

## Conditions on resumption strategies and relativized locality violations

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Ross (1967) discovered that island constraints block movement operations across certain structures, but he also noted that island violations do not arise when resumption is used. For example, the relative clause island violation in (1) is ameliorated when the gap is replaced with a resumptive pronoun (for a summary, see McCloskey, 2006).

(1) All the students<sub>i</sub> who the papers which { \*t<sub>i</sub> / they<sub>i</sub> } submitted were lousy, I'm not going to allow to register next term. (Ross, 1967: p. 433)

It has been observed that sluicing also causes a similar island obviation (e.g., Chomsky, 1972; Merchant, 2001): The sentence (2a) with a relative clause island violation is improved (Ross, 1969) or becomes perfectly acceptable (e.g., Lasnik, 2001) when the island domain is elided by sluicing (2b). This led to the argument that extraction out of islands violates PF representational constraints and can thus be repaired by PF operations like ellipsis or resumption (Boeckx, 2008; Hornstein, Lasnik, & Uriagereka, 2007).<sup>1,2</sup>

(2) a. \*She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends she kissed a man who bit t<sub>i</sub>. (Ross, 1969: p. 276)

b. ?She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends ~~she kissed a man who bit t<sub>i</sub>~~. (Ross, 1969: p. 276)

However, recent acceptability judgment studies have questioned the generality of the island repair phenomena by resumption. For example, McDaniel and Cowart (1999) showed that resumption can improve a *wh*-island violation when the extraction originates

from a subject position (3a), but not when it originates from an object position (3b).<sup>3</sup>

(3) a. That's the girl<sub>1</sub> that I wonder when { \*t<sub>1</sub> / ?she<sub>1</sub> } met you.

b. That's the girl<sub>1</sub> that I wonder when you met { \*t<sub>1</sub> / \*her<sub>1</sub> }.

This pattern of data is replicated in other acceptability judgment studies on resumption as well: Sprouse (2007) found that subject gaps in adjunct island violations can be improved with resumption, whereas Alexopoulou and Keller (2007), Omaki and Nakao (submitted), as well as Xiang, Heestand, and Polinsky (2008) showed that resumption in an object position does not repair relative clause island violations. This subject vs. object asymmetry does not follow straightforwardly from the view that island constraints are PF conditions, because a violation of such PF conditions should be equally illicit and repairable no matter where the movement originated from. In fact, the subject vs. object asymmetry seems to be specific to resumption, as the sluicing version of (3) shows no subject vs. object asymmetry (4).

(4) a. John wanted to know when somebody met you, but I don't remember who<sub>1</sub> [~~John wanted to know when t<sub>1</sub> met you~~] (cf. (3a))

b. John wanted to know when you met somebody, but I don't remember who<sub>1</sub> [~~John wanted to know when you met t<sub>1</sub>~~] (cf. (3b))

The goal of the squib is to further investigate the distribution of island repair by resumption and the nature of locality constraints. Specifically, we will first show that not all subject positions with locality violations allow resumption repair, and argue that an island obviation is possible only when the Empty Category Principle (ECP) as well as island constraints are violated. Second, we propose that this follows from a condition on

resumption in English: Resumption in English is a costly last resort operation (Shlonsky, 1992) that causes a violation by itself, but becomes available as a licit repair strategy only when its use leads to the elimination of more than one locality violation. Finally, we show that the resumption strategy is sensitive to what type of violation is being repaired: Resumption repair is available when there is a combination of ECP and an island violation, but not when there are two island violations.

#### 1 Distribution of island repair by resumption

McDaniel and Cowart (1999) claimed that the subject extraction in (3a) violates a representational constraint, and the object extraction in (3b) violates a derivational constraint. The ‘representational constraint’ in (3a) can be analyzed as the ECP in traditional terms, in that the subject trace is neither lexically governed nor antecedent governed (Chomsky, 1981; Lasnik & Saito, 1992), while the ‘derivational constraint’ in (3b) can be analyzed as an island constraint. Note that although the notion ‘government’ is abandoned in the minimalist framework, the observation that there are additional restrictions on subject or adjunct gaps is still viable, and we will use the term ECP to refer to these additional restrictions while leaving open the problem of how to deduce the ECP from minimalist assumptions.<sup>4</sup>

Based on the observation that in (3a) the resumption version was judged to be better than the gap version while in (3b) there was no difference between the resumption and gap versions, McDaniel and Cowart argued that resumption can only repair violations of representational constraints like ECP (see also Kayne, 1981). However, this seems incompatible with the observation that sluicing can repair an island violation resulting

from an object extraction (2), which was taken to argue that island constraints are representational. This suggests the need for re-examining the exact distribution of resumption and the nature of locality violation obviation.

On close scrutiny, the sentence (3a) involves two locality violations, namely a *wh*-island violation and an ECP violation, whereas in (3b) there is only one locality violation, i.e., a *wh*-island violation. McDaniel and Cowart's account suggests that an ECP violation should always be repairable by resumption, and that a repair effect does not depend on the presence of a *wh*-island violation. Their account thus predicts that a single violation of the ECP such as a *that*-t violation without a *wh*-island violation should be repairable. However, our informants who share the acceptability judgment contrasts in (3) judge a *that*-t violation and its counterpart with resumption as equally bad (5).

