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On the Coordinate Structure Constraint, islandhood, phases, and rescue by PF deletion

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Abstract: The paper examines ways of either weakening or fully voiding Coordinate Structure Constraint violations. The discussion in the paper has consequences for the proper analysis of the Coordinate Structure Constraint, the rescue-by-PF-deletion mechanism, as well as phasehood and islandhood more generally, including the relationship between the two.

1. Introduction

The goal of this paper is to explore differences in the strength of Coordinate Structure Constraint (CSC) violations as well as ways of voiding it both within a single language and crosslinguistically (the paper discusses Galician, Serbo-Croatian, English, and Japanese) by applying the rescue by PF deletion mechanism, where PF deletion rescues locality-of-movement violations, to CSC violations. What will be relevant in this respect is that the CSC effect can be differentially weakened, or voided, by means of head movement either of the conjunct head or the ConjP head.

During the discussion, proposals will also be made regarding the proper analysis of the CSC, the exact implementation of the rescue-by-PF-deletion mechanism as well as islandhood and phasehood more generally. Regarding the last issue, it will be argued that islands that correspond to phases (which is not the case with all traditional islands) allow extraction for elements that are base-generated at their edge (although they do not allow successive-cyclic movement through their edge).

2. On unacceptable extractions out of conjuncts, the islandhood of coordinations, and rescue by PF deletion

The CSC is standardly assumed to have two parts, given in (1) and (2). (Since this paper will focus on (1), for ease of exposition I will often use the term CSC to refer only to (1). Where it is necessary to make a distinction between (1) and (2), terms CSC-1 and CSC-2 will be used.)

(1) The Coordinate Structure Constraint-Extraction out of Conjuncts (CSC-1):
Extraction out of conjuncts is disallowed.

(2) The Coordinate Structure Constraint-Extraction of Conjuncts (CSC-2):
Extraction of conjuncts is disallowed.

The effect of (1) and (2) is illustrated by (3) and (4) respectively.

(3) *What$_i$ did you see [pictures of t_i] and paintings of Storrs?

(4) *Whose pictures$_i$ did you see t_i and paintings of Storrs?

However, several works have argued that the two parts of the traditional CSC need to be separated, since there are languages which are sensitive to only one of the constraints in (1)-(2). Thus, Oda (2016) explicitly argues for a separation of (1) and (2) based on several languages which observe (1) but not (2). As illustration, he shows that Japanese allows extraction of conjuncts but not extraction out of conjuncts. Stjepanović (2014) shows that the same holds for Serbo-Croatian (SC) (see also Bošković 2009). The possibility of CSC-2 violations in Japanese and SC is illustrated by (5).

(5) a. 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.' (Japanese, Oda 2016)
b. Knjige$_i$ je Marko [t_i i filmove] kupio.
books is Marko and movies bought
'Marko bought books and movies.' (SC)

In light of this, I will also separate the two parts of the traditional CSC.[1] While this paper will focus on (1), in particular, on intra-language and crosslinguistic variation in the strength of CSC-1 violations (and ways of voiding CSC-1 effects), (2) will also be important in the discussion below since it will be argued that the possibility of CSC-2 violations can affect the strength of CSC-1 violations within a language.

Two proposals/theoretical mechanisms will play an important role in the discussion of the strength of CSC-1 violations below. The first one is Oda's (2016) proposal that both individual conjuncts and ConjP are islands, which is intended to capture CSC-1 and CSC-2 separately (notice that the islandhood of individual conjuncts is irrelevant to extraction of conjuncts, i.e. CSC-2). The second one concerns Ross's (1969) observation that extraction out of an island can be ameliorated if the island is elided.[2] This is shown by (6), where (6a) is unacceptable because it involves extraction out of an adjunct, with (6b) showing that the violation can be voided if the island is elided.

(6) a. *Ben will be mad if Abby talks to one of the teachers, but she couldn't remember [**which (of the teachers)]$_i$** Ben will be mad **[if she talks to t_i]**.

[1] For relevant discussion, see also Grosu (1973). There are certain contexts which exceptionally allow extraction out of conjuncts. These contexts, which are discussed in Postal 1998 with respect to English, will not be discussed here. It is, however, worth noting that even in these contexts extraction of conjuncts is impossible in English, which can be taken as another argument that CSC-1 and CSC-2, i.e. extraction out of conjuncts and extraction of conjuncts, should not be unified.

[2] See, however, Abels 2011 and Marušič and Žaucer 2013.

b. Ben will be mad if Abby talks to one of the teachers, but she couldn't remember which$_i$
~~Ben will be mad [if she talks to t$_i$]~~. (Merchant 2001)

The effect in question is rather widely discussed. It is standardly handled in terms of rescue by PF deletion (see Chomsky 1972, Merchant 2001, Lasnik 2001, Fox and Lasnik 2003, Hornstein, Lasnik, and Uriagereka 2003, Boeckx and Lasnik 2006, Bošković 2011, among many others): a * is assigned to an island when movement crosses it. If the * remains in the final PF representation, a violation incurs. However, if ellipsis deletes the category that contains the *-marked element, the derivation is rescued. Under the standard analysis, when wh-movement crosses the island in (6) the island is *-marked in both (6a) and (6b). Since the *-marked element is deleted in (6b) the islandhood effect disappears in (6b).

