<table>
<thead>
<tr>
<th>Title</th>
<th>Rescue by PF deletion as an epiphenomenon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub Title</td>
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<tr>
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<tr>
<td>Abstract</td>
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<tr>
<td>Notes</td>
<td>論文</td>
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<td>Genre</td>
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Rescue by PF Deletion as an Epiphenomenon

Shigeo Tonoike

要旨

Tonoike (2011b) で施行の派生には Sideward Movementが関わっており,WH移動は適用しておらず, WH要素は元位置に存在しているという説明を提案した。従って新たなデータの考察から, WH移動の関与を認めざるを得ないことを指摘する。しかしMerchant (2001) 等のPF削除による島の制約違反の救済の分析が包含条件違反であり、現在の理論では認められないという論点は維持して、PF削除による救済のように見える現象については、島の制約を含め移動（内部併合）に対する制限に対する可視性の一般条件から帰結することを提案する。

1. Introduction: Tonoike (2011b)

Since the seminal work of Ross (1969), it has been widely assumed that island violations can be rescued by PF deletion (Chomsky (1972), Merchant (2001), Lasnik (2001) and Bošković (2011), to name a few). For concreteness, consider Merchant’s (2001) “rescue by PF deletion” account. First of all (1a) involves violation of an island constraint (Complex NP Constraint) and is ungrammatical, whereas the Sluicing example in (1b) is grammatical, where the string that the WH phrase has crossed has been deleted.

(1) a. *They want to hire someone who speaks a Balkan language, but I don’t remember which Balkan language they want to hire someone who speaks.

b. They want to hire someone who speaks a Balkan language, but I don’t
Merchant (2001) proposes that in the derivation of (1a) a violation marker * is added to a trace when a WH phrase is extracted from within an island such as a relative clause, and that the violation marker remains on all the intermediate trace positions, as shown in (2a). When the relevant TP is deleted as shown in (2b), the traces with a violation marker are also deleted, and the violation is nullified. (Henceforth I will abbreviate Balkan language to BL to save space.)

(2) a. They want to hire someone who speaks a BL, but I don’t remember [\text{CP which (BL) [\text{TP they [* want to [* hire someone [who speaks *]]]]]}]
b. They want to hire someone who speaks a BL, but I don’t remember [\text{CP which (BL) [\text{TP they [* want to [* hire someone [who speaks *]]]]]}]

This is admittedly an ingenious account, but it has serious (and in fact fatal) problems. As noted in Tonoike (2011b), the most serious among them is the violation of the Inclusiveness Condition of Chomsky (1995).

(3) The Inclusiveness Condition

Outputs consist of nothing beyond properties of items of the lexicon. (Chomsky 1995: 225)

The violation marker * is not part of the lexicon and therefore its introduction in the course of the derivation of (2b) is a blatant violation of the Inclusiveness Condition. For this and many other reasons\(^1\), Tonoike (2011b) proposes to deal with the lack of island constraint violation in Sluicing examples like (1a) by deriving it from the underlying two syntactic objects in (3a) and (3b).

\(^1\) Including the lack of conceptual necessity of PF deletion itself, the unnaturalness of PF deletion deleting the violation marking, which is the result of syntactic operation, etc.
(3) a. C [-wh]
   b. \([_{CP} C [+wh] \[_{TP} \text{they want to hire someone who speaks a/which the BL}]\]

(3a) is a non-interrogative complementizer, which is in need of a TP to be merged with it. (3b) contains two operators, \(a\) and \(which\), which bind the definite determiner \(the\), functioning as a variable. In other words, (3b) contains two TPs, one with the existential operator \(a\), and the other with the wh-operator \(which\). The proposal is that given the two syntactic objects (3a) and (3b), the TP in (3b) with \(a\) can undergo Sideward Movement to be merged with (3a), leaving a copy of its meaning behind, giving the two syntactic objects in (4). (4b) contains the copy of the meaning of TP, which does not have a phonetic shape (indicated by the strikthrough) except for the overt wh-operator \(which\) (and possibly \(BL\)).

