be created via tucking-in after the object SpecvP is created; see also Abels 2007. Assuming that (i) involves vP-level coordination and that subjects in their base-position cannot undergo labeling, as in Chomsky (2013), the first conjunct in (i) is labeled (since object shift results in labeling, like movement to SpecIP), while the second conjunct is not (before subject movement to SpecIP, which is what matters hence I ignore labeling that occurs after the relevant movements. Note also that, as discussed in Lasnik (1999), object shift is not limited to DP arguments in English.)

(ii) *Who$_i$ did John$_j$ [$_{vP}$ t_i t_j hire] and [$_?$ t_j fire Mary]

There is an alternative account, where movement of a wh-phrase via the edge of vP is always considered true successive-cyclic movement, hence it would not involve labeling. Under this assumption we would need to assume that the subject can undergo feature-sharing with its sister vP in the base-position, which means that the second conjunct in (i) would be labeled. Since the first conjunct is not, due to it "hosting" successive-cyclic movement, (i) then still violates CL.

[19](46) and (ia) are unacceptable in French but so is (ib) (see Belletti 1990, Bošković 2000; (ib) is acceptable in English), which indicates that there is more to the difference between English and French here than just V-movement.

(46) John probably can play the guitar.

Given that bar-level coordination is disallowed, constructions like (47), where the subject is outside of the coordination but the modal is not, confirm that the subject and the modal are not located in the same projection, the modal being lower than the phrase whose Spec the subject occupies.

(47) John [travels to Rome tomorrow] and [will fly for Paris on Sunday].

Assuming the Bošković/Watanabe analysis (the exact labels of the relevant projections do not really matter), (45) can then be analyzed as involving TP coordination (see (48) below), with the subject moving from SpecTP directly to SpecCP (after forming an ATB dependency), the ban on local subject wh-movement being implemented as a ban on movement from SpecAgrsP to SpecCP, which does not occur in (45)/(48). (I will refer to the subject not passing through SpecAgrsP, which otherwise has to be filled, when moving to SpecCP as the *who left* effect).[20] The ban in question is then tied to agreement, i.e. the agreeing SpecAgrsP subject position where lexical subjects are located. SpecAgrsP is where the subject is located in the second conjunct of (37), which must then involve AgrsP-level coordination (given CL), (37) being ruled out as discussed above (due to the PIC/*who left* effect). Note also that in (45), which involves TP coordination, the subject will move to the edge of the conjunct because the conjunct is a phase although otherwise such movement is not necessary, the traditional EPP requirement, which is anyway voided in subject questions, holding for the highest position in split IP (AgrsP). (48) gives the structure for (45) and (49) for (37) (coordinated phrases are given in bold).

(48) [$_{CP}$ Who$_i$ [$_{AgrsP}$ [**$_{TP}$** t$_i$ can leave] and [**$_{TP}$** t$_i$ must work harder]]]?
(49) *I wonder [$_{CP}$ who$_i$ [**$_{AgrsP}$** t$_i$ [$_{TP}$ left]] and [**$_{AgrsP}$** Mary [$_{TP}$ disappeared]]].

Under the proposed analysis, (37) is ruled out independently of the CSC (due to the PIC/*who left* effect). Consequently, we would expect that it would not become acceptable with ATB, as long as the second conjunct has an overt subject so that it is forced to be an AgrsP. The expectation is borne out. Consider (50), where *who* undergoes ATB.

(50) *I wonder who$_i$ [t$_i$ left] and [Mary kissed t$_i$]

The second conjunct must be an AgrsP due to the presence of a lexical subject, which then forces the first conjunct to be an AgrsP too. However, if the first conjunct is an AgrsP, movement of *who* to the conjunct edge, which is necessary since the conjunct is a phase, results in a violation, as discussed above (for two reasons actually: due to the *who left* effect and because of CL, given that the first conjunct is then labeled while the second conjunct, whose outmost edge is targetted by successive-cyclic movement (not shown above), is not).

Consider also (51).

(51) *I wonder who$_i$ [John saw t$_i$] and [t$_i$ kissed Mary]

It is not clear whether the *who left* effect arises here. The coordination here has to be on the AgrsP-level. Below I adopt Nunes's (2004) sideward-movement analysis of ATB. Under that analysis, *who*

(i) a. *Jean probablement vendra ces livres. b. *Probablement, Jean vendra ces livres.
Jean probably will-sell these book

[20]In fact, under the approaches to antilocality in Bošković (2016a) and Erlewine (2016), in [$_{CP}$[$_{AgrsP}$[$_{TP}$]]] antilocality bans movement to SpecCP from SpecAgrsP but not from SpecTP. Furthermore, the presence of ConjP in AgrsP&AgrsP cooordinations doesn't change anything under Bošković's (2016a) approach (see also (52) below).

moves to SpecAgrsP of the second conjunct and then gets remerged into the object position of the first conjunct. If what is responsible for the *who left* effect is that subjects undergoing wh-movement cannot move to SpecAgrsP, movement of *who* to the SpecAgrsP of the second conjunct will still be blocked. However, if what is responsible for the *who left* effect is movement from SpecAgrsP to SpecCP, the issue will not arise (due to sideward movement of *who* there is no SpecAgrsP-to-SpecCP movement in (51)).[21] Anyway, (51) is still ruled by CL: the first conjunct is targeted by successive-cyclic movement, which is not the case with the second conjunct. This yields a CL violation due to a labeling conflict.[22]

An interesting contrast in (52)-(53), noted by Qilin Tian, can help us pinpoint the culprit for the *who left* effect. This contrast also indicates that infinitives have split IP (AgrsP+TP), with the presence of *Peter* in the second conjunct forcing this conjunct to be an AgrsP—the first conjunct then also must be an AgrsP.

(52) *Who$_i$ did you believe for a long time now [t_i to be a liar] and [Peter to be trustworthy]?
(53) ?I've believed John$_i$ for a long time now [t_i to be a liar] and [Peter to be trustworthy].

As discussed above (cf. (33)), *John* in (53) undergoes feature-sharing movement to the Spec of the infinitive (SpecAgrsP), which results in labeling. It then moves to the matrix SpecvP (the adverb modifies the matrix clause), which violates the CSC but conforms with its deduction proposed above. If movement of subject wh-phrases quite generally cannot proceed through AgrsP, that derivation is not an option in (52); (52) can then be accounted for in the same way as (37)/(49) (the disallowed movement to SpecAgrsP is required by the PIC, conjuncts being phases). Since, in contrast to *who* in (37)/(49), after moving to SpecAgrsP (of the infinitive) *who* in (52) does not move directly to SpecCP, the unacceptability of (52) then indicates that what is responsible for the *who left* effect is that subjects undergoing wh-movement cannot move to SpecAgrsP; i.e., the culprit is the movement of the wh-subject to SpecAgrsP, not its movement from SpecAgrsP to SpecCP.

Extraction from coordinated clauses thus enables us to pinpoint the culprit for the *who left* effect, also providing evidence for split IP.

