

Sprouting Revisited*

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1. Introduction

Iwasaki (2009b), based on Chung, Ladusaw, and McCloskey's (henceforth, CLM) (2006) analysis of sprouting, presented the derivation of a sprouting sentence like sentence (1a), and argued that the island effect observed in the sprouting sentence like sentences (2) should be attributed to the fact that an Agree relation cannot be properly established between the functional category C and the rightward-moved *wh*-phrase.¹

- (1) She's reading. I can't imagine what. (CLM (1995:242))
 - (2) a. * Sandy was trying to work out which students would speak, but she refused to say who to / to who(m).
 - b. * That Tom will win is likely, but it's not clear which race.
 - c. * Tony sent Mo a picture that he painted, but it's not clear with what.
- (CLM (1995:279))

In the present article, I show that the derivation proposed in Iwasaki (2009b) has an empirical problem. This in turn suggests that the island effect must be accounted for in a different way. The main aim of the article is, then, to provide an alternative analysis of it.

This article is organized as follows. Section 2 surveys previous analyses of sprouting, including mine, and points out that they are incapable of capturing the island effect observed in the sprouting sentence. Section 3 claims that a scopal parallelism requirement for licensing ellipsis is responsible for the unacceptability of a sprouting sentence which apparently results from an island constraint. Section 4 discusses an implication of the proposal and suggests that it is impossible to identify the nature of islands in the context of sluicing. Section 5 gives a brief summary of this article.

2. Previous Analyses

In this section, I first present an overview of Iwasaki's (2009b) proposal and confirm that the proposed derivation cannot generate the swiping construction (cf.

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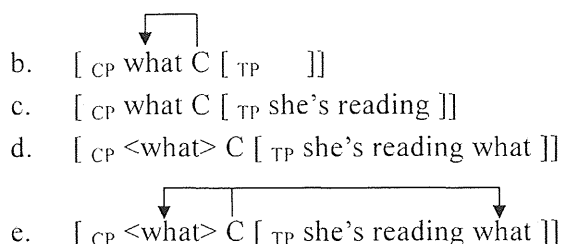
¹ For more details of the analysis, see section 2.1.

Merchant (2002)). Then, I review Tanaka's (2009) analysis of sprouting, which I criticized in that article, and show that it cannot deal with the fact that swiping is island-sensitive.

2.1. Iwasaki (2009b)

Iwasaki (2009b) proposes that the sprouting sentence in (3a) is derived via the steps described in (3b-e). Consider the following:

- (3) a. She's reading. I can't imagine what. (= (1))



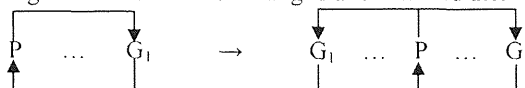
The structure in (3b) corresponds to that of the complement clause of *imagine* in sentence (3a). As CLM (2006) assume, in (3b), the *wh*-phrase is base-generated in spec-CP and the TP selected by the functional category C is empty. After the C and the *wh*-phrase are merged, they establish an agreement relation, as indicated by the arrows. Then, as seen in (3c), the antecedent clause is copied into the empty TP. Finally, the *wh*-phrase base-generated in spec-CP moves to the rightmost position in order to establish a thematic relation with *read*, which produces the structure in (3d). Given the Conservation Law of Agree, which is formulated by Hiraiwa (2005), this movement accompanies the establishment of an agreement relation between the C and the moved *wh*-phrase, which is depicted in (3e).² The structure so generated is transferred to the interfaces and the TP undergoes ellipsis at PF, successfully deriving the surface string of (3a).

This derivation can properly rule out the following sentences:

- (4) a. * Sandy was trying to work out which students would speak, but she refused to say who to / to who(m).
b. * That Tom will win is likely, but it's not clear which race.

² The Conservation Law of Agree is given in (i):

- (i) The Conservation Law of Agree
Agree relations are unchanged and retained after Merge.



