[REVIEW]

The In-Situ Approach to Sluicing

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1. Introduction

Language consists of two aspects, sound and meaning, a very basic fact that has been noted since Aristotle. Consequently, the ultimate goal for linguists has been to figure out how sound and meaning are related. In this respect, the study of ellipsis is of importance because the ordinary sound-meaning relation appears to break down. Some linguists (cf. Ross (1969), Merchant (2001), Fox and Lasnik (2003), and others) claim that ellipsis is merely phonological unrealisation and that under ellipsis, unpronounced parts are interpreted through syntactic structures. Under this view, an elided sentence has the same syntactic structure as its non-elided counterpart. Hence, it is predicted that the former should pattern together with the latter in syntactic respects.

However, this prediction is not always borne out. For instance, it is a well-known fact that an elided sentence involving the clausal ellipsis called Sluicing can be island-insensitive, whereas its non-elided counterpart is island-sensitive. This surprising contrast has been dealt with in terms of “repair by ellipsis” in the literature. The main goal of Abe’s (2015) book, *The In-Situ Approach to Sluicing*, is to argue against the idea of “repair by ellipsis,” according to which violations of conditions like island constraints are nullified by deleting the cause of the violations (p. 1).

This review is organized as follows. Section 2 sketches out the idea of “repair by ellipsis.” Section 3 reviews Abe’s analysis, illustrating how it

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explains some asymmetries without recourse to “repair by ellipsis.” Section 4 points out some problems that Abe’s analysis faces, and suggests possible solutions. Section 5 summarizes the whole discussion.

2. Repair by Ellipsis

“Repair by ellipsis” is originally proposed by Chomsky (1972) to explain the contrast regarding island-(in)sensitivity. Observe (1), which is cited from Merchant (2001).

- (1) They want to hire someone who speaks a Balkan language, but I don’t remember
 a. *which Balkan language they want to hire someone who speaks. : No Ellipsis
 b. which Balkan language. : Sluicing

The non-elided case (1a) is unacceptable due to a violation of the Complex NP Constraint, whereas its sluiced counterpart (1b) is acceptable. Chomsky (1972) claims that island violations can be nullified by deleting the island configuration, analyzing (1b) as (2) (see also Abe p. 2).

- (2) ... which Balkan language_i [_{TP} they want to hire <_{#island} someone who speaks ~~*t_i*~~>]

In (2), the island out of which the *wh*-phrase moves is assigned a #mark. If this #-marked island remains at the end of the derivation, then it induces an island effect. However, TP-ellipsis (Sluicing) deletes the #-marked island, so that the island violation is nullified. Although for reasons of space, this paper cannot review other data explained in terms of “repair by ellipsis,” repair by ellipsis has been widely utilized in accounting for contrasts between sluiced sentences and their non-elided counterparts (as in Fox and Lasnik’s (2003) explanation of Max Elide and van Craenenbroeck’s (2010) explanation of Swiping).

However, I claim that there are sound reasons to cast doubt on “repair by ellipsis.” For instance, Chomsky’s explanation just reviewed causes a violation of the Inclusiveness Condition (3) (Chomsky (1995)) because it introduces a #mark, which is not given in the numeration, during the derivation.

- (3) *The Inclusiveness Condition* (Chomsky (1995: 225))

Outputs consist of nothing beyond properties of items of the lexicon (lexical features)—in other words, the interface levels consist of nothing more than arrangements of lexical features.

Moreover, “repair by ellipsis” is inconsistent with the “Strong Minimalist Thesis,” which says that language is an optimal solution to legibility con-

The elimination of “repair by ellipsis” is the main goal of the in-situ approach pursued in Abe’s book (see p. vii). To do this, he proposes a non-movement analysis of Sluicing, where a *wh*-phrase can stay inside the ellipsis site. As we will see below, such a non-movement analysis can explain some traditional contrasts without recourse to the dubious idea of “repair by ellipsis.”