What will be important for our purposes here is a generalization regarding voiding of islandhood effects established in Bošković 2011, 2013b, which these works argue can be captured in terms of rescue by PF deletion. In particular, Bošković (2011, 2013b) discusses a variety of islands from a number of languages and shows that movement of the head of an island voids islandhood. Based on this, Bošković establishes the generalization in (7).

(7) Traces do not head islands.

Bošković (2011, 2013b) provides a number of arguments for the generalization in (7). The saving effect of article incorporation on islandhood in Galician can be used to illustrate (7). Uriagereka (1988) observes that the definite article can incorporate into V in Galician. Importantly, as shown in Uriagereka 1988, 1996, and Bošković 2013b, D-to-V incorporation voids islandhood of the DP from which the incorporation takes place. Thus, Galician disallows extraction out of adjuncts, as in (8). However, the ban on extraction out of adjuncts is voided when D incorporates into the verb, as

in (9). The degraded status of extraction out of definite DPs is also affected by D-to-V incorporation, as shown by the contrast between (10) and (11). ((10)-(11) are taken from Uriagereka 1996; other Galician data below are due to Juan Uriagereka, p.c.).

(8) *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?'

(9) de que semana$_j$ traballastede-lo$_i$ [$_{DP}$ [$_{D'}$ t$_i$ [Luns t$_j$]]] ?
of which week worked-the Monday

(10) ???de qué$_i$ temas liches [$_{DP}$ os [mellores poemas t$_i$]]?
of what areas read(you) the best poems
'What themes did you read the best poems about?'

(11) de qué$_j$ temas liche-los$_i$ [$_{DP}$ [$_{D'}$ t$_i$ [mellores poemas t$_j$]]]?
of what areas read(you)-the best poems

These cases illustrate (7): The islandhood of the DPs from (8) and (10) is voided in (9) and (11), where the relevant DPs are headed by a trace, due to article incorporation (Bošković 2013b, 2015 provides a number of other cases that illustrate this effect, which Bošković 2013b shows also subsumes Baker's 1988 Government Transparency Corollary.) Under (7), if the head of an island α undergoes movement, the islandhood of α is voided.

Bošković (2011, 2013b) also provides an account which deduces (7) from the rescue by PF deletion mechanism, unifying it with the rescuing effect of ellipsis on islandhood. Bošković (2011, 2013b) argues that what is *-marked is not the whole island, but the head of the island. As a result, what is *-marked in e.g. (8) is not the whole island, but its head, which means the head of the adjunct DP. The reason why head movement rescues (8), as in (9), is that the *-marked element in the head position of the adjunct DP is actually a copy which is deleted under copy deletion in PF.

(12) de que semana$_j$ traballastede-lo$_i$ [$_{DP}$ [$_{D'}$ ~~lo$_i$~~* [$_{NP}$ Luns ~~de que semana$_j$~~]]]?

of which week work(you)-the Monday

The offending *-marked element is thus deleted in PF in (9)/(12), just as in (6). The analysis quite generally captures the generalization in (7).[3] It should be pointed out that (9) actually involves two movements out of an island: wh-movement of *de que semana* and head movement of the article. Both of these movements are rescued by copy deletion of the "trace" of the latter movement under the above analysis.

At any rate, what is important for our purposes is that if the head of an island undergoes movement, the islandhood effect is voided, enabling movement out of the island.

Oda (2016) and Stjepanović (2014) provide an account of the possibility of conjunct extraction, i.e. CSC-2 violations, in Japanese and SC (5) in these terms. Recall that Oda (2016) argues that both individual conjuncts and ConjP are islands. What is relevant to extraction of conjuncts, i.e. CSC-2 (2), is the islandhood of ConjP. This is the island that is crossed when a conjunct is extracted. Under Bošković's (2011, 2013b) analysis, what is then *-marked when a conjunct is extracted is the head of ConjP (given that what is *-marked is the head of an island).

Importantly, Oda and Stjepanović show that in both Japanese and SC, the conjunction head, i.e. the head of ConjP, is a clitic that undergoes movement, which means that the head of ConjP is a trace. In Japanese, the conjunction is an enclitic and in SC a proclitic. In Japanese (13) (repeated from (5a)), the conjunction is in fact carried along under the movement of the first conjunct, which quite conclusively shows that the conjunction head does not remain in its in situ position.[4]

[3] Bošković (2011) extends the account to the generalization that traces do not count as interveners (Chomsky 1995). In the relevant cases, the *-marked intervener is also removed under PF copy deletion.