(Hiraiwa (2005:41))

- c. * Tony sent Mo a picture that he painted, but it's not clear with what.
(= (2))

Each sentence in (4) is unacceptable due to a violation of the *Wh*-Island Constraint, the Subject Condition, and the Complex NP Constraint, respectively. In order to show how the mechanism captures the unacceptability, let us consider the following:

- (5) a. $[_{CP} \langle \text{who to / to who(m)} \rangle C [_{TP} \dots [_{CP} \text{which student } C [_{TP} \langle \text{which student} \rangle \text{ would } [_{v^*p} \langle \text{which student} \rangle v^* [_{VP} \text{ speak who to / to who(m)}]]]]]]$
- b. $[_{CP} \langle \text{which race} \rangle C [_{TP} \dots [_{CP} \text{that } [_{TP} \text{Tom will } [_{v^*p} \langle \text{Tom} \rangle v^* [_{VP} \text{ win which race}]]]]]]$
- c. $[_{CP} \langle \text{with what} \rangle C [_{TP} \dots [_{DP} \text{a picture } [_{CP} \text{picture that } [_{TP} \text{he T } [_{v^*p} \langle \text{he} \rangle v^* [_{VP} \text{ paint picture with what}]]]]]]]]$

In (5), the PF representation of the elided clause of each sentence in (4) is given, respectively. Let us take (5a) as an example in showing why the representations in (5) are illicit. As mentioned above, under the proposed derivation, the C selecting the copied TP enters into an Agree relation with the rightward-moved *wh*-phrase. If we assume that Agree is constrained by the Phase Impenetrability Condition (PIC) and that Agree is a transitive operation (cf. Legate (2005)), however, the Agree relation in question must be blocked.³ In (5a), the v^* first establishes an Agree relation with the rightward-moved *wh*-phrase and then the lower C should enter into an Agree relation with the former. However, the Q-feature of the C has already been valued by Agreeing with the *wh*-feature of *which student*, which renders the C inactive. Therefore, it does not qualify as a probe in the second Agree relation. Note here that the v^* is included in the complement domain of the lower C. It follows that the PIC forces the upper C not to enter into an Agree relation with the

³ In Chomsky (2001), the PIC is formulated as in (i):

- (i) For strong phase HP with head H, the domain of H is not accessible to operations outside HP; only H and its edge are accessible to such operations. The edge includes the residue outside the H', either Specs or elements adjoined to HP.
(Chomsky (2001:13))

v*. In this way, the transitivity of Agree does not establish the required Agree relation between the upper C and the rightward-moved *wh*-phrases, as denoted by the mark '×' in (5a). Given that it is a failure occurred in the narrow syntax, the PF ellipsis cannot in principle repair it. Hence, the unacceptability of the sentence in (4a).

Essentially the same situation obtains in representations (5b,c). The upshot of Iwasaki's (2009b) analysis is that the island effect is correlated to the existence of the agreement relation.

The proposed derivation, however, cannot generate the swiping construction, as exemplified in (6):

- (6) a. Lois was talking, but I don't know who to.
b. She bought a robe, but God knows who for.

(Merchant (2002:294))

The most defining characteristic of the sentences in (6) is the reversed order of the prepositions and its object *who*. It is quite easy to see that the swiping construction is a kind of sprouting sentences, since there is no form in the antecedent clause that corresponds to the remnant *wh*-phrase. This is confirmed more clearly by the following sentences:

- (7) a. John fixed it, but I don't remember what with.
b. John was talking, but I don't remember who to.
c. ? John fixed it with something, but I don't remember what with.
d. * John talked to someone, but I don't remember who to.

(Nakao (2007:36))

Sentences (7a,b), which are genuine instances of the sprouting sentences, are totally impeccable. On the other hand, the sentence in (7c,d), in which the swiped phrases do have an antecedent PP inside the antecedent clause, are less acceptable than those in (7a,b).⁴ This proves that the derivation of swiping sentences involves sprouting.

In devising a mechanism which derives a swiping sentence, it is necessary to take into account the following generalization, formulated by Merchant (2002):

- (8) [...] swiping is found only in languages that allow preposition-stranding

⁴ In this paper, I don't consider how the difference in the acceptability between the sentence in (7c) and that in (7d) should be accounted for, because it suffices, in what follows, to recognize that sentences (7a, b) are acceptable. See Nakao (2007) for detailed discussion of this issue.

under usual *wh*-movement, [...]

(Merchant (2002:311))

This generalization states that the availability of P-stranding in a language is a necessary condition of the existence of swiping in the language. Needless to say, English is an instance of the generalization. It leads us to claim that the derivation of a swiping sentence involves P-stranding. In fact, there is a piece of empirical evidence for the claim. Consider the following sentence:

- (9) They were arguing, but I don't know what the hell about.