(4) a. \([_{CP} C [-wh] \[_{TP} \text{they want to hire someone who speaks a the BL}]\]
   b. \([_{CP} C [+wh] \[_{TP} \text{they want to hire someone who speaks which the (BL)}]\]

(4b) can then be merged with \(remember\) etc. to form the second conjunct of (2b), as shown in (5).

(5) \([_{CP} C [-wh] \[_{TP} \text{they want to hire someone who speaks a the BL}]\]
   but I don’t remember \([_{CP} C [+wh] \[_{TP} \text{they want to hire someone who speaks which the (BL)}]\]

See Tonoike (2011b) as well as Tonoike (2003, 2011a) for a proposal that operator-variable constructions hold in-situ within DP between an operator and a(n often invisible) definite determiner.

It is assumed that the definite determiner gets spelled out as null when preceded by a quantifier like the existential quantifier \(a\) and the wh-quantifier \(which\). It is pronounced as \(the\) when it is preceded by \(all\) or \(both\) as in \(all\ the books\) and \(both\ the books\), where \(all/both\) act as a quantifier, \(the\) as a variable and \(books\) as a restriction.
Since only the wh-operator *which* (possibly plus *BL*) is visible, this gives the appearance that WH-movement has applied to it. Since *which* has not been extracted out of the relative clause, no islands have been violated, giving the appearance of “rescue by PF deletion”.

2. Counterexamples
The proposed analysis is attractive because it does not need PF deletion nor LF copying. But unfortunately, we encounter irrefutable counterexamples when we expand our data to include Japanese. But before that there is something that we need to get out of our way. Consider the Japanese counterparts of (1b) in (6). (6a) corresponds to the first conjuncts in (1a, b). (6b-d) are possible continuations of (6a).

(6) a. Karera-wa aru BL-o hanasu dareka-o yatoi-tai-ga
   they-top certain BL-acc speak someone-acc hire-want-but
   “They want to hire someone who speaks a certain BL, but”

b. [dono BL-o hanasu] dareka-o yatoi-tai ka oboete-inai
   which BL-acc speak someone-acc hire-want KA remember-not
   “(Lit.) (I) don’t remember (they) want to hire someone who speaks which BL”

c. [dono BL-o hanasu] dareka-(o) ka oboete-inai
   which BL-acc speak someone (acc) KA remember-not
   “(Lit.) (I) don’t remember someone who speaks which BL”

d. dono BL-(o) ka oboete-inai
   which BL-(acc) KA remember-not
   “(Lit.) (I) don’t remember which BL”

The interesting thing about Japanese is that (6b), which is the Japanese counterpart of (1a), is grammatical. Another interesting thing is that not only is (6d), which is the Japanese counterpart of (1b) (with the complement TP unpronounced), is an acceptable
sluice, but (6c), whose English counterpart is ungrammatical, is also grammatical.

The standard account for the lack of island violation in (6b) is that WH-movement in Japanese is an LF operation and LF operations are immune to islands (Huang (1982), Nishigauchi (1990) among others). However, I have proposed as a universal condition a condition on syntactic movement operation (Internal Merge (IM) in more recent terminology) that says that IM can only see a syntactic objects that carry some overt element (phonetic shape) (Tonoike (2003, 2011a)) and called it the overt syntax hypothesis/condition, given in (7).

(7) Overt Syntax Hypothesis/Condition

Internal Merge must carry some morphological coding (namely its phonetic shape).

If the Overt Syntax Hypothesis is correct, then LF WH-movement must be reformulated. In fact I have proposed in a series of works that WH-movement in Japanese is not a covert movement of *dono BL*, an indeterminate in Kuroda’s (1965) sense, but the movement of the so-called question particle *ka* from the position associated with the indeterminate to the relevant SpecCP (Tonoike (1995, 2000, 2015, etc.) as shown in (8), where *t* indicates the position of the launching sites of the particle *ka*. (See also Hagstrom (1999) for a similar analysis.) (RC stands for Relative Clause.)