7. Intervention effects

7.1. Intervention effects and ATB-movement

We have seen movement from conjuncts in violation of the CSC is possible exactly where expected under the current account. E.g. SC possessors, which are base-generated at the TNP-edge, can extract.

(54) ?Markovog$_i$ je on [t_i prijatelja] i [Ivanovu sestru] vidio.
Marko's$_{ACC.MASC.SG}$ is he friend$_{ACC.MASC.SG}$ and Ivan's$_{ACC.FEM.SG}$ sister$_{ACC.FEM.SG}$ seen

However, such movement is possible only from the first conjunct, as shown by the unacceptability of (55), involving possessor-extraction from the second conjunct. In fact, the CSC-violating movements discussed above are all possible only from the first conjunct.[23]

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[21]Note that if what is responsible for the *who left* effect is SpecAgrsP-to-SpecCP movement, the unacceptability of **Who$_i$ did he say [$_{CP}$[**$_{AgrsP}$** t_i left] and [**$_{AgrsP}$** she arrived]]* shows that the ban should not be limited to movement to +wh-SpecCP but SpecCP in general (the first conjunct must be an AgrsP given that the second conjunct is an AgrsP due to the presence of a lexical subject and movement to SpecAgrsP of the first conjunct is forced independently of the EPP by the PIC, conjuncts being phases, an issue that would not arise in *who$_i$ did he say t_i left,* where wh-movement via SpecAgrsP is not forced for reasons discussed above).

[22]Note also the improvement of (51) in (i).
(i) I wonder who$_i$ [John saw t_i] and [Peter thinks t_i kissed Mary]
Here the outmost edge of both conjuncts is targeted by successive-cyclic movement so that no problem regarding CL arises.

[23]See fn 9 regarding *r*-pronouns. (i)-(ii) show this for clitic doubling and Japanese Q-float.
(i) *Que Deus **te** ilumine ele e **você**.
that God 2SG.ACC illuminate he and 2SG.NOM

(55) *Ivanovu$_i$ je on [Markovog prijatelja] i [t_i sestru] vidio.
Ivan's$_{ACC.MASC.SG}$ is he Marko's$_{ACC}$ friend$_{ACC}$ and friend$_{ACC.MASC.SG}$ seen

There should be no CSC violation here; if the CSC were to ban possessor-extraction from conjuncts in SC it would also rule out (54). Given the well-established fact that the first conjunct is higher than the second conjunct, following Johnson (2002) I sugggest (55) involves an intervention effect. The first conjunct causes an intervention effect, blocking movement from the second conjunct.[24]

There is independent evidence for this. It is well-known that traces void intervention effects (56). Thus, A-movement across an experiencer is disallowed in Italian (57), an intervention effect involving A-movement across an A-Spec. The effect is voided if the intervener is a trace (58).

(56) Traces do not count as interveners (Chomsky 1995, Bošković 2011,a.o)
(57) *****Gianni$_i$ sembra a Maria [t_i essere stanco]
Gianni seems to Maria to-be ill
(58) A Maria$_j$, Gianni$_i$ sembra t_j [t_i essere stanco]

Traces also void islandhood. Thus, Bošković (2013b) argues for (59), observing that turning the head of an island into a trace voids islandhood. Galician (60)-(61) illustrate this. (60) is ruled out because it involves extraction from an adjunct. The effect is voided by article-incorporation in (61), given (59).

(59) Traces do not head islands.
(60) *de que semana$_j$ traballastedes [$_{DP}$ o [Luns t_j]]?
of which week worked the Monday
'Of which week did you guys work the Monday?'
(61) de que semana$_j$ traballastede-lo$_i$ [$_{DP}$[$_{D'}$ t_i [Luns t_j]]] ?
of which week worked-the Monday

Returning to (55), evidence that (55) indeed involves an intervention effect is provided by the fact that it becomes acceptable if the first conjunct is a trace.

SC allows extraction of conjuncts (Stjepanović 2014).

(62) ?Knjige$_i$ je Marko [t_i i filmove] kupio.
books is Marko and movies bought
'Marko bought books and movies.'

Crucially, as Stjepanović (2017) notes, if the first conjunct is a trace, extraction from the second conjunct is possible. Compare (63) and (64). In (64), the first conjunct stays in situ, blocking extraction from the lower conjunct. In (63), the first conjunct is a trace (it undergoes movement), which enables extraction from the second conjunct (see below for what happens with the conjunction).

'May God illuminate him and you.' (BP, Machado-Rocha,p.c.)
(ii)*banana-o$_i$ Taro-wa [ringo-o san ko] to [t_i ni hon] tabeta
banana-$_{ACC}$ Taro-TOP apple-$_{ACC}$ 3 CL and 2 CL ate

[24]We may not actually be dealing here with a relativized-minimality but a PIC effect. If ConjP is a phase, extraction from ConjP must proceed via SpecConjP. Assuming Richards' (2001) tucking-in, a phrase moving from the second conjunct must move to a lower SpecConjP, tucking in under the first conjunct. If only the outmost edge of a phase with multiple edges is accessible from the outside due to the PIC, as Bošković (20016b) argues, the element in the lower SpecConjP then cannot move out of ConjP due to the PIC. Nevertheless, for ease of exposition I will simply use the term intervention effect for the configuration in question. (At any rate, the way the effect is treated below when it comes to exceptions to it wouldn't change regardless of whether it is seen as a PIC or a relativized-minimality effect (note that Rackowski and Richards 2005 treat it in terms of classical intervention).)

(63) Koja serija$_i$ se i čiji$_j$ tebi [$_{ConjP}$ t_i [t_j film] dopadaju?
which series self and whose you.dat movie please
'Which series and whose movie are pleasing to you?'
(64) *I čiji$_j$ se tebi [$_{ConjP}$ koja serija [t_j film] dopadaju?
and whose self you.dat which series movie please

These facts parallel (57): turning an intervener into a trace voids intervention. The presence of a typical intervention-voiding effect provides evidence that the impossibility of extraction from the second conjunct in (55) indeed involves an intervention effect.

The reader may have noticed that extraction from the second conjunct carries the conjunction with it in (63). The reason is that, as Stjepanović (2014) shows, the conjunction is a proclitic which proclicitizes to the element following it, so that any movement of that element carries it along. Oda (2017) and Stjepanović (2014) in fact argue that conjunction-cliticization is a prerequisite for conjunct extraction. Thus, conjunct extraction is also possible in Japanese, where the conjunction is an enclitic, and is in fact carried along under movement of the first conjunct.

(65) ?Kyoodai$_i$-to kanojo-wa [t_i Toodai]-ni akogareteiru.
Kyoto.University-and she-Top Tokyo.University-Dat admire
'She admires Kyoto University and Tokyo University.' (Oda 2017)

Oda (2017) and Stjepanović (2014) analyze this in terms of (59): ConjP is an island but its islandhood is voided in SC/Japanese because the head of ConjP is a trace, due to movement of the conjunction head.[25]

I then conclude that the reason why possessor-extraction is normally disallowed from the second conjunct (i.e. the reason for the contrast in (54)-(55)) is an intervention effect: The first conjunct intervenes for extraction from the second conjunct; the effect is voided if the intervener is a trace.