[4] As discussed in Stjepanović 2014, in SC (i) (repeated from (5b)), the conjunction procliticizes to the second conjunct, which makes movement of the first conjunct possible.

(i) Knjige$_i$ je Marko [t_i i filmove] kupio.

(13) 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.'

The possibility of CSC-2 violations in Japanese and SC is then another instantiation of (7): the cliticization voids the islandhood of ConjP, making extraction of a conjunct possible. Like (7) itself,

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books is Marko and movies bought
'Marko bought books and movies.'

Stjepanović argues for an analysis where the second conjunct moves to the lower SpecConjP (the first conjunct being located in the higher Spec; the movement in question is an instance of Richards's 2001 tucking in), which is followed by procliticization of the conjunction to it. The process in question quite generally applies to SC proclitics. Thus, in (ii) the proclitic preposition procliticizes to the AP that moves to SpecPP and is in fact carried along by further movement of the AP, as in (iii).

(ii) On je ušao u veliku sobu.
he is entered in big room
'He entered a big room.'
(iii) U veliku je ušao sobu.

Talić (in press) shows that there is strong prosodic evidence regarding accent shift from the clitic host to the clitic preposition for this derivation of (iii) (roughly, the accent shift takes place only under incorporation of the preposition and for adjectives that can independently undergo movement, which shows that both movement of the adjective to SpecPP and incorporation of the preposition into it must take place for accent shift to occur). Stjepanović shows that the conjunction head behaves in all relevant respects like the preposition in (iii), arguing for a parallel account of the two constructions. Notice also that it is not possible to move the second conjunct, which has the conjunction procliticized to it, in (i) due to the highest edge effect discussed in Bošković 2016: only the outmost Spec in such multiple Spec configurations is accessible for movement; the first conjunct is the higher Spec here (see also Oda 2016 on the second conjunct in Japanese, regarding both overt movement and wh-in-situ).

It is also worth noting that the clitichood of the conjunction may not be the only requirement for the possibility of a CSC-2 violation. Oda (2016) notes that all the languages that he observes can violate CSC-2 lack articles, which may suggest that such violations may be possible only in NP languages under Bošković's (2008, 2012) analysis, where languages without articles lack DP. (The issue is discussed briefly in section 4.)

the possibility of conjunct extraction in Japanese and SC can then be accounted for in terms of rescue by PF deletion, which is in fact what Oda (2016), Stjepanović (2014) argue for.

As discussed above, with extraction of conjuncts, ConjP functions as an island. This means that what is *-marked when such extraction takes place is the head of ConjP. In Japanese (13), where the conjunction head undergoes movement, the islandhood effect is voided since the *-marked element is deleted in PF (under copy deletion). The analysis thus unifies acceptable CSC-2 violations like (13) with other acceptable island violations in (9) and (11), all of which are instances of the generalization in (7), which, as discussed above, can be unified with the rescuing effect of ellipsis on locality violations, i.e. cases like (6), in terms of the rescue-by-PF deletion mechanism.

Given the rescue by PF deletion mechanism, we would expect that the islandhood of individual conjuncts can also be voided if the head of the conjunct undergoes movement. The prediction can be tested with respect to Galician article incorporation. The issue here is whether article incorporation in Galician will improve extraction out of a conjunct. The contrast between (14) and (15) shows that it does. (*A* is a differential object marker (DM).)

(14)	*De	quén$_i$	vistedes	[$_{DP}$ [$_{D'}$ o	[$_{NP}$	amigo t$_i$]]]	e-mais	a	Xan	onte?
	of	who	(you)saw	the		friend	and	DM	Xan	yesterday
(15)	??De	quén$_i$	vistede-lo$_j$	[$_{DP}$ [$_{D'}$ t$_j$	[$_{NP}$	amigo t$_i$]]]	e-mais	a	Xan	onte?
	of	who	(you)saw-the			friend	and	DM	Xan	yesterday

There is a clear contrast between (15), which involves article incorporation from the conjunct from which wh-movement takes place, and (14), which does not involve article incorporation. Article incorporation thus also improves extraction out of conjuncts.

Interestingly, although better than (14), in contrast to (9) and (11), (15) is still degraded. Recall now that both individual conjuncts and ConjP are islands. What this means is that when extraction

out of a conjunct takes places both the head of the conjunct itself and the head of ConjP are *-marked (given that what is *-marked is the head of an island). In (14), both *-marked heads survive into PF, hence the strong ungrammaticality of the construction. On the other hand, in (15), the *-marked head of the conjunct is removed in PF through copy-deletion. However, the *-marked head of ConjP is still present in PF. This is then the reason for the degraded status of (15). Article-incorporation voids the islandhood of the conjunct from which extraction takes place, by turning its head into a trace (i.e. a copy that is deleted in PF). However, it has no effect on the islandood of ConjP. The analysis thus captures both the contrast between (14) and (15) and the fact that (15) itself is still degraded.