(Sprouse (2006), cited by Kimura (2010:57))

In the literature, it has been observed that the expression *the hell* can modify only overtly-moved *wh*-phrases. It follows that *what* in (9) undergoes overt movement. If we offer a derivation of a swiping sentence which involves P-stranding, it can account for the co-occurrence of the *wh*-phrase with *the hell* in (9) straightforwardly.

At this point, let us examine whether the derivation of sprouting sentences presented by Iwasaki (2009b) can generate swiping sentences. Recall that in the derivation, the remnant *wh*-phrase is base-generated in spec-CP and undergoes no movement. Therefore, it is not possible to capture the generalization in (8) and to derive sentence (9). This empirical problem in turn indicates that the island effect observed in such sprouting sentences as (4) must be ascribed to a different factor.

2.2. Tanaka (2009)

It is quite fair to examine whether Tanaka's (2009) analysis of sprouting is on the right track, since Iwasaki (2009b) criticized it.

Tanaka (2009) proposes that ellipsis should be licensed syntactically, arguing against Merchant's (2001) semantic condition on ellipsis.⁵ Sprouting constitutes a piece of evidence for his proposal. Consider the following sentence:

⁵ Merchant's (2001) theory of IP-ellipsis can be summarized as follows:

- (i) e-givenness
An expression E counts as e-given iff E has a salient antecedent A and, modulo \exists -type shifting,
 (i) A entails F-clo (E), and
 (ii) E entails F-clo (A) (Merchant (2001:30))
- (ii) F-closure
The F-closure of α , written F-clo (α), is the result of replacing F-marked parts of α with \exists -bound variables of the appropriate type (modulo \exists -type shifting) (Merchant (2001:14))
- (iii) Focus condition on IP-ellipsis
An IP α can be deleted only if α is e-given (Merchant (2001:30))

- (10) Abby ate, but I don't know what ~~Abby ate~~. (Tanaka (2009:19))

Sentence (10) is a sprouting sentence. The F-closure of the antecedent clause and the elided clause of the sentence is given in (11a) and (11b), respectively:

- (11) a. $F\text{-clo}(TP_A) = \exists x (\text{Abby ate}) = (\text{Abby ate})$
 b. $F\text{-clo}(TP_E) = \exists x (\text{Abby ate } x)$
 (Tanaka (2009:20))

Notice that the F-closure of both clauses is not the same. Hence, under Merchant's (2001) theory, it follows that the elided part of sentence (10) is not e-given and it cannot be deleted, contrary to fact.

In solving this problem, Tanaka develops a syntactic isomorphism condition on ellipsis, which is formulated below:

- (12) Isomorphism Condition on Ellipsis;
 XP_E can delete if and only if there is a contextually salient antecedent XP_A which is syntactically identical to XP_E .
 (Tanaka (2009:24))

This condition formalizes the idea that syntax plays an important role in licensing ellipsis. Tanaka defines the notion 'syntactic identity' as follows:

- (13) Syntactic Identity;
 XP_E is syntactically identical to XP_A iff every c-command relation are preserved between XP_E and XP_A .
 (Tanaka (2009:24))

The condition stated in (12) requires that the antecedent clause must be syntactically identical to the elided clause. To realize this in generating a sprouting sentence, Tanaka proposes a mechanism which creates an appropriate antecedent clause. Consider the following:

- (14) a. The police know that the defendant killed the victim. They also know when [TP ~~he killed the victim~~].
 b. [CP that [TP the defendant [T' T [VP killed the victim]]]]
 (Tanaka (2009:28))

Sentence (14a) is a sprouting sentence, because there is no element in the antecedent clause which corresponds to the remnant *wh*-phrase *when*. The structure of the *that*-clause in the antecedent clause is given in (14b). The condition in (12) forces the elided TP in (14a) to have the TP structure within (14b). Notice that, however, this structure must be ruled out because it has no variable bound by the *wh*-phrase *when*, resulting in a case of vacuous quantification. It motivates Tanaka to assume that the *wh*-phrase *when* is added to structure (14b) and moves to the spec-CP, as shown in (15):

- (15) [_{CP} \uparrow that [_{TP} the defendant [_{T'} T [_{VP} killed the victim when]]]]
(Tanaka (2009:29))

Note that as a result of this movement, the antecedent clause becomes syntactically identical with the elided TP in (6a), since both clauses contain the trace left behind by movement of *when*. Hence, the TP-ellipsis in (14) is properly licensed.