Previous deletion analyses share the assumption that the remnant *wh*-phrase under Sluicing moves out of the ellipsis site. This assumption is the source of “repair by ellipsis.” However, departing from this assumption and following Kimura (2010, 2011, 2013a, b), Abe (2015) claims that the remnant *wh*-phrase can stay inside the ellipsis site.

(4) a. The head of a chain produced by Move cannot be pronounced unless it has an effect on PF output. (p. 12 (55))
 b. Remnant *wh*-phrases in Sluicing are assigned the feature [Focus]. (p. 17 (33a))
 c. Deletion applies to a given E(llipsis)-site except a phrase carrying [Focus], where an E-site is one that has the label [Delete]. (p. 17 (33b), p. 109 (113))

(5) They want to hire someone who speaks a Balkan language, but I don't remember ...

a. $[_{CP} \langle \text{which Balkan language} \rangle_{[PF] [Focus]} C_Q [_{TPDelete} \text{they want to hire someone who speaks } \langle \text{which Balkan language} \rangle_{[Focus]}]]$
: No Ellipsis

b. $[_{CP} \langle \text{which Balkan language} \rangle_{[Focus]} C_Q [_{TPDelete} \text{they want to hire someone who speaks } \langle \text{which Balkan language} \rangle_{[PF] [Focus]}]]$
: Sluicing

In the non-elided case (5a), *wh*-movement has an effect on PF output in that

the higher copy of the *wh*-phrase in Spec-CP is not adjacent to the lower copy (see p. 64 (64)) as for the definition of a PF effect based on the “adjacency” relation). Hence, the higher copy of *which Balkan language* is pronounced in accordance with (4a). In this sense, *wh*-movement in non-elided cases yields overt displacement. In the Sluicing case (5b), *which Balkan language* is assigned a [Focus] feature based on the assumption (4b), and TP-deletion called Sluicing eliminates all the elements except this focused *wh*-phrase in accordance with (4c). This deletion removes all the overt elements intervening between the higher copy and the lower copy of the *wh*-phrase, so that *wh*-movement has no effect on PF output (in that the higher copy of the *wh*-phrase is adjacent to its lower copy). Then, the lower copy of *which Balkan language* is pronounced in accordance with (4a). This is the gist of Abe’s in-situ analysis.

This analysis straightforwardly explains why the sluiced sentence (5b) is island-insensitive. Following Kimura (2010), Abe claims that island constraints regulate only “overt” movement (p. 14 (26)/p. 25 (62)) and that since no “overt” extraction out of the island takes place in the derivation of (5b), no island effect is observed. Of importance is that since no violation of island constraints is caused in deriving (5b), we need not resort to the dubious idea of “repair by ellipsis.”

Chapter 3 discusses the following contrast between VP-ellipsis and Sluicing, which is first pointed out by Fox and Lasnik (2003).

- (6) They heard a lecture about a Balkan language, ...
- a. *but I don’t know which Balkan language they did [_{VP} hear-a lecture-about]. : VP-Ellipsis
  - b. but I don’t know which Balkan language [_{TP} they heard-a lecture-about]. : Sluicing

Abe explains this contrast in terms of what he dubs “PF-merger.” “PF merger” is a concatenation operation by which a *wh*-phrase like *which Balkan language* in the elided clause and the corresponding correlate like *a Balkan language* in the antecedent clause undergo Merge at PF. Abe’s key assumption on “PF-merger” is that it succeeds only if both the *wh*-phrase and the correlate are pronounced in the same syntactic position (cf. p. 35 (22)). With this assumption, Abe attributes the unacceptability of (6a) to a failure of “PF-merger.” He claims that the *wh*-phrase overtly moves under VP-ellipsis, analyzing (6a) as (7).