(8) a. *[dono BL-o-t hanasu\(_{\text{RC}}\) ] dareka-o yatoi-tai-\(ka\) oboete-inai
   which BL-acc speak someone-acc hire-want-KA remember-not
   “(Lit. (I) don’t remember which BL they want to hire someone who speaks”

b. 

   “(Lit.) (I) don’t remember they want to hire someone who speaks which Balkan language”
(8a) is an island violation because the particle *ka* has been extracted from within the relative clause. But the phonetically identical string in (8b) is grammatical because in this case the particle *ka* originated not within the relative clause but with the relativized DP (in fact in SpecDP). This gives the appearance that Japanese WH-movement (namely the movement of the particle *ka*) can violate islands. *(6c) poses an interesting question. Has the particle *ka* moved to SpecCP (which is assumed to be clause final) with the intervening string *yatoi tai* “(they) want to hire” deleted at PF, or has it remained in situ attached to the relativized DP with the following string *yatoi tai* “(they) want to hire” deleted at PF? The same is true of (6d). Here the particle *ka* can be regarded as having undergone movement or as remaining attached to the relativized DP. Whichever the case may be, the fact that Japanese allows two sluices needs to be accounted for. As far as these two cases are concerned, the in-situ account proposed in Tonoike (2011b) still holds: the particle *ka* can be attached to the small indeterminate phrase *dono BL-*(o)* in (6c), and to the larger indeterminate phrase, namely the relativized DP *dono BL o hanasu dareka-*(o)*. The only thing that is required is to
assume that Japanese requires that the particle *ka* be attached to a position that 
c-commands the associated indeterminate. In this case, that gives two options, (6c) 
and (6d).

However, there are cases that clearly show that the particle *ka* has moved to the 
relevant SpecCP position. Consider the following cases.

(9) a. [dono BL-o hanasu\textsubscript{rc}] dareka-(o) datta ka oboete-inai

   which BL-acc speak someone (acc) was KA remember-not
   “(Lit.) (I) don’t remember someone who speaks which BL it was”

b. dono BL-(o) datta *ka* oboete-inai

   which BL -(acc) was KA remember-not
   “(Lit.) (I) don’t remember which BL (it) was”

These examples correspond to (8c, d), and can be derived from them by adding *datta*
“was”, but simple addition of *datta* “was” after the particle *ka* will result in 
ungramamtical order as shown in (10) below.\footnote{Replacing *datta* “was” by *da* “is” does not change the grammatical status though *datta* sounds a bit more appropriate.}

(10) a. *[dono BL-o hanasu\textsubscript{rc}] dareka-(o) *ka* datta oboete-inai

   which BL-acc speak someone (acc) KA was remember-not
   “(Lit.) (I) don’t remember someone who speaks which BL it was”

b. *dono BL-(o) *ka* datta oboete-inai

   which BL -(acc) KA was remember-not
   “(Lit.) (I) don’t remember which BL (it) was”

The contrast between (9) and (10) irrefutably shows that the partcle *ka* has to move to 
the right to SpecCP of the complement clause. Under the analysis in which movement 
of the particle *ka* is treated as the Japanese counterpart of WH-movement in English,
this means that WH-movement is obligatory in these cases. Once we know that there are Sluicing cases in which WH-movement is obligatory, there is no point in partially retaining the wh-in-situ analysis of Tonoike (2011b).

English examples comparable to Japanese (9b) are as shown in (11).

(11) a. *but I don’t remember it is which (BL) that they want to hire someone who speaks
   b. *but I don’t remember it is which (BL)
   c. *but I don’t remember which (BL) it is that they want to hire someone who speaks
   d. but I don’t remember which (BL) it is

Only (11d) is grammatical, where the that clause is deleted and which (BL) has undergone WH-movement to the embedded SpecCP. This can only mean that Sluicing (with or without clefting) involves WH-movement. If Sluicing involves wh-in-situ as Tonoike (2011b) claims, then (11b) is wrongly predicted to be grammatical. Thus it must be admitted that Sluicing does involve WH-movement.