A question now arises. Given that the first conjunct induces an intervention effect for extraction from the second conjunct, why doesn't the effect arise in ATB-constructions, where it appears that there is movement from each conjunct, which means movement from the second conjunct crosses the first conjunct. Since the goal of this paper is to account not only for the CSC but also ATB the question cannot be put aside. What is then the difference between (55), where the first conjunct induces an intervention effect, and ATB (11), where this is apparently not the case?

Note first that in (63), where extraction from the second conjunct is possible, the intervener is a trace. This is not the case in ATB (11): there is a trace in (11) (see (67)) but the trace is the edge of the conjunct, the conjunct itself is not a trace. We will see below that this may actually be relevant. Pending that discussion, I focus on another difference between (11) and (63), which is the fact that it is the same element that is extracted from the conjuncts in (11), the defining property of ATB. There is an approach to ATB which easily resolves the intervention issue, namely Nunes (2004).

Nunes proposes a unified account of parasitic gaps (PG) and ATB involving sideward movement, where XP participating in a PG/ATB construction is merged within the adjunct/second conjunct, then re-merged in a non-c-commanding position that corresponds to the other gap of PG/ATB

[25]Stjepanović provides evidence that the second conjunct in (62)-(63) moves to lower SpecConjP, with the conjunction procliticizing to it. She unifies (63) with SC (i), which Bošković (2005, 2013b) and Talić (in press) analyze as involving AP-movement to SpecPP, followed by procliticization of the P to the adjective. Further movement of the adjective then carries the P along (the PP is an island, but its islandhood is voided through (59)).
(i)[U veliku]$_i$ je on ušao [t_i sobu].
in big is on entered room

constructions. (66) shows this for the former. *What* is merged in the adjunct object position, then in the matrix object position, undergoing movement from there. Two chains are then formed, both of which are headed by moved *what*, with the lower copy of each chain deleted in PF.

(66) What$_i$ did [John file ~~what~~$_i$] without reading ~~what~~$_i$]

The analysis straightforwardly extends to ATB (11)/(67). *Who* is merged in its θ-position in the second conjunct, moving to the edge of the conjunct (which is a phase).[26] It is then re-merged in its θ-position in the first conjunct, moving to its edge. Movement to the edge of the conjuncts delabels them, so that CL is obeyed.[27]Crucially, there has never been movement from the second conjunct that crosses the first conjunct. The intervention problem with such movement that arises in (55) then does not arise here. The sideward-movement analysis thus straightforwardly resolves the intervention issue, which can be interpreted as an argument for it.

(67) Who$_i$ did you see [t$_i$ friends of t$_i$] and [t$_i$ enemies of t$_i$]?

7.2. ATB cover up

Under the above analysis we may expect the possibility of interaction between ATB and independent CSC-violating movements where a CSC violation would be covered up by a separate ATB dependency on top of it, i.e. where an ATB dependency formed with extraction from two conjuncts would sneak in an extraction in violation of the CSC. Abstractly, we would have (68), where ATB and non-ATB extraction are mixed and the relevant elements are at conjunct edges, getting there as a result of successive-cyclic movement (which means they undergo further movement not shown below).

(68) [$_{ConjP}$[ATB$_i$ non-ATB$_j$… t$_i$ t$_j$] and [ATB$_i$…t$_i$]]

Both conjuncts are then unlabeled, and there is no crossing of the first conjunct due to sideward movement. Although both elements are extracted from ConjP no CSC violation should arise under the current analysis, in contrast to the traditional CSC approach, where non-ATB extraction in (68) violates the CSC. Since both elements are extracted from ConjP a locality violation is bound to arise in English but not in SC where it is possible to have both wh-phrases move to the same clause, as in (69)-(70), SC being a multiple wh-fronting language. What is important here is that (70), which involves a traditional CSC violation combined with ATB, is better than (69), where the CSC violation is not combined with ATB. Under the traditional CSC, both examples involve a CSC violation (we will see below that (70) involves an additional violation, which then means that (70) should be better than (69) under the traditional CSC analysis). This is not the case under the current analysis, where the CSC is not violated in both examples. Although (70) violates the traditional CSC it does not violate it under its deduction proposed here, since the CSC-"violating" extraction is covered up by an ATB dependency, as discussed above regarding (68) (which is the structure of (70) before movement from ConjP). (69), on the other hand, does violate the CSC even under the current approach. While the judgments are obviously subtle due to the complexity of the examples, (70) is indeed better than (69).

(69) *Koja kola$_i$ je [ubijedio Petra da kupi t$_i$] i [umalo nagovorio Ivana da proda kuću]?
which car is persuaded Petar that buys and almost convinced Ivan that sells house
'Which car did he persuade Petar to buy and almost convinced Ivan to sell the house?'

[26]There are islandhood effects within the second conjunct, which indicate that there must be movement to the edge of this conjunct, before remerger/sideward movement. The current analysis may actually explain why this movement, which delabels the second conjunct, takes place: without it, a CL violation would occur.

[27]Note that the copy of *who* at the edge of the second conjunct does not count as a trace (hence is not ignored for labeling) at this point of the derivation since there is no higher copy of *who* that c-commands it (the relevant chain is formed only later, after movement out of ConjP).

(70) ??Koga$_j$ je koja kola$_i$ [ubijedio t_j da kupi t_i] i [umalo nagovorio t_j da proda kuću]?
who is which car persudaded that buys and almost convinced that sells house
'Who did he persuade to buy which car and almost convinced to sell the house?'

These examples then show that an ATB dependency can sneak in a violation of the traditional CSC: the fact that (70) is better than (69), which violates the CSC, indicates that (70) does not violate the CSC (the reason why (70) is still degraded is discussed below regarding (89)).

The same contrast is found in English, although it is weaker since wh-phrases must move to different +wh-SpecCPs in English, which brings in a wh-island violation. The relevant examples are given below.

(71) ???Which manuscript$_j$ do you wonder who$_i$ [John talked to e_i about reviewing e_j] and [Peter talked to e_i about publishing it]?
(72) *Which manuscript$_j$ do you wonder whether [John talked to Mary about reviewing e_j] and [Peter talked to Bill about publishing it]?

The examples are rather long with a number of movement/sideward-movement dependencies and involve extraction from an island, so they are all expected to be degraded. (We will see below (cf. (89)) that (71) involves an additional violation.) Still, (71) is judged as better than (72), on a par with the contrast in (69)-(70) (the contrast being weaker in (71)-(72) due to the factor noted above).

We thus have here another case where the CSC can be violated, namely by piggybacking on ATB, which can be accounted for under the proposed approach to the CSC/ATB.

