

Two Types of the Coordinate Structure Constraint and Rescue by PF Deletion

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Introduction: It is well known that Ross (1967) formulates the Coordinate Structure Constraint (CSC) in the following way:

- (1) In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

This formulation means that both extraction *of* a conjunct and extraction *out of* a conjunct are prohibited. The standard view is that the CSC is universal. However, *wh*-in-situ in Japanese shows a puzzling behavior for this view:

(2) suggests *wh*-in-situ is sensitive to the CSC, whereas (3) suggests it is not.

- (2) **Watashi-wa* [Yamada-kyoozyu-ga [kesa nani-o tabe](&)]
 I-Top Yamada-professor-Nom this.morning what-Acc eat
 [sakuban koohee-o nonda] ka] shitteiru
 last.night coffee-Acc drank Q know

‘I know [Q Prof. Yamada [ate what this morning] and [drank coffee last night]].’ (Kato (2006: 149))

- (3) [Dare-to Hanako]-kara tegami-ga kimasita ka?
 who-and Hanako-from letter-Nom came Q

‘From whom and Hanako did a letter come?’ (Takahashi (2002) with a slight modification)

In this paper, I provide an account of this contrast that is based on the account of Left Branch Extraction (LBE) in Serbo-Croatian (SC) in (4) and the so-called rescue-by-PF-deletion mechanism (Bošković (2011, 2013)), which in turn provides evidence that the CSC should be separated into two different conditions.

- (4) [U veliku]_i on ude [t_i sobu].
 in big he entered room

‘He entered the big room.’

Rescue by PF Deletion: Bošković (2011, 2013) proposes the following generalization regarding island effects:

- (5) Traces do not head islands.

Bošković provides a number of arguments for (5), including cases from Galician.

- (6) a. **De* quén_i liches [DP [D' os [mellores poemas de amigo t_i]]]?
 of whom read(you) the best poems of friend
 ‘Who have you read the best poems of friendship by?’

- b. (?)*De* quén_i **liche-los**_i [DP [D' t_i [mellores poemas de amigo t_i]]]?
 of whom read(you)-the best poems of friend
 ‘Who have you read the best poems of friendship by?’ (Uriagereka (1996))

(6a) shows *wh*-movement from a DP headed by a definite article is disallowed in Galician: i.e., such a DP constitutes an island. However, when the definite article incorporates into the verb, the island effect is circumvented, as in (6b). Thus, a phrase loses its islandhood when it is headed by a trace, as stated in (5). Bošković shows that all island effects in Galician can be voided that way and that the effect is present in many languages.

Bošković argues that (5) can be deduced from the rescue-by-deletion mechanism, which is based on Chomsky’s (1972) analysis of island amelioration effects observed by Ross (1969). Consider (7).

- (7) 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**].

- 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))

Chomsky (1972) proposes a * is assigned to an island when an element crosses it. If this * remains in the final representation, the sentence is ungrammatical; if the element marked is deleted at PF, the island effect disappears and the derivation is rescued. Thus, (7b) is grammatical, since the *-marked adjunct island is deleted at PF. Bošković (2011) modifies this proposal, arguing that what is *-marked is not the whole island, but the head of the island. This modification captures the paradigm in (6). When the *wh*-phrase moves out of the island in (6), the head of the island, D⁰, is *-marked. If the head does not move, hence it pronounced where it is, the island effect arises as in (6a). However, when the D⁰ incorporates into the verb, it leaves a *-marked copy in the base position. This copy is deleted at PF, so that no island effect incurs. Notice that Chomsky’s original account does not work here, since what is *-marked under his account is the island *per se*, so the incorporation of D⁰ should not make any difference for the *-marking and PF-deletion. Thus, Bošković concludes a * should be assigned to the head of an island.

Bošković extends this analysis to one type of LBE. Serbo-Croatian allows LBE, as in (8a). It also allows LBE out of a PP as in (8b), in which case a non-constituent, P+AP, appears to move. Crucially, extraction of only the AP out of the PP is not allowed, as in (8c). The PP thus constitutes an island in (8c), but the island effect is circumvented in (8b).

- (8) a. *Velike*_i on voli [t_i planine].
 Big he likes mountains
 ‘He likes big mountains.’

- b. [U veliku]_i on ude [t_i sobu]. (= (4))
 in big he entered room
 ‘He entered the big room.’
- c. *veliku_i on ude [u [t_i sobu]].
 big he entered in room
 ‘He entered the big room.’

Based on a number of parallelisms between simple LBE like (8a) and what is referred to as extraordinary LBE (eLBE) in (8b), he argues that in (8b) the P⁰ incorporates into the AP (the AP first moves to a position where the AP c-commands to the P⁰, and then the P⁰ incorporates into the AP as a proclitic). Since P leaves a copy in the base position, which is *-marked and deleted at PF, there is no island violation.