- (7) [_{CP} <which Balkan language>[_{PF}][Focus] C_Q [_{TP} they did [_{VP}[Delete] hear-a lecture-about <which Balkan language>[Focus]]]] : VP-Ellipsis

In the case of VP-ellipsis, *wh*-movement has an effect on PF output in that the higher copy of *which Balkan language* is not adjacent to the lower copy even after deletion. Thus, the higher copy in Spec-CP is pronounced in accordance with (4a). Then, the *wh*-phrase *which Balkan language* and its correlate *a Balkan language* are pronounced in different positions; the former is pronounced in Spec-CP, whereas the latter is in the complement position of the preposition. This causes a failure of “PF-merger,” resulting in the unacceptability of (6a). In the case of Sluicing (6b), by contrast, the *wh*-phrase is overtly realized in the same syntactic position as its correlate, as shown in (8).

- (8) [_{CP} <which Balkan language>_[Focus] C_Q [_{TP[Delete]} ~~they heard a lecture about~~ <which Balkan language>_{[PF][Focus]}]] : Sluicing

In this case, *wh*-movement has no effect on PF output as a result of deleting all the overt interveners between the higher copy and the lower copy of the *wh*-phrase. Thus, the lower copy of the *wh*-phrase is overtly realized in accordance with (4a). It follows that both the *wh*-phrase and the correlate are pronounced in the same syntactic position and, as a result, “PF-merger” succeeds. This is how Abe accounts for the contrast between VP-ellipsis and Sluicing in terms of “PF-merger.”

Chapter 4 examines “Topicalized Sluicing” like (9), which contrasts with the prototypical Sluicing like *I know he has a picture of somebody, but I don’t know who/*a picture of whom*.

- (9) He has a picture of somebody, but *a picture of whom* I don’t know. (p. 47 (5))

Abe claims that “Topicalized Sluicing” involves both *wh*-movement and topicalization, analyzing (9) as (10).

- (10) [_{TopP} [_{FocP} <a picture of whom>_[PF]] [_{TP} I don’t know [_{CP} <whom> C_Q [_{TP[Delete]} ~~he has <a picture of whom>~~]]]]

After a copy of *whom* is created in Spec-CP by *wh*-movement, *a picture of whom* undergoes topicalization, which creates a copy of this phrase in Spec-FocP. In this case, the highest copy of *whom* in Spec-FocP is pronounced since it has an effect on PF output in that it is not adjacent to the next lower copy. Abe’s main claim in Chapter 4 is that “Topicalized Sluicing” does involve “overt” movement, in contrast with the prototypical Sluicing. His claim is supported partly by the fact that in contrast with the prototypical Sluicing like (5b), “Topicalized Sluicing” exhibits an island effect, as shown in (11).

- (11) *John met a person who took a picture of somebody, but a picture of whom I don’t know. (p. 48 (11a))

Chapter 5 extends the in-situ analysis to Sluicing in Japanese, which has been analyzed as a reduced cleft (cf. Saito (2004)). Abe claims with Hasegawa (2006) that although some cases of Sluicing are derived from cleft sentences, others can be derived from *wh*-interrogatives (the latter case is dubbed ‘genuine Sluicing’). Abe’s dichotomy is based on what he dubs the “PF Anti-Adjacency Filter,” given in (12), which bans a *wh*-phrase from being adjacent to the overt Q-morpheme *ka* at PF.

- (12) *[_{CP} ... *wh*-phrase Q-morpheme ...]

(p. 81 (43), p. 93 (68), p. 125 (98))

Combined with this filter, Abe’s in-situ analysis leads to the conclusion that “Embedded Sluicing,” exemplified in (13), is never derived from a *wh*-interrogative and cannot be a genuine instance of Sluicing. As Hasegawa (2006) observes, “Embedded Sluicing” requires the obligatory occurrence of the Q-morpheme *ka*, as shown in (13). If the embedded Sluicing (13) has an interrogative structure, then it should violate the “PF Anti-Adjacency Filter,” as shown in (14).

- (13) Hanako-ga nani-*o* kattekita ga boku-wa nani-*o*
 Hanako-Nom something-Acc bought but I-Top what-Acc
 *(*ka*) wakara-nai.
 Q know-not
 ‘Hanako bought something, but I don’t know what.’