7.3. Non-ATB ATB

Under the current analysis it is actually in principle not necessary that the same element moves from each conjunct to void the CSC effect. In principle, a different element can move from each conjunct: this would suffice to delabel the conjuncts, voiding the CSC effect. However, the problem with such extraction is the intervention effect: the first conjunct intervenes for extraction from the second conjunct. The effect is voided with ATB under Nunes's account of ATB. The account, however, does not extend to non-ATB constructions. It thus appears that the intervention effect forces ATB: the reason why it must be the same element that moves from each conjunct is the intervention effect.

Nevertheless, let's see try to take advantage of the fact that possessor/left-branch extraction (LBE) is possible from conjuncts in SC and see what happens with multiple LBE that extracts different left-branches from different conjuncts. An issue that would arise if multiple LBE were to be performed in the SC counterpart of *Mary likes whose house and which car* (as the input to LBE) is that the remnants of the extraction would participate in a coordination but there would be no coordinator there, since, as discussed above, the coordinator would be carried along under movement of the wh-phrase in the second conjunct, which may raise a problem. Interestingly, this kind of multiple extraction is possible if the coordinator is repeated (as noted by S. Stjepanović), as shown below with multiple AP LBE (see (84) for evidence that we are indeed dealing with movement here).[28]

(73) Crvena$_i$ i bijeli$_j$ su se meni t_i suknja i t_j kaput dopali.
red and white are self me$_{DAT}$ dress and coat pleased
'The red dress and the white coat pleased me.'
(74) Crvena$_i$, bijeli$_j$ i šareni$_k$ su se meni t_i suknja, t_j kaput i t_k šešir dopali.
red white and colorful are self me$_{DAT}$ dress coat and hat pleased

[28]SC quite generally allows AP LBE; for relevant discussion see e.g. Bošković (2012, 2013a), Corver (1992), Stjepanović (2010), Talić (in press).

It seems plausible that we are dealing here with pronunciation of a lower copy of the coordinator, which is needed to indicate coordination. In forthcoming work I argue that more is actually going on here: (73) involves formation of coordination after movement (i.e coordination-formation in the moved position of the APs).[29] Cases where structures that are typically formed by external merge are formed via internal merge have been noted before. One such case involves van Riemsdijk's (1989) regeneration in Germanic, where in a D-NP structure, NP undergoes movement, with another D merged with it in the moved position. At any rate, it is beyond the scope of this paper to tackle the issue of the possibility of coordination-formation after movement (see also Zhang 2010). The reader should just bear in mind the possibility that the coordination we see in the moved position in (73)-(74) is created after movement, though nothing in the discussion below crucially depends on that.

Consider then (74), repeated below.

(75) Crvena$_i$, bijeli$_j$ i šareni$_k$ su se meni [t_i suknja], [t_j kaput] i [t_k šešir] dopali.
red white and colorful are self me$_{DAT}$ dress coat and hat pleased

Note first that we are not dealing here with typical trace-voiding of intervention effects. We have seen that turning an intervener into a trace voids intervention effects: in (75), the interveners are not traces, only their edge is. Focusing on the first two conjuncts, in contrast to (63), where the whole first conjunct moves, in (75) only the edge of this conjunct moves. In other words, in (63) the intervener is a trace, in (75) only the edge of the intervener is a trace (see Bošković 2012 for arguments that AP is located at the TNP-edge in SC, which is actually what enables its extraction). (76) gives the relevant structure. This means we are not dealing here with run-of-the-mill trace-voiding of intervention effects.

(76) white$_j$ [$_{TNP}$ t_i dress] t_j

What is even more interesting is that ATB is forced here: (77), where extraction does not take place from the last conjunct, is unacceptable.

(77) *Crvena$_i$ i bijeli$_j$ su se meni [t_i suknja], [t_j kaput] i [šareni šešir] dopali.
red and white are self me$_{DAT}$ dress coat and colorful hat pleased

These examples raise a number of puzzling questions. First, how come the intervention effect is voided in (75), given that the intervener is not a trace, only its edge is. This is actually similar to the ATB case in (67), which shows that intervention is also voided under ATB. In (67), the potential intervener has a trace at its edge, just as in (75). However, the above analysis of (67) crucially appealed to the fact that (67) involves traditional ATB, applying to it Nunes's account of ATB. Under that analysis, movement from the second conjunct does not cross the first conjunct. Since under that analysis it is crucial that the construction involves traditional ATB, i.e. that it is the same element that is extracted from each conjunct, the analysis cannot be extended to (75). The lack of intervention effects is not the only puzzling aspect of (75). The contrast between (75) and (77) indicates that the ATB requirement is at work here. Extraction must take place from each conjunct. However, what is striking is that it is not the same element that is extracted from each conjunct, but different elements. An ATB requirement is then apparently imposed on a non-ATB construction (I will refer to this as non-ATB ATB). Moreover, this holds for (75), involving three conjuncts, but not for the CSC-exceptional case in (15), involving two conjuncts, i.e., the ATB requirement seems to be imposed in (78) but not (79).

[29]Recall that in SC, the second conjunct can move to SpecConjP, tucking in under the first conjunct, with the conjunction adjoining to it (see fn 25). Given this, I argue that the conjunction in (73) takes the rest of the clause as its complement, with the APs moving to the Specs of ConjP, the second AP tucking in under the first one, with the conjunction adjoining to the lower Spec, all of which are independently attested in SC.

(78) NP&NP&NP
(79) NP&NP

This is actually not quite correct. The ATB requirement is not imposed on (78) if extraction takes place from the first conjunct only.

(80) Crvena$_i$ se meni [t_i suknja], bijeli kaput i šareni šešir dopadaju.
red self me$_{DAT}$ dress white coat and colorful hat pleasing
'I like a red dress, white coat, and colorful hat.'

The number of conjuncts then does not matter but from which conjunct extraction takes place: if it takes place only from the initial conjunct, the ATB requirement is not imposed, if it takes place from a non-initial conjunct, it is imposed: extraction must then take place from each conjunct.

How can all these puzzling aspects of (75) and related constructions be accounted for? This section will propose an account of the paradigm in question that crucially relies on the labeling framework, hence it can be interpreted as providing evidence for it. What we are trying to capture is what I refer to as non-ATB ATB, where extraction must take place from each conjunct but it is different elements that are extracted. Note first that the existence of non-ATB ATB is not surprising under the current approach, where to void the CSC it is simply necessary to extract from each conjunct (everything else being equal, which often it is not, due to the intervention effect that the first conjunct induces for extraction from the second conjunct). The timing of labeling and the satisfaction of CL will be important in the discussion below. In this respect, I will continue to assume that CL must be satisfied when ConjP is formed and that labeling occurs as soon as it is possible.