At this point we find ourselves in a serious dilemma. On the one hand, the fact in (9) (10) and (11) forces us to abandon the in-situ analysis of Tonoike (2011b). But on the other hand, the fact remains that the Rescue by PF Deletion analysis of Merchant (2001) and others runs afoul of the Inclusiveness Condition and is infested with undesirable properties like the dubious fact that phonetic operation affects syntactic properties. Is there a way to eliminate the Rescue by PF Deletion approach and still capture the Rescue by PF Deletion effects?

3. Visibility Condition on Syntactic Operations and Constraints

I would like to propose that the answer to the question at the end of the preceding section is “yes.” The fact that island violations appear to be rescued by PF deletion operation can be captured by adopting the visibility condition on syntactic constraints
as stated below.

(12) Visibility Condition on Syntactic Constraints

Syntactic Constraints block movement over them if and only if they have a phonetic shape, and hence visible (to the syntactic operation making the movement, namely IM).

Consider the stage (4) of the derivation of (1b), repeated below, under the Sideway Movement analysis of Tonoike (2001b).

(4)  a. \[CP [CP [-wh] \[TP \text{they want to hire someone who speaks a the BL}]\]]

b. \[CP [CP [+wh] \[TP \text{they want to hire someone who speaks which the (BL)}]\]]

(4b) is the relevant structure, where the strikethrough indicates that the string has no phonetic shape and that it has only the semantic contents. Application of WH-movement to \textit{which the (BL)} does not cross any phonetically visible string, hence causes no island violation, and can give (13) as a convergent output. (The launching site is indicated by a trace, but it is for expository purposes and has no theoretical status.)

(13) \[CP \text{which (BL)} [CP [+wh] \[TP \text{they want to hire someone who speaks t}]]\]]

The situation is the same in Japanese as illustrated below. (14a, b) are the structures underlying (8c, d), respectively.

(14)  a. \[\{[\text{dono BL-acc speak]} \{\text{someone (acc) KA want to hire} \{\text{remember-not}\} \] C CP \} oboete-inai\]

b. \[\{[\text{dono BL-o hanasu RC} \{\text{dareka- (o) ka yatoi-tai TP} C CP \} oboete-inai\]

“(Lit.) (I) don’t remember someone who speaks which BL”
In (14a), since extraction of the particle *ka* to SpecCP does not cross any overt island, the result is a well-formed representation in (15a). In (14b), the particle *ka* is within a relative clause, but its extraction by WH-movement to SpecCP is licit because the intervening string is phonetically empty. That is, though the movement crosses a relative clause, it is not visible to the island constraint because the relative clause has no phonetic shape. The result again is grammatical as shown in (15b).


   which BL-acc speak someone (acc) want-to-hire KA remember-not

   “(Lit.) (I) don’t remember they want to hire someone who speaks which BL”

   b. [[[dono BL-(o) t  hanasu] dareka  (o) yatoi-tai] C ka] oboete-inai

   which BL -(acc) speak someone-acc want-to-hire KA remember-not

   “(Lit.) (I) don’t remember they want to hire someone who speaks which BL”

Now let’s go back to (9a, b) with *datta* “was”. The exact structures that underlie (9a, b) are not clear, but suffice it to say that they involve at least something like (16a, b).

6 One possibility of dealing with cleft sentences like (ia, b) would be to assume that they are derived from (iia, b) by “Topicalizing” the unfocused part of the CP, leaving the focused (underscored) part behind.