The Galician paradigm in question provides evidence that both ConjP and individual conjuncts should be considered islands. Example (14) then involves two (CSC-related) island violations, while (15) involves one since the islandhood of the relevant conjunct, but not that of ConjP, is voided. This approach to islandhood is very much in the spirit of Chomsky's (1986) barriers, where islandhood is also cumulative (the more barriers movement crosses the worse is the violation).

Above we have seen that movement of the head of the first conjunct improves extraction out of that conjunct. What about the second conjunct? It turns out that this can also be tested in Galician since, as observed by J. Uriagereka (p.c.), conjunction *e mais* in Galician can host article incorporation. Consider the data in (16)-(17).

(16) *De qué cidade$_i$ vistedes un retrato de Diego e-mais [$_{DP}$ [$_{D'}$ a [$_{NP}$ paisaxe t_i]]]?
of what city (you)saw a portrait of Diego and the landscape

(17) ???De qué cidade$_i$ vistedes un retrato de Diego e-mai-la$_j$ [$_{DP}$ [$_{D'}$ t_j [$_{NP}$ paisaxe t_i]]]?
of what city (you)saw a portrait of Diego and-the landscape

Extraction out of the second conjunct is worse in (16) than in (17), which is what is important for our purposes. The reason for this difference is that the article head of the second conjunct, from which wh-extraction takes place, undergoes incorporation in (17), but not in (16). While better than (16), (17) is still degraded, which is also expected. Article incorporation voids the islandhood of the relevant conjunct, but not the islandhood of ConjP. Example (17) thus still involves an island violation. It should be noted that (17) is still somewhat worse than (15). Following the standard assumption, which goes back to Munn (1993), that the first conjunct is higher than the second conjunct, I assume that the reason for this is that extraction from the second conjunct crosses the first conjunct (i.e. we are in a sense dealing here with a weak intervention effect, which arises in (17) but not in (15)).

Turning now to English, English CSC-1 violations like (18) are not just midly degraded like Galician (15).

(18) *What$_i$ did you see [a picture of t_i] and paintings of Storrs?

This is what is expected since English (18) involves crossing of two islands, ConjP and the conjunct itself.

The above analysis makes an interesting prediction. As discussed above, both conjuncts and ConjP are islands. In Galician (14), both of these islands are "violated" while in Galician (15) only one of these islands is "violated", the islandhood of the conjunct island being voided through article incorporation. Recall now that in Japanese and SC, the head of ConjP undergoes movement, which has an effect on CSC-2, i.e. the possibility of extraction of conjuncts. Since the movement of the ConjP head voids islandhood of ConjP these languages allow extraction of conjuncts, i.e. CSC-2 violations. This, however, also makes a prediction regarding extraction out of conjuncts, i.e. CSC-1

violations in these languages. Due to the movement of the ConjP head, extraction out of a conjunct in Japanese and SC involves extraction out of only one island, ConjP. It is then expected to be better than extraction out of a conjunct in English and Galician (14). More generally, the prediction here is that in languages where CSC-2 can be violated due to head movement of the ConjP head (i.e. languages where extraction of a conjunct is possible), CSC-1 violations should be somewhat weaker than in languages where this is not the case (unless such languages have a way of incorporating the conjunct head, like Galician). It is not easy to compare the strength of island violations across different languages and I will have to leave verification of the prediction in question for future research. However, while more careful investigation is clearly needed here, it is worth noting that impressionistically, CSC-1 violations do seem to be slightly weaker in Japanese and SC than in English. In fact, one bilingual Japanese/English speaker who was asked to compare the two did find CSC-1 violations with Japanese scrambling to be weaker than CSC-1 violations with English topicalization. At any rate, I will leave a more careful investigation of this issue for future research.

Above we have seen that extraction out of conjuncts can be improved by movement of the conjunct head. This is, however, not the case with all such examples, which means that the possibility of such improvement should in principle be possible, but needs to be constrained. Consider in this respect (19), where two IPs are coordinated.

(19) *What has Betsy purchased and Sally will talk about it?

Example (19) involves head movement, namely I-to-C movement, and wh-movement out of the first conjunct. There is no amelioration here, which means that, in contrast to Galician article

incorporation, I-to-C movement does not ameliorate CSC-1 violations.[5] Why is it that D-to-V movement in DP coordinations improves extraction out of a conjunct, while I-to-C movement in IP coordinations does not? I tentatively suggest that the answer may lie in the mechanism of *-marking. Recall that, as discussed above, in the original approaches to rescue by PF deletion it was assumed that what is *-marked with extraction out of an island is the island itself. Bošković (2011, 2013b), on the other hand, argues that what is *-marked is not the island, but the head of the island.[6] I would like to suggest that both of these positions are right, but for different cases. Taking advantage of the fact that all the cases that Bošković (2011, 2013b) was concerned with involve extraction out of phases, I suggest that only phasal heads are "privileged" in that they are the locus of *-marking. More precisely, when extraction out of an island takes place, the head of the island (rather than the island itself) is *-marked only if the island is a phase (and the head in question is a phasal head), otherwise what is *-marked is the island itself. This means that only phasal heads are *-marked. As a result, only movement of phase heads voids islandhood.