Crucial to the discussion below will be trace-voiding of intervention effects. The case we are considering here is different from those discussed in the literature in this respect. While in the standard cases the trace itself is the intervener, in the cases we are considering the trace is the edge of the intervener. We will see below that this can be naturally captured in the labeling framework. Due to the factors discussed below, the trace at the edge of the intervener here has the effect of turning the intervener into an unlabeled element. In other words, in the relevant cases where the intervention effect is voided, the intervening element is unlabeled (due to the presence of a trace at its edge, see below). This then leads me to propose (81), which, as discussed in section 1, is rather natural given the current understanding of intervention effects.

(81) Unlabeled elements do not function as interveners.

The intuition is the following: given that extraction from one conjunct that crosses another conjunct induces an intervention effect, the effect can be voided if the intervener is turned into an unlabeled element, given (81), which is precisely what extraction from the first conjunct does. So, not to induce an intervention effect, when extraction takes place from the second conjunct it also must take place from the first conjunct. Since all this affects labeling, CL will then force extraction from all conjuncts, even those that are not on the path of the extraction from a conjunct we are trying to "save".

The idea here is then to block labeling of the first conjunct in (75) at the point when extraction from the second conjunct takes place. There are several ways of implementing this. I'll use here a particular implementation that relies on a proposal from work in progress that the presence of an uninterpretable feature blocks labeling via feature-sharing in XP-YP configurations (see also Bošković 2018b). I will also assume, following Bošković (2007), that movement in general is driven by the presence of an uninterpretable feature, uK, on the moving element. This proposal fits the labeling framework quite naturally. The natural expectation in this framework is that all, or at least most, movement is labeling-driven, i.e. it takes place to resolve labeling problems.This is in fact what occurs when XP and YP merge without feature-sharing: movement then takes place to resolve the labeling problem. What

happens here is that the problem, and the reason for movement, is present in the pre-movement structure (I will refer to it as the base-position of movement). In other words, the base-position of movement drives the movement: something would go wrong in the base-position of movement if it doesn't take place—there is nothing in the higher structure that motivates it. This is in fact exactly the characteristic of Bošković's (2007) approach to movement, which is implemented through the presence of a uK feature on the moving element, which then forces movement (in other words, both the labeling approach of Chomsky 2013 and Bošković 2007 involve base- rather than target-driven movement). It therefore seems natural to adopt Bošković's uK assumption here. This means that in (82), *Jovanove* has the uK feature which drives the relevant movement operation: the uK feature blocks feature-sharing, with movement taking place to resolve the labeling problem. The labeling problem does not arise in (83), where the relevant uK feature is not present (it if were, *Jovanove* would have to move).[30]

(82) Jovanove$_i$ on voli [t$_i$ knjige].
John's he loves books
(83) On voli Jovanove knjige. (SC)

To account for the non-ATB ATB paradigm we need to slightly complicate this overall picture. Moving elements always have a uK feature, which blocks labeling via feature-sharing. However, this uK feature can be added to the relevant element either before or after the relevant merger. If uK is added to XP prior to XP merging with YP, the presence of the uK feature will block feature-sharing, and labeling via feature-sharing, forcing XP to move. This is not the case if it is added after XP and YP undergo merger. Since labeling takes place as soon as it is possible, in this case XP and YP will be able to undergo feature-sharing and labeling.

Now, in (75), for movement from the second conjunct to be able to cross the first conjunct the latter cannot be labeled so that it doesn't function as an intervener (cf. (81)). This means that the edge of the first conjunct must also undergo movement, so that it can have the uK feature that blocks labeling. This uK feature is added to the AP prior to the AP-NP merger; it blocks feature-sharing so that the first conjunct is not labeled. But given CL, none of the conjuncts in (75) can then be labeled. This forces extraction out of each conjunct: each conjunct must "host" movement so that the labeling is blocked. This is indeed the case in (75). However, this is not the case in (77), where no movement takes place out of the last conjunct. The last conjunct is then labeled in (77) (recall that labeling occurs as soon as it is possible), while the other conjuncts are not—this yields a CL violation.

In (15), on the other hand, the uK feature is not added to the possessor immediately: the possessor first undergoes merger, which results in feature-sharing and labeling that in turn satisfies CL (the second conjunct is labeled). The uK feature is then added, with the possessor undergoing movement. This was not an option in (75)/(77) since movement from the second conjunct would then cross a labeled element, resulting in an intervention effect. uK must be added here to the relevant element in the first conjunct immediately so that this conjunct is not labeled. CL then forces all conjuncts not to be labeled, which in turn forces each conjunct to "host" extraction.

There is an issue of the ordering of AP-movements that needs to be clarified. Focusing on the first two conjuncts in (75), to void the intervention effect the first conjunct needs to be unlabeled at the point when movement from the second conjunct crosses it. The next phase head in (75) is v.[31] There are several possibilities here, bearing in mind Chomsky's assumption that in an XP-YP configuration that does not involve feature-sharing turning XP or YP into a trace enables labeling (by the other element). Bošković (2012) and Despić (2011) argue that AP is base-generated at the edge of its TNP in SC, c-commanding out of it (see in fact (13)–these works show that SC possessors are actually APs

[30]I leave open whether a uK feature would block labeling more generally, including the head-phrase case (if the phrase has it; I also leave open whether head-movement is uK-driven in this manner).
[31]LBE with longer remnants in general sounds best if the remnant precedes the verb (I assume it is VP-adjoined in (75)).

morphologically and structurally). We can then assume that all movements to the same phase head take place simultaneously, with the order of the moved elements reflecting their c-command relations before the movement. Alternatively, the first AP, which c-commands the second AP, can move before the second AP if we assume either that the next round of labeling occurs at the next phasal level, when the phase is completed (see Chomsky 2013, this means only after all movements to the edge of the vP phase take place) or that movements to the edge of the same phase that create multiple Specs are a single operation that cannot be split by anything else: only after all these movements take place other operations, including labeling that is made possible by traces, can take place. On all these options the first conjunct is unlabeled when movement from the second conjunct crosses it. AP-movement from the second conjunct to the vP phase could even take place before AP-movement from the first conjunct given that, as noted above, in the cases under consideration the co-ordination structure is in a sense "re-created" in a higher position, with another ConjP. It seems natural to assume that there should be some parallelism between the two coordinations where the order of the conjuncts in the higher ConjP corresponds to their order in the lower ConjP. This would filter out derivations where this is not the case (the order of the conjuncts in the higher ConjP indeed corresponds to the lower ConjP).[32]

Note that we are dealing with actual extraction in the relevant cases, as confirmed by their island-sensitivity. Thus, the presence of an adjunct island between the extracted APs and the remnant NPs causes ungrammaticality in (84).

(84) *Crvena, bijeli i šareni je otišao zato što su se meni suknja, kaput i šešir dopali.
red white and colorful is left because are self me$_{DAT}$ dress coat and hat pleased
'He left because I liked a red dress, white coat, and colorful hat.'

Interestingly, the non-ATB ATB whose existence was revealed by the discussion above can be mixed with true ATB. There are only two fronted APs in (85), with three nouns in the lower coordination. Yet, in contrast to (77), (85) is acceptable.