- (14) [_{CP} [_{TP} ~~Delete~~] ~~Hanako-ga nani-*o* kattekita~~] *ka*] wakara-nai

Since Japanese lacks overt *wh*-movement, the *wh*-phrase stays in situ. Deletion applies in the same way as in English Sluicing (see (4c)). Then, the resulting representation (14) violates the “PF Anti-Adjacency Filter” because the *wh*-phrase *nani-o* is adjacent to the Q-morpheme *ka*. Excluding the possibility that “Embedded Sluicing” has an interrogative structure, Abe concludes that it is derived from a cleft structure. In contrast, “Matrix Sluicing” can be derived from a *wh*-interrogative without violating the PF Anti-Adjacency Filter, simply because the Q-morpheme never occurs in “Matrix Sluicing.”¹ Thus, Abe claims that instances of “Matrix Sluicing” are derived either from *wh*-interrogatives or from cleft sentences.

¹ Abe claims that “Matrix Sluicing” cannot be accompanied by the Q-morpheme. However, this is not the case. At least, some cases of “Matrix Sluicing” do allow the occurrence of the Q-marker, as shown in (i).

- (i) A: Taro-ga dareka-*o* tataita. B: Honto? dare-*o* desu *ka*?
 Taro-Nom someone-Acc hit really who-Acc Cop Q
 ‘Taro hit someone.’ ‘Really? Who?’

4. Problems and Possible Solutions

(15) Lois was talking, but I won't know who to.
: Sluicing (Swiping) (Merchant (2001))

- Assuming that P is a phase head, Abe argues that the *wh*-phrase moves successive cyclically through Spec-PP in accordance with the Phase Impenetrability Condition, as illustrated in (16). Among the copies created by *wh*-movement, the copy in Spec-PP is overtly realized because it is not adjacent to the next lower copy. Then, it follows that the *wh*-phrase *who* is pronounced in a position preceding *to*. This is how Abe's analysis derives the inverted word order dubbed Swiping. However, this wrongly predicts that the Swiping example in (17) should be island-insensitive and acceptable. Under Abe's analysis, *what* should be pronounced in Spec-PP inside the island, as in (18). Since no island violation occurs, it is unclear why (17) is unacceptable.

- [illegible]

- Besides, the island-sensitivity of the swiping case indicates that one of the higher copies of *what* created outside the island should be pronounced, though it has no effect on PF output. This casts doubt on Abe's crucial

assumption (4a), according to which a higher copy of a moved element is pronounced only if it has an effect on PF output.

Another problem is the validity of the operation “PF-merger,” which is proposed in order to explain the unacceptability of the VP-ellipsis example in (6a), repeated as (19).

- (19) *They heard a lecture about a Balkan language, but I don’t know
which Balkan language they did [_{VP} ~~hear a lecture about~~]

: VP-Ellipsis

- (20) [_{CP} <which Balkan language>[PF][Focus] C_Q [_{TP} they did [_{VP}[Delete]
~~hear a lecture about~~ <which Balkan language>[Focus]]]]

As shown in (20), the copy of the *wh*-phrase in Spec-CP is overtly realized because it has an effect on PF output in that it is not adjacent to the next lower copy. In contrast, the correlate *a Balkan language* in the antecedent clause is pronounced in a lower position. Abe claims that this difference of the overtly realized positions causes a failure of “PF-merger.”

However, the operation “PF-merger” is not independently motivated. Moreover, Abe’s explanation in terms of “PF-merger” faces an empirical problem in accounting for subject Sluicing examples like (21). Suppose that the subject *wh*-phrase is base-generated in Spec-VP in accordance with the VP-internal subject hypothesis; then (21) would be analyzed as (22).

- (21) Someone solved the problem. — Who? : Sluicing

- (22) [_{CP} <who>[Focus] C_Q [_{TP}[Delete] <who>[Focus] T [_{VP} <who>[PF][Focus] ~~solve
the problem~~]]]

Here, the lowest copy of *who* in Spec-VP would be overtly realized under Abe’s analysis, since the higher copies have no effect on PF output. Then, “PF-merger” would not succeed because the *wh*-phrase and its correlate *someone* are pronounced in different positions; the former is overtly realized in Spec-VP, whereas the latter is realized in Spec-TP. Then, it is wrongly predicted that (21) is unacceptable. One possible solution would be to assume that the subject *wh*-phrase moves to Spec-TP for the EPP requirement, analyzing (21) as (23) rather than (22).