To extend the analysis to Japanese data: I propose the rescue-by-PF-deletion analysis to Japanese data related to the CSC. The first case is scrambling. Yatabe (2003) observes that although scrambling out of a conjunct is impossible, as shown in (9a), scrambling of an initial conjunct is possible, as illustrated in (9b).

- (9) a. *[Tanaka-no]_i kore-wa [t_i saisyo-no hon]-to [Suzuki-no saigo-no hon] da.
 Tanaka-Gen this-Top first-Gen book-and Suzuki-Gen last-Gen book is
 ‘There are Tanaka’s first book and Suzuki’s last book.’
- b. ?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.’ (Yatabe (2003) with a slight modification)

The circumvention of the CSC in (9b) can be accounted for under the rescue-by-PF-deletion approach, assuming that the conjunction *to* ‘and’ in Japanese cliticizes to the first conjunct in the same way that the preposition *u* ‘in’ in SC cliticizes to the AP in the LBE construction. This assumption is supported by the fact that the first conjunct and the conjunction in Japanese cannot be separated, as shown in (10) (Tsujimura (1996)).

- (10) *Sushi_i Taro-ga t_i-to sashimi-o tabeta.
 sushi Taro-Nom and sashimi-Acc ate
 ‘Taro ate sushi and sashimi.’

This fact can be taken as evidence that the Japanese conjunction *to* ‘and’ is an enclitic adjoined to the first conjunct. The conjunction which cliticizes to the first conjunct leaves a copy in the base position. When the first conjunct is extracted, the copy is *-marked. This lower copy is deleted at PF, hence there is no island violation in the end. This derivation is exactly what we saw in the SC (e)LBE constructions in (8).

The second case is the *wh*-in-situ puzzle in (2) and (3). Note the *wh*-phrase *nani* ‘what’ in (2) is embedded in the first conjunct. In other words, the situation is similar to extraction out of a conjunct such as (9a), since in both cases an element inside a conjunct is subject to an island effect. In contrast, the *wh*-phrase *dare* ‘who’ itself is a conjunct and no island effect is observed in (3). This is parallel to (9b), where extraction of the first conjunct is allowed. I therefore propose that the rescue by PF deletion also applies in (3): the conjunction is adjoined to the *wh*-phrase and the *-marked copy of the conjunction is deleted at PF, the CSC being circumvented, even though the *wh*-phrase does not overtly move in Japanese (the analysis can be applied both to the null Op-movement and Agree analyses of Japanese *wh*-in-situ, given that Agree is subject to the rescue-by-PF-deletion mechanism discussed here, see Bošković (2013)). Thus, the circumvention of the CSC in (3) and (9b) can be deduced from the general rescue-by-PF-deletion analysis.

General Discussion: I take the Japanese data in (2), (3), and (9) can be taken as evidence that the CSC should be split into two separate conditions: the ban on extraction of a conjunct and the ban on extraction out of a conjunct. In fact, there are other languages in which the former can be violated (e.g., SC – see Stjepanović (2014)). Thus, the two parts of the CSC should not be attributed to a single underlying mechanism.

The separation of the CSC means that basically both ConjP and individual conjuncts are islands. Languages differ in the islandhood of ConjP depending on the availability of incorporation of the conjunction. In a language like Japanese where the conjunction incorporates into a conjunct, ConjP ceases to be an island since the whole phrase is headed by a copy which is *-marked but deleted at PF, and hence extraction of a conjunct is allowed. If the incorporation of the conjunction is not allowed, ConjP is an island and extraction of a conjunct is impossible, which is observed in languages like English. Extraction out of individual conjuncts, however, cannot be rescued by PF deletion even in a language which allows conjunction incorporation. When an element within a conjunct is extracted, the conjunct is *-marked. But the *-marked element is not deleted at PF, so the sentence becomes ungrammatical. Thus, extraction out of a conjunct is banned even in languages where incorporation of the conjunct occurs, as represented in (2) and (9a).

Selected References: Bošković, Ž. (2011) “Rescue by PF Deletion, Intervention Effects, and Head Movement,” *LI* 42; (2013) “Traces do not Head Islands,” In *Deep Insights, Broad Perspectives*. Chomsky, N. (1972) “Some Empirical Issues in the Theory of Transformational Grammar,” In *Goals of Linguistic Theory*. Ross, J. (1967) *Constraints on Variables in Syntax*; (1969) “Guess Who?,” *CLS* 5. Stjepanović, S. (2014) “Left Branch Extraction and the Coordinate Structure Constraint,” Proceedings of *NELS* 44. Yatabe, S. (2003) “Does Scrambling in Japanese Obey the Coordinate Structure Constraint?,” In Proceedings of the 126th Meeting of the Linguistic Society of Japan.