In light of this, compare (15) and (19). What is coordinated in (15) is two DPs. Since DP is a phase, which means that its head is a phasal head, what is *-marked when extraction out of the DP

[5] In fact, I-to-C movement here itself violates CSC-1, as indicated by (i), where wh-movement is not an issue since it takes place across-the-board (ATB); it is then not surprising that it does not ameliorate wh-movement out of the conjunct in question.

(i) *What has Betsy purchased and Sally will talk about? (Johnson 2002)

Note also that combining ATB head-movement with wh-movement out of only one conjunct also gives an unacceptable result, as in (ii). (Note that I will not be discussing ATB movement in this paper (but see Bošković 2018, which also gives an alternative account of (i)). For discussion of ATB, see also Franks 1993, 1995.)

(ii) *What has Betsy purchased and Sally talked about it?

[6] Note that Bošković (2013b) argues that all kinds of locality violations should be handled via the *-marking mechanism, this e.g. also holds for the Phase-Impenetrability Condition (PIC) and anti-locality violations.

takes place is the head of the DP. Nothing then changes in the above account of (15); since the head of this DP is deleted in PF under copy deletion, the islandhood of the conjunct from which extraction takes place is voided here (recall that the islandhood of ConjP itself is not voided, hence although better than (14), (15) is still degraded). On the other hand, what is coordinated in (19) is two IPs. These IPs are not phases (following standard assumptions, when IP is dominated by CP, CP, not IP, is the phase). Since only phasal heads are *-marked, extraction out of the IP conjunct then induces *-marking of the IP conjunct itself. Movement of the I head of this conjunct, and deletion of the ("trace") head of this IP under PF copy deletion, then has no ameliorating effect on extraction here: a *-marked element, namely the IP conjunct, is still present in the final PF representation here.[7] As a result, (15) involves one island violation (due to the crossing of the ConjP island) and (19) involves two island violations (both the conjunct island and the ConjP island are crossed), which explains why (15) is better than (19) as well as why (15) is still itself degraded, as discussed above.[8]

[7] In fact, even the head movement of the IP head itself induces a violation here, hence the ungrammaticality of (i) in fn 5, where wh-movement is not an issue due to ATB.

[8] A question may arise whether extraction out of a vP conjunct would improve in a language with Pollock-style V-to-I movement (assuming vP is a phase, though a different phrase could be a phase here under split IP, see Bošković 2014, Wurmbrand 2014). Notice, however, that what moves in such cases is V, not v. It is often assumed that V carries v along, though it is difficult to show that this is indeed the case given that v is phonologically null. In fact, there is indirect evidence that this is not what happens (i.e. that there is no carrying along here). Thus, Bošković (1997a) discusses a number of cases similar to Italian (i), where the lower verb precedes a higher clause floating quantifier as a result of V-to-V movement, but the higher verb still does not, in fact cannot (see (ii)), carry the lower verb under V-to-I (see Bošković 1997a and Watanabe 1993 for additional cases of this sort). I then assume that either V moves alone in V-to-I or that mere pied-piping of a head under movement of another head has no ameliorating effect on extraction.

(i) I professori non fanno$_i$ piu [$_{VP}$ t$_i$+commentare$_j$ tutti [$_{VP}$ t$_j$ lo stesso libro a Lia]].
the professors Neg make not comment all the same book to Lia
'The professors do not all make Lia comment on the same book.'

The following example is also worth noting in this context.

(20) a. ??I've believed John for a long time now to be a liar and Peter to be trustworthy.
b. cf. I've believed John for a long time now to be a liar.

Example (20a) is somewhat degraded, though clearly better than typical CSC-1 violations in English (like (18)).[9] Lasnik (1999) argues that object shift is optional in English, accusative DPs may undergo it or not. The subject of the first infinitival conjunct in (20a) must have undergone object shift, given that it precedes a matrix clause adverbial. This appears to be an instance of movement out of a conjunct.[10] What is important here is that while (20a) is somewhat degraded, it is better than typical CSC-1 violations in English. This can actually be captured under the current approach to the CSC given Pesetsky's (1992) analysis of ECM constructions, also argued for in Bošković 2015, where ECM infinitives are CPs headed by a null C which undergoes movement to the higher V (see also Bošković 2007, Ormazabal 1995, and McCloskey 2000 on the CP status of ECM infinitives). This head movement voids the islandhood of the first conjunct, in the manner discussed above. However, it does not affect the islandhood of ConjP, which is still an issue. Extraction out of the infinitival conjunct in (20a) then involves only one island violation, which explains why (20a) is better than typical CSC-1 violations like (18).[11]

(ii) cf. *I professori non fanno commentare piu tutti lo stesso libro a Lia. (Guasti 1991)

[9] There is some speaker variation regarding (20a); it is, however, clear that (20a) is better than typical CSC-1 violations like (18).