(5) Mary wondered which boy<sub>1</sub> Susan said that { \*t<sub>1</sub> / \*he<sub>1</sub> } kissed the girl.

This suggests that McDaniel and Cowart's conclusion is too strong, as an ECP violation in (5) is not repaired by resumption. Note that what is common in (3b) and (5) where resumption fails to repair locality violations is that both sentences involve only one locality violation, i.e., a *wh*-island violation in (3b) and an ECP violation in (5), whereas in (3a) where resumption led to an increase in acceptability, there were two locality violations, i.e., an island violation as well as an ECP violation. Based on this, we propose the generalization on the English resumption repair strategy in (6):

(6) English resumption improves acceptability if there is more than one locality violation.

The generalization in (6) predicts that other instances of ECP violations such as left-branch extractions (Corver, 1992; Shlonsky, 1988) would also show amelioration effects

only when the sentence also involves an island violation. This prediction is borne out in (7): The left-branch violation itself does not improve with resumption (7a), but when an additional locality constraint like a *wh*-island constraint is violated, the acceptability improves with the use of a resumptive pronoun (7b).

(7) a. Sue wondered which boy<sub>1</sub> the girl kissed { \*t<sub>1</sub> ('s) / \*his<sub>1</sub> } mother.

b. Sue wondered which boy<sub>1</sub> Mary knew when the girl kissed { \*t<sub>1</sub> ('s) / <sup>?</sup>his<sub>1</sub> } mother.

The data in (3), (5) and (7) show that the reparability of locality violation does not depend on whether the violated constraint is an island constraint or the ECP (or whatever locality constraints that only subject but not object traces violate) as McDaniel and Cowart would predict, but rather on whether both of them are violated.

## 2. Last resort condition on resumption repair strategy

Note that the sluicing counterparts of English sentences with locality violations such as *wh*-island violation, *that*-t violation, and left branch violation are all readily repairable regardless of how many violations exist, as shown in (8).

(8) a. John wanted to know when somebody met you, but I don't remember who<sub>1</sub> [~~John wanted to know when t<sub>1</sub> met you~~] (cf. (3a))

b. John wanted to know when you met somebody, but I don't remember who<sub>1</sub> [~~John wanted to know when you met t<sub>1</sub>~~] (cf. (3b))

c. Susan said that somebody kissed the girl, but I don't remember who<sub>1</sub> [~~Susan said that t<sub>1</sub> kissed the girl~~] (cf. (5))

d. The girl kissed some boy's dog, but I don't remember which boy<sub>1</sub> [~~the girl kissed t<sub>1</sub> ('s) dog~~] (cf. (7a))

e. Mary knew when the girl kissed some boy's dog, but I don't remember which boy

~~[Mary knew when the girl kissed t<sub>i</sub> ('s) dog]~~ (cf. (7b))

In other words, the condition on the locality violation repair in (6) is restricted to resumption and does not extend to sluicing. We propose that this difference stems from a) the fact that resumption (unlike sluicing) is a costly 'last resort' operation and b) a condition on such last resort operations that they must produce a representation that contains fewer violations than the representation prior to its application.

Let us first justify the assumption that resumption is a costly operation. In English, sluicing is generally available in the absence of locality violations (Ross, 1969), while resumption cannot be used with grammatical long-distance movement. For example, Omaki and Nakao (submitted) showed that the use of resumption for a licit movement like (9) results in a significant degradation (see also Alexopoulou & Keller, 2007; Kroch, 1981; cf. Prince, 1990), suggesting that resumption itself leads to one violation.

(9) The director remembered which hairdresser<sub>1</sub> the cameraman speculated that the actor had kissed {t<sub>1</sub> / \*her<sub>1</sub>}.

Thus, following Shlonsky (1992), we assume that a resumption operation in English is available only as a 'last resort' repair operation that can be used to eliminate grammatical violations (see also Hornstein, 2007). However, we depart from Shlonsky and assume that the last resort operation of resumption itself yields a syntactic violation in (9). In other words, if resumption is used in contexts where there is one instance of island or ECP violation, then the output of the resumption operation eliminates an island or an ECP violation but yields a new violation due to resumption itself, hence the number of

violations remains the same. This accounts for the absence of amelioration effect in (3b), (5) and (7a): the representation before and after the application of resumption equally contains one violation. On the other hand, when there is more than one locality violation (i.e., violations of the ECP and an island constraint) as in (3a) and (7b), those violations are effectively replaced by just one violation that accompanies the use of English resumption. This accounts for not only why we can observe an increase of acceptability in (3a) and (7b), but also why the resumption counterpart is still somewhat degraded: the representation after the use of resumption still contains one grammatical violation.<sup>5</sup>

### 3 Relative locality violations and resumption repair

So far, our data have shown that sentences that violate both ECP and island constraints can be repaired by resumption in English, and we analyzed this generalization as a consequence of the condition on last resort resumption strategies. However, we have not considered another prediction made by our generalization in (6): more than one locality violation of *any* type should be repairable. However, this prediction is not borne out in examples which involve violations of two separate island constraints (10).<sup>6</sup>

- (10) a. Mary wondered which actor<sub>1</sub> Susan wondered when pictures of { \*t<sub>1</sub> / \*him<sub>1</sub> } were on sale.
- b. Mary wondered which actor<sub>1</sub> Susan wondered when the teacher spread the rumor that a cheerleader kissed { \*t<sub>1</sub> / \*him<sub>1</sub> }.