As a piece of evidence for his proposal, he argues that it can account for the island-sensitivity witnessed in sprouting sentences. Consider the sentence in (4c), repeated as (16) below:

- (16) * Tony sent Mo a picture that he painted, but it's not clear with what.

Given the condition in (12), the appropriate antecedent clause must be created as follows:

- (17) a. [_{CP} C [_{TP} Tony sent Mo a picture that he painted]]
 b. [_{CP} what_i C [_{TP} Tony sent Mo a picture that he painted *t_i*]]
(Tanaka (2009:31), with slight modifications)

The structure of the antecedent clause is depicted in (17a). Under his derivation, the *wh*-phrase *what* must be added to the structure in (17a) and move to the spec-CP, as shown in (17b). Observe that structure (17b) is not a legitimate one, since the *wh*-movement violates the Complex NP Constraint. It means that it is impossible to create the appropriate antecedent clause which licenses the TP-ellipsis in sentence (16), and the unacceptability of it naturally follows.

At first glance, Tanaka's analysis of sprouting seems to serve as an alternative to Iwasaki's (2009b). However, it is not able to predict the unacceptability of the following sentences:

- (18) a. * Sandy was trying to work out which students would speak, but she refused to say who to. (cf. (4a))
 b. * Bob found a plumber to fix the sink but it's not clear what with.
 (CLM (1995:279))

Sentences (18) are swiping sentences, and each sentence is ruled out as a violation of the *Wh*-Island Constraint and the Complex NP Constraint, respectively.

Before showing why Tanaka's analysis cannot account for the unacceptability of the sentences, it is necessary to discuss in what way a swiping sentence is derived under his theory. For convenience, we take Nakao's (2007) proposal as a model for deriving swiping sentences, because as far as I know, it has more empirical coverage than any other approach.⁶

Under her proposal, the derivation of the swiping sentence in (19) proceeds as shown in (20):

- (19) John was dancing, but I don't know who with.
 (20) a. [_{IP} John was dancing [_{PP} with who]]
 b. [_{IP} [_{IP} John was dancing _{PP}] [_{PP} with who]]
 c. [_{CP} who_I [_{IP} [_{IP} John was dancing _{PP}] ^ [_{PP} with t_I]]]
 d. [_{CP} who_I [_{IP} ~~[_{IP} John was dancing _{PP}]~~ ^ [_{PP} with t_I]]]
 (Nakao (2007:44), with slight modifications)

The elided clause in sentence (19) has originally the syntactic structure in (20a). In (20b), the PP undergoes what Nakao calls PP shift. She crucially assumes that this operation does not leave any trace. Then, the *wh*-phrase *who* moves to the spec-CP from the derived position, as shown in (20c) and the lower IP is deleted at PF, as the strike-through in (20d) indicates.

Let us here describe how sentence (18b), repeated as (21), is generated based on the derivation. Consider the following:

- (21) * Bob found a plumber to fix the sink but it's not clear what with.
 (22) a. [_{IP} Bob found a plumber to fix the sink [_{PP} with what]]

⁶ Iwasaki (2009a) presents a similar but crucially different analysis from Nakao's (2007) in that it involves feature movement. Notice that it cannot derive sentence (9), repeated as (i) below:

- (i) They were arguing, but I don't know what the hell about.

As mentioned above, *the hell* can only modify the *wh*-phrase which undergoes overt movement. Because only the *wh*-feature of the *wh*-phrase moves to the spec-CP in my analysis, it cannot predict the acceptability of the sentence.

- b. [_{IP} [_{IP} Bob found a plumber to fix the sink _{PP}] [_{PP} with what]]
- c. [_{CP} what_i [_{IP} [_{IP} Bob found a plumber to fix the sink _{PP}] ^ [_{PP} with *t*_i]]]
- d. [_{CP} what_i [_{IP} [~~_{IP} Bob found a plumber to fix the sink _{PP}~~] ^ [_{PP} with *t*_i]]]

The original structure of the elided clause of sentence (21) is given in (22a). As the first step of the derivation, as depicted in (22b), the PP undergoes PP shift. Then, the *wh*-phrase *what* moves to the spec-CP and finally, the lower IP is elided at PF, producing the surface form of the sentence. It is of particular importance to notice here that the elided IP is syntactically identical to the antecedent clause, given the assumption that the PP shift does not leave any trace.⁷ In contrast to the derivation of the sprouting sentence in (16), it is simply redundant to add a *wh*-phrase to the antecedent clause in generating a swiping sentence. Recall at this point that under Tanaka's derivation of sentence (16), the movement of the added *wh*-phrase *what* to the spec-CP yields the island violation. Swiping sentences like (18), the derivation of which involves no such operation, are predicted to be acceptable, contrary to fact.