- (23) [_{CP} <who>[Focus] C_Q [_{TP}[Delete] <who>[PF][Focus] T [_{VP} <who>[Focus] ~~solve
the problem~~]]]

In this case, “PF-merger” would succeed since the *wh*-phrase is pronounced in the same position as its correlate *someone*. However, to assume that the copy of the *wh*-phrase in Spec-TP is pronounced conflicts with Abe’s assumption (4a), according to which a higher copy of a moved item is overtly realized only if it has an effect on PF output. In (23), the copy of *who* in Spec-TP has no PF effect in that it is adjacent to the next lower

copy. Thus, at least either Abe's mechanism of phonological realization of a moved element (4a) or "PF-merger" is dubious.

Do these problems require us to abandon the in-situ approach and maintain "repair by ellipsis"? My answer is no. The problematic data can be explained under Kimura's (2010, 2011, 2013a, b) in-situ analysis. The remainder of this paper reviews Kimura's proposals for the examples that are problematic to Abe's analysis, as one possible solution.

Kimura's analysis shares some crucial ideas with Abe's (2015) analysis. First, deletion eliminates all the recoverable elements except a focused phrase. Second, the phonological realization of a moved item is regulated by "adjacency." More specifically, the remnant *wh*-phrase can stay in situ under Sluicing by deleting interveners for the adjacency requirement. One slight but significant difference is that Kimura claims that the adjacency relation in question is not between copies of a moved phrase, as proposed by Abe, but between a *wh*-feature and its category, adopting the "Two Chain Movement Theory" put forth originally by Chomsky (1995) and modified by Agbayani (2000). The gist of this theory is as follows. Overt movement consists of feature movement (Move-F) and category movement (Pied-Piping). The former takes place for the feature checking requirement, and in cases of *wh*-movement, the *wh*-feature undergoes feature movement to check an uninterpretable Q-feature in C. The latter applies because "isolated features and other scattered parts of words may not be subject to [PF] rules" (Chomsky (1995: 262–263)). Agbayani (2000) claims that once a moved feature and its category are in an adjacent relation, then they can be interpreted at PF. Adopting Agbayani's mechanism, Kimura proposes an in-situ analysis, analyzing the prototypical Sluicing example (24) as (25).

(24) John ate something, but I don't know what.

- (25) a. $[_{CP} C_{[Q]} [_{TP} \text{John ate what}_{[+wh][focus]}]]$
       b. $[_{CP} [+wh] + C_{[Q]} [_{TP} \text{John ate what}_{[focus]}]]$: Move-F
       c. $[_{CP} [+wh] + C_{[Q]} [_{TP} \text{John ate what}_{[focus]}]]$: Deletion

Just after Move-F applies, the *wh*-feature is not adjacent to its category *what*, as in (25b). However, deletion eliminates *John ate* as in (25c), so that the adjacency relation between the *wh*-feature and its category is obtained without applying category movement of *what*. This is how a *wh*-phrase under Sluicing can stay in situ in English, one of the overt *wh*-fronting languages.

Let us examine the island-sensitivity of swiping, which is problematic to Abe's analysis. Kimura (2011, 2013b) shares the view with Abe (2015) that the remnant *wh*-phrase overtly moves in swiping. Although we will

The analysis does not wrongly rule out (29a) as a failure of “PF merger” because it does not assume “PF merger.” Notice also that the VP-elided

[illegible]

5. Conclusion

The in-situ approach to Sluicing provides a fresh look at the traditional paradigms and novel a clue to the understanding of the relation between sound and meaning. However, its biggest contribution is doing away with “repair by ellipsis.” This notion should be abandoned because the traditional explanations based on it violate general constraints such as the Inclusiveness Condition, and is inconsistent with the Strong Minimalist Thesis.

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