[10] I assume that we are dealing here with coordination of two infinitives (but see Bošković 1997b).

[11] There is an alternative account which has the same result. Suppose that ECM infinitives are actually IPs which have an EPP property, i.e. they require their Spec to be filled independently of the reasons of successive-cyclicity (contra Bošković 2007; see below for the relevance of this assumption). Let us also assume, following Bošković 2014, 2015 and Wurmbrand 2014, that the highest clausal projection is a phase regardless of its categorial status, which means that

Recall now that the cliticization of the conjunction head improves violations caused by extraction out of ConjP, i.e. it voids the islandhood of ConjP (see the above discussion of CSC-2 violations in Japanese and SC). Under the above assumption that only phasal heads are *-marked, i.e. that with extraction out of an island the head of the island is *-marked only if the island is a phase, this means that ConjP is a phase, otherwise movement of the ConjP head would not have an ameliorating effect on extraction. This then raises a question why don't all languages allow extraction of conjuncts, i.e. CSC-2 violations, even without conjunction head movement, assuming that the first conjunct is located at the edge of ConjP. I will simply assume here that there is no PIC window for extraction out of ConjP, i.e. that any extraction out of ConjP leads to *-marking, leaving open why this would be the case.

There actually is an alternative: Suppose that the structure of coordinations is slightly richer, i.e. that there are actually two phrases in the traditional ConjP (TConjP), with the conjunction head located in the higher phrase, which would then be a phase under the assumption that the highest phrase in a phasal domain is a phase (as argued in Bošković 2013a, 2014, see section 4), and with the first conjunct located in the Spec of the lower phrase. The first conjunct then would not be located at the edge of TConjP, and in fact under the proposals made in section 3 would not be able to move through the Spec of the higher TConjP phrase, which means that extraction of the first conjunct would always induce a locality violation, i.e. *-marking of the conjunction head, hence movement of the conjunction head would be needed to void the locality effect. I will put aside this possibility below, simply assuming that there is no PIC window for extraction out of ConjP, which

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IP is a phase when not dominated by CP (see these works for evidence to this effect). Under the analysis presented in section 3, where in the context where the first conjunct is a phase the edge of the first conjunct (which is not created due to successive-cyclic movement) can extract in spite of the islandhood of conjuncts, (20a) still involves only one island violation (due to the islandhood of ConjP), which captures its intermediate status.

means that any extraction out of ConjP leads to *-marking the conjunction head (also assuming simple one-phrase TConjP, though see section 4).

3. On acceptable extractions out of conjuncts: Islandhood and phases

There is a case where extraction out of a conjunct is fully acceptable in SC, to which I turn now. Before we consider the case in question, we will need to become more precise regarding the notion of islandhood. In the current theory, locality of movement is stated in terms of phases; we may then expect phases to be involved in traditional islandhood. Capturing most traditional islands which do not have an independent source, like intervention/relativized minimality effects, within the phase theory is actually far from straightforward and it is also far from clear that all islands are phases. I will in fact assume that they are not. As for those which are, given that the edge of a phase is accessible from the outside (under the PIC), it seems natural to assume that if an island corresponds to a phase, its edge should be accessible from the outside (putting aside the exception noted in the previous section, though see footnote 16). This, however, runs the risk of voiding islandhood. To prevent that, I will simply assume that traditional islands that correspond to phases cannot be given an EPP/edge feature that would make successive-cyclic movement out of them possible (see Chomsky 2000, 2001 on this mechanism). This, for example, bans extraction out of adjuncts. Although both bolded CPs in (21)-(22) are phases (hence direct movement out of them is not possible given the PIC), the bolded CP in (22) then cannot be given an EPP/edge feature which would drive movement to its edge that in turn would make successive-cyclic movement out of it possible, in contrast to the bolded CP in (21), where this is possible.

(21) How$_i$ did you think [**CP** that John fixed the car t_i]?

(22) *How$_i$ did you fall asleep [**CP** after John had fixed the car t_i]?

I will therefore assume that islands that correspond to phases cannot be given an EPP/edge feature to make successive-cyclic movement out of them possible. (Such features can in principle only be given to phases, and only when needed for reasons of successive-cyclicity, see Chomsky 2000, 2001), leaving open why this is the case. (The suggestion in question simply makes successive-cyclic movement via edges of phasal islands, i.e. islands that correspond to phases, impossible.)

In light of this, consider the following case of extraction out of a conjunct, where the conjunct corresponds to a phase.

(23) *Who$_i$ do you think [$_{ConjP}$ [that Mary likes t_i] and [that Jane hates Peter]]?

Recall that both ConjP and the CP conjunct (i.e. conjuncts in general) are islands. Neither phrase can be given an EPP/edge feature to make successive-cyclic movement out of it possible here given the above discussion (in fact, there is a more general issue here regarding the ConjP phase, as discussed above); we then end up with two island violations in (23).