(85) Crvena i bijeli su se meni suknja, kaput i šešir dopali.
red and white are self me$_{DAT}$ dress coat and hat pleased

However, (85) is acceptable only on a particular meaning: 'red dress, white coat, and white hat', where a traditional ATB dependency is formed between 'white coat' and 'white hat' with respect to 'white'. What makes this possible is that both 'coat' and 'hat' are masculine: the adjective that modifies them is also masculine (*crvena* and *suknja* are feminine).

(86) Crvena$_i$ i bijeli$_j$ su se meni [t$_i$ suknja], [t$_j$ kaput] i [t$_j$ šešir] dopali.
red and white are self me$_{DAT}$ dress coat and hat pleased

Notice now that, in contrast to (85), (87) is unacceptable.

(87) *Bijeli i crvena su se meni kaput, suknja i šešir dopali.
white and red are self me$_{DAT}$ coat dress and hat pleased

[32]If the multiple vPSpecs could in principle move higher up in any order, the orders not conforming with the parallelism would then be filtered out.

It should be noted that given (81), ATB cases like (67) could be accounted for even without sideward movement (only if the existence of a c-command relation between the moving elements or the presence of the higher ConjP is not crucially needed in implementing the order of the movements). The conjunct intervention effect would be voided in (67) under (81) given that the conjunct is unlabeled (being a target of successive-cyclic movement). However, it is not clear how certain more complicated cases discussed below that involve interaction between standard ATB and non-ATB ATB and parallelisms with PG constructions could be accounted for without Nunes's analysis, hence I continue to assume it below.

Apparently, a traditional ATB dependency can only be formed between contigious NPs here. There can be no ATB between 'red dress' and 'red hat' since the adjective needs to agree with the nouns, which have different gender (*suknja* is feminine, *šešir* masculine). Also, there can be no ATB between 'white coat' and 'white dress' since these nouns also have different gender (*kaput* is masculine, *suknja* feminine). Interestingly, there can apparently be no ATB between 'white coat' and 'white hat'. There is no gender disagreement here since the nouns have the same gender. We seem to be dealing here with a locality effect on traditional ATB-formation: it is not possible to skip an intervening NP.

(88) *Bijeli$_i$ i crvena$_j$ su se meni [t_i kaput], [t_j suknja] i [t_i šešir] dopali
white and red are self me.$_{DAT}$ coat dress and hat pleased

This is rather interesting under the sideward-movement approach. Sideward movement was originally proposed by Nunes for PG constructions, to create a dependency that voids traditional islands. That we see a locality effect here is quite interesting from this perspective. It is a different kind of a locality effect though: it does not involve traditional islandhood, it is more akin to intervention effects (traditional islands and intervention effects are treated rather differently in the current theory; this was also the case with the GB accounts in Chomsky 1986 and Rizzi 1990, where they actually involved different configurations: domination vs c-command).

The effect in question, which I will refer to as the ban on non-contiguous ATB, is also at work in examples (70) and (71), discussed above. It contributes to the unacceptability of (71) and it's the reason for the degraded status of (70) (recall that, under the current analysis, in contrast to (69), (70) does not violate the CSC, hence the contrast between these examples). Thus, the ATB dependency between t_j-s in (70) skips a potential ATB site (t_i). It is apparently not possible to form an ATB dependency between e_i and e_k across e_j in (89) while it is possible to form it between all three, or between e_j and e_k (see (86)), or e_i and e_j, as in (90), with ATB between 'red dress' and 'red shirt' (*košulja* is feminine)).

(89) $e_i \ldots e_j \ldots . e_k$
(90) Crvena$_i$ i bijeli$_j$ su joj se [t_i suknja], [t_i košulja] i [t_j kaput] dopali.
red and white are her$_{DAT}$ self dress, shirt and coat pleased

A similar effect is actually found with PGs, which Nunes also treats with sideward movement—we then may be dealing here with a more general effect on sideward movement. Thus, it is not possible to skip a potential PG site in (91).

(91) a. Who did you praise *e* to the sky [after criticizing *e*] [in order to surprise *e*]?
b. Who did you praise *e* to the sky [after criticizing *e*] [in order to surprise **him**]?
c. *Who did you praise *e* to the sky [after criticizing **him**] [in order to surprise *e*]?
(Nissenbaum 2000:547)

(92) gives PG examples that are closer to the ATB examples from above (c/d are more detailed representations of a/b). While both examples involve extraction from an island, (92b/d) is better than (92a/c): the former represents a sideward-movement dependency between e_j and e_k from (89) and the latter between e_i and e_k, which violates the ban on non-contigious sideward-movement.

(92)a.*Which article do you wonder who John talked to about reviewing after talking to
b. ??Which article do you wonder who John talked to about reviewing after printing
c.*Which article$_1$ do you wonder who$_2$ John talked [to t_2] [about reviewing t_1] after talking to PG$_2$
d. ??Which article$_1$ do you wonder who$_2$ John talked [to t_2] [about reviewing t_1] after printing PG$_1$

Summing up, this section has revealed a new type of ATB, where movement must take place from each conjunct but different elements are moving from the conjuncts. That such cases exist is not surprising under the current account, which does not in principle require that the same element is extracted from the conjuncts. However, non-ATB ATB is rather limited due to other factors. One such factor concerns intervention effects, where higher conjuncts block extraction from lower conjuncts. We have, however, seen that in a particular context the intervention effect can be voided. It is well-known that traces void intervention effects. The discussion in this section has uncovered cases where intervention effects are voided if the edge of the intervener, rather than the intervener itself, is a trace. This trace-voiding intervention effect can be naturally captured in the labeling framework through the generalization that unlabeled elements do not function as interveners, a rather natural generalization given the nature of intervention effects, as noted in section 1.

Focusing on the non-ATB ATB case under consideration, extraction must occur from each conjunct although it is different elements that are extracted from the conjuncts. Under the proposed account, in this case the ATB requirement is also imposed by CL. For extraction from a lower conjunct to take place across a higher conjunct without an intervention effect, the edge of the conjunct that is crossed needs to be turned into a trace, the effect of which is that the higher conjunct is unlabeled at the relevant point of the derivation. CL then forces the edge of each conjunct to be a trace (even the lower conjuncts that are not crossed by the relevant movement), so that each conjunct is unlabeled. Each conjunct then must be extracted from even when different elements undergo extraction.

Before concluding this section I briefly note two additional candidates for non-ATB ATB.[33] As observed by Hiroaki Tada and Satoshi Oku (p.c.), Japanese numeral constructions may provide another such case. As noted above, extraction is possible from the first but not the second conjunct of coordinated ClassPs in Japanese (see (32), fn 23)). Importantly, extraction from the second conjunct is possible if it also takes place from the first (non-clitic conjunction *sosite* can optionally occur between the fronted NPs in (94).