2.3. Summary

In this section, I surveyed Iwasaki's (2009b) and Tanaka's (2009) analysis of sprouting and showed that each analysis is not descriptively adequate. Specifically, I pointed out that the former cannot generate the swiping sentence and that the latter is not able to capture the island-sensitivity witnessed in the swiping sentence.

3. Proposal

This section focuses on a question left open by the analyses reviewed in the last section: Why do sprouting sentences, including swiping sentences, display an island effect? As an answer to this question, I suggest that a scopal parallelism requirement for licensing ellipsis (cf. Romero (1998), Merchant (2001)) captures the unacceptability of the sentences.⁸

⁷ Observe that the elided lower IP and its antecedent clause entail each other. Therefore, Merchant's (2001) theory is able to handle this case, since the IP is e-given and is compatible with Focus condition on IP-ellipsis.

⁸ Merchant (2008) argues that the scopal parallelism requirement also rules out the following sentences:

- (i) a. * Abby wants to hire someone who speaks GREEK, but I don't remember what OTHER languages.
- b. * The radio played a song that RINGO wrote, but I don't know who else.
- (ii) a. * Abby DOES want to hire someone who speaks GREEK, but I don't remember what kind of language she DOESN'T.

For sluicing to be licensed, the remnant *wh*-phrase and its correlate must have parallel scope. Hence, the name of the requirement. To illustrate this, observe the following sentence:

- (23) She always reads a book at dinnertime. We can't figure out which one.
(CLM (1995:255), with slight modifications)

In sentence (23), there is an expression corresponding to the *wh*-phrase *which one*, i.e. *a book*. For convenience, in what follows I call this kind of sentence a merger sentence. Generally, the remnant *wh*-phrase takes the widest scope in the sluiced clause. It follows that in the sentence in (23), *which one* takes the widest scope in the clause. The scopal parallelism implies that its correlate has to take the widest scope in the antecedent clause. In fact, sentence (23) must be interpreted as shown in (24a); the interpretation in (24b) is not available for the sentence.

- (24) a. There is a particular book that she always reads at dinnertime, and we can't figure out which book is such that she always reads it at dinnertime.
b. It is always the case that she reads one book or other at dinnertime, and we can't figure out which book is such that she always reads it at dinnertime.

(Romero (1998:62))

Let us shift attention to sprouting sentences. Merchant (2001) observes that they are sensitive to selective islands. Observe the following sentences:

- (25) a. * No nurse was on duty, but we don't know when.
b. When was no nurse on duty?

(Merchant (2001:148))

The sentence in (25a), the antecedent clause of which contains a negative island, is not acceptable. In the light of the fact that the sentence in (25b) is impeccable, the unacceptability of sentence (25a) should be attributed to some problem which occurs

b. * BEN will be mad if Abby talks to Mr. RYBERG, and guess who CHUCK will.
(Merchant (2008:148), with slight modifications)

Sentences (i) involve sluicing and sentences (ii) VP-ellipsis. The four unacceptable sentences illustrates that when there is a focused element which corresponds to the *wh*-remnant phrase in the antecedent clause, sentences display island effects. To the extent that his analysis is on the right track, it follows that the scopal parallelism requirement has broad applicability.

in the antecedent clause. According to Merchant (2001), the problem is that it is impossible for the temporal variable in the antecedent clause to take the widest scope; it takes narrow scope with respect to the negation. More generally, the implicit argument or adjunct in the antecedent clause always takes narrow scope in it. Given that the *wh*-phrase in the sluiced clause always takes the widest scope in it, the sentence in (25a) must be ruled out as a violation of the scopal parallelism requirement.