However, since with an island that corresponds to a phase, its edge is accessible from the outside, there is a way of voiding the conjunct island effect for conjuncts that correspond to phases. If an element X is base-generated at the edge of a phasal conjunct, the inability of island phases to be assigned an EPP feature to make successive-cyclic movement out of them possible would be irrelevant, given that X would be located at the relevant phasal edge independently of successive-cyclicity. X should then be able to extract out of a conjunct in spite of the islandhood of the conjunct, though the islandhood of ConjP would still be an issue.

Given this much background, I return to extraction out of conjuncts in SC. We will be focusing on extraction of agreeing possessors, which have been argued to be base-generated at the edge of the traditional NP (TNP).[12] One argument to this effect is provided by the following binding contrast between English and SC, noted in Despić 2011, 2013.

(24) a. His$_i$ latest movie really disappointed Kusturica$_i$.
b. Kusturica$_i$'s latest movie really disappointed him$_i$.
c. *Kusturicin$_i$ najnoviji film ga$_i$ je zaista razočarao.
Kusturica's latest movie him is really disappointed
d. *Njegov$_i$ najnoviji film je zaista razočarao Kusturicu$_i$.
his latest movie is really disappointed Kusturica

Assuming that traditional Specs c-command out of the phrase where they are located, Kayne (1994) takes the acceptability of (24a-b) to indicate that English possessors are not located in SpecDP, but in a lower phrase, PossP, with the DP confining their c-command domain. The unacceptability of (24c-d) indicates that possessors in SC, a language without articles which has been argued by a number of authors to lack DP (for example, Bošković 2005, 2008, 2012, 2014, Corver 1992, Despić 2011, 2013, Marelj 2011, Runić 2014a,b, Takahashi 2012, Talić 2017, in press, Trenkić 2004, Zlatić 1997), do c-command out, causing binding violations in (24c-d), which contrast with English (24a-b). Despić takes the contrast in question to indicate that DP is missing in SC, with the possessor located at the edge of the highest projection of the traditional NP.[13]

[12] The term TNP is used neutrally, for whatever the categorial status of the relevant element is.

[13] Following Bošković (2005, 2012), Despić argues that the relevant TNP in (24c-d) is actually NP, with the possessor adjoined to the NP, as a result of which it c-commands out of it. At any rate, what matters for our purposes is simply that the possessor is located at the edge of the TNP (whatever the TNP is).

As is well-known, SC possessors can undergo left-branch extraction. Importantly, they can extract out of a conjunct.[14]

(25) Markovog$_i$ je on [t_i prijatelja] i [Ivanovu sestru] vidio.
Marko's$_{ACC}$ is he friend$_{ACC}$ and Ivan's$_{ACC}$ sister$_{ACC}$ seen
'He saw Marko's friend and Ivan's sister.'

The acceptability of (25) is not surprising since islandhood is fully voided in this example. The islandhood of ConjP is voided due to the cliticization of the conjunction, as discussed above (recall that this is responsible for the possibility of CSC-2 violations in SC). Given that, as argued in Bošković 2013a, 2014, the highest projection in the extended domain of N is a phase, the first conjunct is a phase in (25). Since the conjunct is a phase, and the possessor is located at the phasal edge (more precisely, it is base-generated there, which means that there is no need to make recourse to edge features that license successive-cyclic movement to place it at the phasal edge), the possessor is accessible for extraction out of the conjunct in spite of its islandhood. There is then no locality violation in (25).[15]

[14] Notice that there are interfering factors if left-branch extraction is attempted out of the second conjunct. As noted in Stjepanović 2014 and discussed above, *i* 'and' is a proclitic, which procliticizes to the element following it. A problem then arises if the element following it is a trace. Additionally, as noted in fn 4, the first conjunct has a blocking effect on extraction (out) of the second conjunct.

[15] It is worth noting here that Oda (2016) observes a construction in SC where both the conjunct and ConjP are headed by a trace, which also voids the CSC effect. The construction is given in (i).

(i) ?[U veliku]$_i$ je Ivan ušao [[t_i sobu] i u [malu kuhinju].
in big is Ivan entered room and in small kitchen

As noted in fn 4, the conjunction undergoes procliticization in SC, which means that ConjP is headed by a trace in (i). Moreover, as also discussed in fn 4, the head of the first conjunct, which is a PP, in (i) undergoes procliticization to the