(93) John-ga [$_{VP}$ [$_{PP}$ yaoya-kara] [mikan-o 3-ko] to [banana-o 5-hon] katta
John-$_{NOM}$ vegetable store-from orange-$_{ACC}$ 3-CL and banana-$_{ACC}$ 5-CL bought
'John bought [3 oranges and 5 bananas] from a vegetable store'

(94) John-ga mikan-o$_i$ (sosite) banana-o$_j$ yaoya-kara (sorezore) [t_i 3-ko] to [t_j 5-hon] katta
John-$_{NOM}$ orange-$_{ACC}$ and banana-$_{ACC}$ vegetablestore-from respectively 3-CL and 5-CL bought
(Hiroaki Tada,p.c.)

These examples appear to represent another case of non-ATB ATB, where movement takes place out of each conjunct, but it is different elements that are moving.

Furthermore, the ATB requirement is imposed here. Thus, (97), where extraction takes place from each conjunct, is better than (96), where extraction takes place from the first and the second, but not the third conjunct.

(95) John-ga yaoya-kara [mikan-o 3-ko] to [banana-o 5-hon] to [budou-o 2-fusa] katta
John-$_{NOM}$ vegetablestore-from orange-$_{ACC}$ 3-CL and banana-$_{ACC}$ 5-CL and grape-$_{ACC}$ 2-CL bought
'John bought 3 oranges, 5 bananas and 2 bunches of grapes from a vegetable store.'

(96) ?*John-ga mikan-o$_i$ (sosite) banana-o$_j$ yaoya-kara (sorezore)
John-$_{NOM}$ orange-$_{ACC}$ and banana-$_{ACC}$ vegetable store-from respectively
[t_i 3-ko] to [t_j 5-hon] to [budou-o 2-fusa] katta
3-CL and 5-CL and grape-$_{ACC}$ 2-CL bought

(97) John-ga mikan-o$_i$ (sosite) banana-o$_j$ (sosite) budou-o$_k$ yaoya-kara

[33]The relevant constructions merit a much closer scrutiny than they can be given here. (I discuss non-ATB ATB, including limits and constraints on it, in more detail in Bošković (in preparation).The reader is also refered to Bošković 2018b regarding an interfering factor that arises in this respect with *tough*-constructions.)

John-$_{NOM}$ orange-$_{ACC}$ and banana-$_{ACC}$ and grape-$_{ACC}$ vegetable store-from
(sorezore) [t_i 3-ko] to [t_j 5-hon] to [t_k 2-fusa] katta
respectively 3-CL and 5-CL and 2-CL bought (Hiroaki Tada,p.c)

Another relevant case is discussed in Postal (1998) and Zhang (2010), who argue that each wh-phrase is separately extracted from the conjuncts in (98).[34]

(98) Which book$_i$ and which magazine$_j$ did [John buy t_i] and [Bill read t_j] respectively?

As noted in Bošković (in preparation), the ATB requirement is also imposed here, as the unacceptability of (99)-(100) shows.

(99) *Which book$_i$ and which magazine$_j$ did [John buy t_i], [Bill read t_j] and [Mary write a novel] respectively?
(100) *Which book$_i$ and which magazine$_j$ did [Mary write a novel], [John buy t_1] and [Bill read t_2] respectively?

I leave a detailed discussion of such cases for another occasion, merely reiterating that the current approach does in principle allow non-ATB ATB.

8. Postal's exception

Postal (1998) discusses a semantically-defined context which allows extraction from conjuncts, where the conjuncts are temporally ordered, as in (101): the event characterized by the first conjunct precedes that of the second conjunct.

(101) a. the stuff which$_i$ Arthur [sneaked in] and [stole t_i] (Postal 1998:53)
b. Here's the whiskey which$_i$ I went to the store and [bought t_i] (Ross 1967:103)

There are strong constraints on such CSC violations. Thus, they are only possible with VP conjuncts.

(102) a.*the cheese which$_i$ Frank went to the store and his wife bought t_i
b. the book which$_i$ Gail will drive there and (*will) buy t_i (Postal 1998:58)

Furthermore, extraction is not possible from the first conjunct.[35]

(103) *What$_i$ did he [buy t_i], went home, and [ate t_i]?

When there are more than two conjuncts, extraction can occur from some, or all non-initial conjuncts—there is no ATB requirement.

(104) the stuff which$_i$ Harry went to the store, bought t_i, went home, and ate t_i (Postal 1998:66)

The current analysis enables us to account for (101) as well as the restrictions from (102)-(103) and the lack of the ATB requirement displayed by (104). The construction in question is clearly exceptional, hence it merits an analysis that is at least to some extent exceptional. I suggest that what is exceptional here is that the coordination is not fully parallel, the first conjunct is a vP while the other conjuncts are (or can be, see below) bare VPs. More precisely, given that the subject in traditional SpecvP does not

[34]Postal gives strong evidence to this effect (note e.g. the possibility of binding into the individual conjuncts in *[Which man]$_i$ and [which woman]$_j$ did respectively the doctor talk to t_i about himself$_i$ and the lawyer talk to t_j about herself$_j$*; such licensing is also possible with parasitic gaps), and Zhang argues that (98) involves coordination-formation after movement (she also notes that *respectively* is not required, as shown by *The dogs and the roosters barked and crowed all night*).
[35]The last conjunct must be extracted from (see below), hence the trace in the last conjunct.

undergo feature-sharing with its sister, which is a vP (see Chomsky 2013; the discussion in this section follows the first set of assumptions from fn 18), the first conjunct is actually unlabeled at the point when the coordination is formed. The suggestion is that this kind of coordination, which doesn't fully conform with CL, is only possible under the temporal sequence condition, which I assume also exceptionally licenses the "discharge" of the external θ-role of the verb in conjuncts where vP is not present. This immediately captures the bare-VP restriction, i.e. (102).

Regarding (103), the details of labeling are important. As noted above, what is exceptionally licensed regarding CL here is the situation where the first conjunct is unlabeled (recall the subject in traditional SpecvP does not undergo feature-sharing) and other conjuncts are VPs. However, the extraction in (103) changes this situation. As discussed above, an object undergoing wh-movement undergoes object shift, the landing site of object shift being higher than the subject base-position. Object shift results in phi-feature-sharing, which labels the relevant phrase. This then departs from the exceptional labeling configuration noted above, which results in a CL violation.

Why is extraction from other conjuncts possible, in fact in a non-ATB manner (see (104))? This is surprising, since independently of CL, extraction that occurs in a non-ATB manner should yield an intervention effect. In fact, the first conjunct should be an intervener for any extraction from lower conjuncts, even if there is only a single extraction, as in (101). Recall, however, that the first conjunct is actually unlabeled in (101) and that unlabeled elements do not function as interveners. The first-conjunct intervention effect is then voided in (101).[36]

Why is it that lower conjuncts do not cause intervention effects either, as indicated by the fact that extraction from non-initial conjuncts need not proceed in an ATB manner (it need not affect each conjunct, cf. (104))? This is actually not surprising.[37] An ATB dependency can be formed via sideward movement between the two traces in (104), so that actual movement takes place only from the second conjunct, movement from this conjunct crossing only an unlabeled element, as discussed above.