Quite interestingly, Nakao (2009) extends this analysis to the case of strong islands.⁹ Observe the following sentence:

- (26) * John knows a girl who has eaten (at the restaurant), but I don't know what. (Nakao (2009:71))

There is a complex NP in the antecedent clause of sentence (26), and hence it seems at first glance that this sentence should be ruled out by the Complex NP Constraint. However, Nakao claims that the scopal parallelism requirement is really responsible for the unacceptability of the sentence. As one piece of evidence, she observes that the antecedent clause of sentence (26) only allows the reading given below:

- (27) $\exists x. [\text{girl}(x) \wedge \text{know}(\text{John}, x) \wedge \exists y. [\text{eat}(x, y)]]$ (Nakao (2009:71))

As shown in (27) explicitly, *a girl* takes wide scope over the implicit object of *eaten*. Since the latter does not take the widest scope in the antecedent clause, the sentence in (26) violates the scopal parallelism requirement.

I claim that the analysis based on the scopal parallelism requirement can also account for the unacceptability of the following sentences:

- (28) a. * Sandy was trying to work out which students would speak, but she refused to say to who(m). (cf. (4a))
 b. * Tony sent Mo a picture that he painted, but it's not clear with what. (= (16))

Sentences (28) are sprouting sentences and display island effects. As noted above,

⁹ To be precise, Nakao (2009) argues that the scopal parallelism requirement can capture the clause-boundedness observed in sprouting sentences as well. Observe the following example:

- (i) * She denied that John ate, but I don't know what. (Nakao (2009:72))

The unacceptability of sentence (i) indicates that the long-distance reading is not available to the sprouting sentence. See Nakao (2009) for details.

implicit arguments or adjuncts in the antecedent clause have to take narrow scope in the clause. The scopal parallelism requirement then predicts that in the acceptable sentence, the antecedent clause must not contain another scope-bearing element. It is important to notice that the antecedent clause of each sentence in (28) has a scope-bearing element which should not exist: *which students* in (28a) and *a picture* in (28b). Each takes wide scope over the implicitly bound variable in the antecedent clause, and hence, the scopal parallelism requirement correctly captures the unacceptability of sentences (28), which Iwasaki (2009b) cannot.¹⁰

This analysis can be applied to island effects observed in swiping sentences. Consider the following sentences:

- (29) a. * Sandy was trying to work out which students would speak, but she refused to say who to. (= (18a))
 b. * Bob found a plumber to fix the sink but it's not clear what with. (= (21))

Sentences (29) are instances of the swiping sentence and display island effects as well. The scopal parallelism requirement is also able to rule out them. Because the existence of *which students* in (29a) and *a plumber* in (29b) does not allow the implicitly bound variables to take wide scope in the antecedent clauses, sluicing cannot be licensed in the sentences. Hence, the unacceptability. Recall here that as confirmed in section 2.2, Tanaka's (2009) analysis cannot account for the island-sensitivity observed in the swiping sentence properly. This indicates that the account based on the scopal parallelism requirement is superior to Tanaka's account.

Summarizing section 3, I claimed that the island effect observed in a sprouting sentence and a swiping sentence is attributed to a violation of the scopal parallelism requirement.

¹⁰ The contrast shown below may pose a difficulty to the analysis. Consider the following sentences:

- (i) a. * That Tom will win is likely, but it's not clear which race. (= (4b))
 b. It's likely that Tom will win, but it's not clear which race. (CLM (1995:279))

Sentence (ia) is much the same as sentence (ib), except that there is a sentential subject in the antecedent clause of the former. If we account for the (un)acceptability of the sentences with recourse to the scopal parallelism requirement, it suggests that whereas the implicitly bound variable takes narrow scope in the antecedent clause of sentence (ia), it takes wide scope in that of sentence (ib). However, it is not clear whether the existence or absence of the sentential subject is relevant to the difference. At this moment, it is not possible to examine whether the contrast provides a real argument against the analysis presented so far. I leave this issue open for further research.

4. Implication of the Proposal

In this section, I provide an implication of the proposal developed in the last section and touch on island repair effects observed in merger sentences.