For example, (10a) involves *wh*- and subject island violations, while (10b) involves *wh*- and complex NP island violations, but in neither sentence does the acceptability of the resumption version improve relative to that of the gap counterpart.

The fact that two island violations are not sufficient for the use of the resumption strategy reveals that resumption is sensitive to what types of locality violations are being repaired. In other words, locality violations are *relativized*, and a violation's severity for the purpose of resumption repair cannot be calculated in terms of the number of locality violations, but rather in terms of the number of *types* of violations (see also Richards, 1998). The generalization in (6) is hence incorrect, and (11) presents a revised generalization that captures the observation that resumption repair is available only when an island and the ECP are violated but not when two island constraints are violated.

(11) English resumption repairs locality violations when a) there are more than one locality violation, and b) the violations consist of different types.

#### 4 Conclusion

This squib re-examined the distribution of resumption repair for English locality violations, and reported new sets of data that demonstrated that resumption repairs locality violations as long as there are more than one locality violation that are of different types. This analysis has two theoretical consequences.

First, our analysis suggests that it is difficult to create a dichotomy between locality constraints that are inherently repairable by resumption and those that are not, contra McDaniel and Cowart's claim. We showed that the failure of repair is observed not only for an island violation but also for an ECP violation when these are the only locality violations in the sentence, and moreover that a conjoined violation of islands and ECP is a pre-requisite for resumption repair. If it is the case that only violations of representational locality constraints can be repaired, our finding suggests that both island

and ECP constraints are representational, although it remains to be seen to what extent repairability of locality violations hinges on the representational vs. derivational nature of locality constraints (for discussions, see Aoun & Li, 2003; Boeckx & Lasnik, 2006).

Second, our analysis indicates that the use of a repair strategy like resumption must reduce the number of *types* of locality violations, rather than just the number of locality violations. This condition on repair strategies indicates that derivations are sensitive to the grammaticality of the global representation before and after the use of a certain grammatical operation (for a similar suggestion, see Hornstein, 2007).

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<sup>1</sup> Note that VP ellipsis of island domains does not lead to an amelioration of island violations (Chung, Ladusaw, & McCloskey, 1995; Merchant, 2001), which may appear to contradict the argument that island violations are repaired by ellipsis at PF. In this regard, we assume that analyses along the lines of Fox and Lasnik (2003) are on the right track: VP ellipsis of islands violates an independent principle of grammar (e.g., a parallelism requirement in ellipsis), and therefore the VP ellipsis data do not bear on the PF nature of island constraints.

<sup>2</sup> For the view that resumption can repair PF violations of island constraints, it is not crucial whether resumptive pronouns can be operator-bound or not (Sells, 1984), so long as the PF operation that inserts a resumptive element (Kayne, 1981) ameliorates the illicit PF representation that results from an island violation.

<sup>3</sup> McDaniel and Cowart as well as other acceptability judgment studies discussed in this paper did not report the judgment data in terms of the conventional acceptability annotations like \* or ?. For expository purposes, however, we report acceptability data with these conventional annotations based on reports from our informants who shared the intuition on the distribution of resumptive pronouns and repair of locality violations in McDaniel and Cowart's acceptability judgment study.

<sup>4</sup> In this paper, we exclude discussions of adjunct traces because there is no resumptive pronoun in English that can be used in adjunct positions.

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<sup>5</sup> This account predicts that in languages in which resumptive pronouns can freely alternate with gaps, resumption itself does not yield a violation and hence one locality violation is sufficiently repairable. Data supporting this prediction are reported in the literature (e.g., McCloskey, 2006; Sells, 1984), but Alexopoulou and Keller (2007) reported that in Greek, which shows an optional use of resumptive pronouns in grammatical movement, object extraction out of a relative clause island does not improve with resumption. However, as Omaki and Nakao (submitted) pointed out, Alexopoulou and Keller used a bare *wh*-phrase *who* in violation of the restrictive focus condition on resumptive pronouns (Erteschik-Shir, 1992), that is, resumptive pronouns must refer to an antecedent that is known to the speaker/hearer. Thus, controlling for this factor may reveal different results in Greek, although this goes beyond the scope of the squib.

<sup>6</sup> Another logically possible way to test this prediction is to construct sentences with two ECP violations, but this is practically impossible given that the ECP is a condition on the representation of the gap site, and hence only one ECP violation per gap site is possible.