This does not force movement to start from the second conjunct. Consider (105).

(105) the cheese which$_i$ Harry [went to the store], [took out his wallet], [grabbed a five dolar bill], [bought t_i], [went home], [took a shower], and [then ate t_i] (Postal 1998:57)

The conjuncts above the [bought t_i] conjunct can all be (traditional) vPs (i.e. unlabeled, as discussed below, only the last conjunct must be a VP). Movement from the conjunct in question then only crosses unlabeled elements (no problem arises with movement of the subject, which can proceed in ATB fashion from the vP conjuncts in question).

Interestingly, Postal (1998:75) notes that temporal CSC extractions are disalowed in French.

(106) *le pain que$_1$ Jacques a couru au marché, acheté t_1, foncé chez luiz et mangé t_1
'the bread which$_1$ Jacques ran to the market, bought t_1, rushed home, and ate t_1'

What could be the relevant difference between French and English? I suggest it is the well-known difference regarding V-movement: French is a V-movement language and English isn't.[38] Lasnik

[36]Recall that I assume that if labeling cannot occur immediately (which is the case with non-feature-sharing phrase-phrase merger configurations), it occurs at the next phasal level. Subject movement to SpecTP will enable v to label. However, the labeling occurs only after the CP phase is completed, hence after wh-movement from the second conjunct to SpecCP.

[37]A clarification is in order regarding the PIC. In Uriagereka's (1999) original multiple spell-out proposal, not only the Spec of phase XP, but also its complement is accessible from the outside, only what is dominated by the complement is not. Bošković (2015) argues for a return to this conception of the PIC, a consequence of which is that a phasal complement need not move via the phasal edge. I also adopt it here. This means that movement from the VP conjunct in e.g. (101) need not proceed via the conjunct edge (not much would actually change if edge movement were to take place, we would only need to modify the condition under which temporal sequence conjuncts allow for a relaxation of CL).

[38]Even participles and infinitives raise in French (Pollock 1989, Belletti 1990).

(1995) analyzes this difference by positing a feature in the verb in French which requires French verbs to move, while no such feature is present in English verbs: they are lexically bare in the relevant sense, hence need not raise, undergoing PF merger with the inflectional affix under PF-adjacency. (As for the v-V relation, if there is V-to-v movement, not just PF merger between these heads in English, under Lasnik's approach it would be driven by a property of v, not V.) Given this, bare VP coordination is simply not possible in French (since the verb must raise), it is only possible in bare non-featural V languages (in Lasnik's terms), where verbs do not raise.

The analysis predicts that examples like (101) will only be allowed in non-V-raising languages. While I leave a confirmation of the prediction for future research, I note here that they are disallowed in SC, also a V-movement language (Bošković 2001, Stjepanović 1999).

(107) *hljeb koji$_i$ se ušunja u prodavnicu i kupi t_i
bread which self sneaked-in to store and bought
'the bread which he sneaked into the store and bought.'

Postal (1998:59) also notes that temporal CSC extractions disallow *respectively*-dependencies.

(108) *the wine and beer which$_1$ Jack and Bob will go to the store and buy t_1 respectively

If such dependencies require the presence of the subject trace in the second conjunct, which seems plausible, (108) can also be captured under the current, bare VP analysis of temporal CSC extractions.

Finally, Postal (1998) and Lakoff (1986) note that extraction must occur from the last conjunct.

(109) *the stuff which$_i$ Harry went to the store, bought t_i, went home, and ate it (cf. (104))

We have seen above (cf. (105)) that VP coordination need not start with the second conjunct. I suggest that only the last conjunct must be a VP and take the forced movement here to indicate that a bare VP cannot tolerate the presence of a lexical object. In fact, having in mind Chomsky's (2001) requirement that something must move out of vP, if the requirement holds for VP when there is no vP above it, object movement will be forced here (since the verb cannot move, and the subject is not even present). The suggestion can be tested with constructions not discussed by Postal and Lakoff, where the last conjunct has an intransitive verb. Such cases are also unacceptable, as shown by (110), as expected under the suggested account.

(110) *the stuff which$_i$ Harry went to the store, bought t_i, went home, and fell asleep

9. Conclusion

The paper has proposed a deduction of one part of the CSC, namely the ban on extraction from conjuncts, which also captures the ATB exception. The paper has actually reformulated the traditional CSC based on a number of cases where extraction from conjuncts was shown to be possible. In particular, the CSC was shown to hold only for successive-cyclic movement from conjuncts, as in **Who$_i$ did you see [t_i friends of t_i] and Sue*. The restriction of the CSC effect to successive-cyclic movement can be captured in Chomsky's (2013) labeling framework, where successive-cyclic movement changes the category of the element it targets. The gist of the account is the following: Conjuncts are phases. Movement from a conjunct then has to proceed successive-cyclically via the conjunct edge. Such successive-cyclic movement delabels the conjunct, changing its category. As a result, if movement takes place only from one conjunct, a violation of the Coordination-of-Likes requirement ensues, the violation being remedied if movement takes place from each conjunct, as with ATB. The analysis restricts the CSC effect to successive-cyclic movement, which was shown to have strong empirical motivation based on a number of cases where elements which are base-generated at

the conjunct edge, or move there independently of successive-cyclic movement, were shown to be extractable. These cases include left-branch extraction in SC, *r*-pronouns in Dutch, V-2 movement in German, clitic doubling in Dutch and Romance, quantifier-float in Japanese, article-incorporation in Galician, and object shift in English. The temporal sequence exception to the CSC was also accounted for. It was also shown that ATB-movement can license an additional extraction from a conjunct from which ATB-movement takes place. Furthermore, the discussion in the paper has revealed the existence of a new type of ATB where movement must take place out of each conjunct though it is not the same element that is extracted from the conjuncts, as in traditional ATB, but different elements.

The proposed analysis was shown to have a number of additional theoretical consequences. Thus, the paper has established the generalization that unlabeled elements do not count as interveners, a rather natural generalization given the nature of intervention effects, where features of the intervener matter (projecting features requires projecting a label, i.e. labeling). The discussion also shed light on the ban on wh-movement from SpecIP to SpecCP, which is widely observed crosslinguistically. I have argued for a return to split IP, in the spirit of Pollock (1989), and shown that subjects undergoing wh-movement cannot move to the highest projection in the split IP even when this movement is not immediately followed by movement to SpecCP. If the projection in question is involved in agreement-licensing, as in the original AgrsP/TP split, we can also account for the fact that in many languages subject wh-movement affects agreement.

Additionally, the paper has argued that conjuncts are phases and provided evidence for Nunes's sideward-movement account of ATB. Overall, to the extent that the proposed analysis is successful it provides evidence for the phase theory (including a particular contextual approach to phases) and Chomsky's (2013) system, which allows unlabeled elements during the derivation.

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