It is widely argued in the literature (cf. Ross (1969), CLM (1995), Merchant (2001, 2008), Fox and Lasnik (2003), to name a few) that island effects can be ameliorated by sluicing. However, though TP-ellipsis is involved in the derivation of sprouting sentences, island effects witnessed in them cannot be repaired. Quite naturally, one is tempted to understand what islands are; we expect that the contrast between the two cases could shed light on the nature of them. At this point, it is noteworthy to recall that the analysis of island effects observed in sprouting sentences presented in section 3 is based on the scopal parallelism requirement. It is responsible for licensing of ellipsis. If a sentence is ruled out by it, the unacceptability of the sentence is attributed to the fact that ellipsis is involved in the derivation of it. It indicates that the sentence cannot be treated as an instance of failure of island repair, because the requirement does not license ellipsis itself. It is hence safe to conclude that to the extent that the analysis in section 3 is on the right track, island effects witnessed in sprouting sentences do not provide us with any information necessary to understand the nature of islands.

Let us here turn our attention to a merger sentence. In contrast to a sprouting sentence, the island violation can be ameliorated by sluicing in a merger sentence. Observe the following sentences:

- (30) a. * Irv and someone were dancing together, but I don't know who Irv
and were dancing together.
b. ?? Irv and someone were dancing together, but I don't know who.
- (31) 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.
b. ? She kissed a man who bit one of my friends, but Tom doesn't
realize which one of my friends.
- (32) a. * That he'll hire someone is possible, but I won't divulge who that
he'll hire is possible.
b. ?? That he'll hire someone is possible, but I won't divulge who.
- (Ross (1969:276-277))

Each sentence in (30-32) is an instance of merger sentences, because the antecedent clause contains an overt correlate to the remnant the *wh*-phrase. The a-sentences in (30-32) are ruled out as a violation of the Coordinate Structure Constraint, the Complex NP Constraint, and the Sentential Subject Constraint, respectively. As

the more acceptable b-sentences show, sluicing repairs the island violations. One might suggest that a merger sentence alternatively serves as a clue for understanding islands, because the sole difference between the a-sentences and the b-sentences lays in the existence or absence of TP-ellipsis. Unfortunately, however, it may be not the case. In order to show this, it is worthwhile to review Boeckx's (2008) analysis of island repair. He claims that sluicing itself cannot alleviate island effects and that a resumptive pronoun in the elided clause, which is licensed by the indefinite correlate to the remnant the *wh*-phrase in the antecedent clause, plays a crucial role in rescuing the violations.¹¹ Consider the following sentences:

- (33) a. Agnes wondered how John managed to cook a certain food, but it's not clear what food [~~Agnes wondered how John managed to cook~~ *pro*].
 b. * Agnes wondered how John managed to cook, but it's not clear what food [~~Agnes wondered how John managed to cook~~].
 (Boeckx (2008:217))

While sentence (33a) is a merger sentence, sentence (33b) is a sprouting sentence. In (33a), the elided clause contains a resumptive pronoun, represented as *pro*, since the indefinite correlate to *what food* exists in the antecedent clause. According to Boeckx, the resumptive pronoun makes the sentence acceptable. His analysis can nicely capture the unacceptability of sentence (33b), for the resumptive pronoun cannot be licensed in the absence of the indefinite correlate in the antecedent clause. Notice here that his analysis implies that ellipsis is simply irrelevant for repairing island violations. It is hence reasonable to state that as well as sprouting sentences, merger sentences also give us no fascinating insight into the nature of islands.

An alternative analysis of a merger sentence is proposed by Kimura (2010). She argues that the remnant the *wh*-phrase is in situ in the case of it. Her proposal can correctly capture the island repair effect, since the *wh*-phrase does not undergo any movement; there is nothing to be repaired. It is obvious that the *wh*-in-situ analysis of merger sentences constitutes another argument for the thesis that sluicing itself provides us with no real insight into the nature of islands.¹²

To sum up, this section shows that contrary to our expectation, it is impossible

¹¹ Sauerland (1996) presents essentially the same analysis as Boeckx (2008).

¹² Needless to say, it is more preferable to generalize the statement so as to include cases of VP-ellipsis. It should be recognized that whereas CLM (1995) observe that VP-ellipsis does not repair island violations, Fox and Lasnik (2003) provide a few pieces of evidence for the opposite conclusion. Because the correct solution of the paradox is not available at present, I leave this issue open for further research.

for us to gain an understanding of what exactly islands are by examining cases of island repair and non-repair under sluicing.

5. Summary

In this article, I reconsidered why island effects are observed in sprouting sentences and proposed, following Nakao (2009), that the unacceptability of them is attributed to a violation of the scopal parallelism requirement. Then, I developed a thesis that both the existence and the absence of island repair under sluicing are unhelpful in identifying the nature of islands.

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