4. A speculation on extraction of conjuncts

I will finish the paper by making a speculatory remark regarding the islandhood of coordinations. Recall that, as noted in footnote 4, it appears that CSC-2 violations are possible only in article-less languages. Bošković (2008, 2012, 2014) argues that languages without articles quite generally lack DP (in some cases they do have other functional projections above NP, but in most cases their traditional NPs (TNPs) are indeed only NPs, DP lacking in such languages). Talić (2015, 2017) argues for a structural parallelism across lexical categories, where if a language has a bare NP (more precisely, if TNPS can be bare NPs in a language), other lexical projections can also be bare in the language (e.g. the language can then also have bare AP and bare PP). This is for example the case with SC. In English, on the other hand, NP cannot occur bare—a functional projection, DP, is required in the TNP, and the same then also holds for other lexical categories. Talić (2015, 2017) provides a number of arguments to this effect (particularly strong are her arguments for bare NP and AP in SC as opposed to English, where functional structure is required above both NP and AP). Suppose that Talić's parallelism is extended to coordinations: a language can then have bare ConjP only if it has bare NP, AP… If a language cannot have the latter, then the language must have functional structure above ConjP. What this means is that only languages without articles, i.e. NP languages, can have a bare ConjP. Furthermore, I assume that, as discussed above, islands disallow successive-cyclic movement through their edge and that the highest projection in a phasal domain is the phase, as argued in Bošković 2012, 2013a, 2014. Bošković argues that all lexical categories

AP, and is carried along under further movement of the AP. As a result of P-procliticization, the conjunct from which the AP is extracted is also headed by a trace. Both the islandhood of ConjP and the islandhood of the first conjunct are then voided in (i) through the rescue-by-PF deletion mechanism, hence the acceptability of (i).

project phasal domains—the highest projection in the extended domain of a lexical head, and the highest projection in the clausal domain, are the phases. As discussed above, coordinations also project phasal domains, which means that the highest projection in the extended domain of a conjunction should be a phase. What all this means is that in a language like SC, which does not have articles, ConjP itself is a phase. On the other hand, in a language like English, which has articles and where at least one functional projection must be present above ConjP (the counterpart of DP), which I will refer to as FconjP, the phase is FconjP, not ConjP. We have seen above that CSC-2 can be voided in a language if $Conj^0$ undergoes movement. Notice, however, that this effect is now confined to NP languages, i.e. languages without articles. In such languages, ConjP is the phase/island, hence movement of $Conj^0$ can void the islandhood. In a DP language like English, on the other hand, the island/phase is not ConjP, but FconjP. As a result, $Conj^0$ movement would not affect the relevant islandhood in such languages (see also footnote 8). I will leave a more detailed investigation of the suggestion regarding the islandhood of coordinations made here for future research.[16] [17]

[16] The discussion in this section opens up the possibility that it may not be necessary to assume that there is no PIC window for allowing extraction with the ConjP phase (cf. section 2). Under the discussion in this section, extraction of conjuncts is in principle possible only in NP languages. Not all NP languages, however, allow it. The discussion of Oda (2016) and Stjepanović (2014) in section 2 implied that the procliticization of the conjunction is also necessary to allow extraction of conjuncts. This, however, led us to assume in section 2 that the PIC window for enabling extraction does not hold for the ConjP phase, otherwise any NP language (i.e. any language where the first conjunct is at the edge of the ConjP phase) would allow such extraction. If we assume that the PIC window for enabling extraction is also available for the ConjP phase, conjunct extraction will still be blocked in DP languages under the discussion in this section, but we would need to leave open why not all NP languages seem to allow it (Slovenian, for example, seems to show speaker variation in this respect, see Bošković 2009). We then have two options here: either assume that the PIC window for enabling extraction does not hold for the ConjP phase, or assume that that the ConjP phase is like other

5. Conclusion

In conclusion, we have seen that the rescue-by-PF-deletion mechanism can account in a principled way for a number of differences in the strength of the violation with extraction out of conjuncts in various languages/contexts. In particular, it was shown that in several cases where the islandhood of traditional conjunction configurations is weakened or voided, the head of the conjunction and/or individual conjuncts is a trace (i.e. a copy that is deleted in PF), a state of affairs which was captured by appealing to the rescue-by-PF deletion mechanism, where a proposal was also made regarding what exactly is *-marked with extraction out of islands.

The proposed analysis was crucially based on Oda's (2016) proposal that both ConjP and individual conjuncts are islands, and can be seen as providing evidence for that proposal. In particular, the presence of typical head-movement-voiding-of-islandhood effects with extraction out of conjuncts and ConjP indicates that both conjuncts and ConjP are islands (in this respect, Galician article incorporation provides evidence for the islandhood of conjuncts, and conjunction cliticization in Japanese and SC provides evidence for the islandhood of ConjP). In this regard, it was also shown that only head movement of phase heads voids islandhood.

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phases in this respect, with the PIC window for extraction being available, but leave open why not all NP languages allow conjunct extraction (i.e. CSC-2 violations).

[17] It should be noted that after this paper was originally written, Oda (2018) slightly amended the observation from Oda (2016) regarding which languages allow CSC-2 violations. Importantly, the above account, which is based on Talić's (2015, 2017) structural parallelism, can be extended to the amended generalization, as Oda (2018) himself shows.

It was also argued that traditional islands do not allow successive-cyclic movement via their edge; this also holds for islands that correspond to phases, though such phasal islands can still allow extraction out of them for elements base-generated at their edge, which are placed at the edge of the island independently of the considerations of successive-cyclicity.

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