(i) a. [[[hanasu] dareka-(o) yatoi-tai] no] datta

   speak someone (acc) want to hire C-top this BL-(acc) was

   “(Lit.) (It) was this BL that (they) want to hire someone who speaks”

b. [[[yatoi-tai] no] wa [[[kono BL-(o) hanasu] dareka (o) datta

   want-to-hire this BL -(acc) speak someone-acc KA remember-not

   “(Lit.) (It) was someone who speaks this BL that (they) want to hire

(ii) a. [kono BL-o hanasu] dareka-(o) yatoi-tai no datta

   this BL-acc speak someone (acc) want to hirer C was

   “(Lit.) (It) was that (they) want to hire someone who speaks this BL”
(16) a. [[[dono BL-o hanasu \(_{RC}\) dareka-(o)-\(ka\) yatoi-tai\(_{TP}\) no \(-\_\_\_\) wa datta (no)]]

which BL-acc speak someone-(acc)-KA want-to-hire C top was C

“(Lit.) (It) was someone who speaks which BL that they want to hire”

b. [[[dono BL-(o)-\(ka\) hanasu \(_{RC}\) dareka (o) yatoi-tai\(_{TP}\) no \(-\_\_\_\) wa datta (no)]]

which BL -(acc) KA speak someone-acc want-to-hire C top was C

“(Lit.) (It) was someone who speaks which BL that they want to hire”

In (16a) WH-movement of the question particle \(ka\) to the matrix SpecCP will give (17a). This does not violate Complex NP Constraint because the particle originates outside the relative clause. In (16b), WH-movement of the question particle \(ka\) to the matrix SpecCP does not violate Complex NP Constraint, because, though it is extracted from the relative clause, the relative clause part does not have a phonetic shape as indicated by the strikethrough.

(17) a. [[[dono BL-o hanasu \(_{RC}\) dareka-(o)-t yatoi-tai\(_{TP}\) no \(-\_\_\_\) wa datta (no) \(ka\)]]

which BL-acc speak someone-(acc) want-to-hire C top was C

“(Lit.) (It) was someone who speaks which BL that they want to hire”

b. [[[dono BL-(o)-t hanasu \(_{RC}\) dareka (o) yatoi-tai\(_{TP}\) no \(-\_\_\_\) wa datta (no) \(ka\)]]

which BL -(acc) speak someone-acc want-to-hire C top was C KA

b. [kono BL-(o) hanasu \(_{RC}\) dareka (o) yatoi-tai\(_{TP}\) no \(-\_\_\_\) datta]
this BL-(acc) speak someone-acc want-to-hire C was

“(Lit.) (It) was that they want to hire someone who speaks this BL”

Another possibility would be to derive (ia, b) from (iiia, b) by moving the focused element rightward to the complement positions of the copula verb.

(iii) a. [kono BL-o hanasu \(_{RC}\) dareka-(o) yatoi-tai\(_{TP}\) no \(-\_\_\_\)-(wa) ___ datta]
this BL-acc speak someone (acc) want to hire C top ___ was

“(Lit.) (It) was that (they) want to hire someone who speaks this BL”

b. [kono BL-(o) hanasu \(_{RC}\) dareka (o) yatoi-tai\(_{TP}\) no \(-\_\_\_\)-(wa) ___ datta]
this BL-(acc) speak someone-acc want-to-hire C ___ was

“(Lit.) (It) was that they want to hire someone who speaks this BL”

I will leave open the choice between these and other possibilities.
“(Lit.) (It) was someone who speaks which \textit{BL} that they want to hire”

The derivation of (11d) does not violate Complex NP Constraint, either, under the proposed visibility condition. The underlying structure of the embedded WH-question will look like (18a). WH-movement of \textit{which (BL)} to the higher SpecCP extracts it from within the relative clause but does not violate Complex NP Constraint because the relative clause part has no phonetic shape as indicated by the strike-through.

(18) a. $[\text{CP} \ C \ [\text{TP} \text{ it is that they want to hire someone who speaks which (BL)]]}$

\hspace{1cm} b. $[\text{CP which (BL) C} \ [\text{TP it is that they want to hire someone who speaks}_t\text{]}]$

Thus, though the in-situ \textit{wh}-question part of Tonoike’s (2011b) account of Sluicing has proved to be untenable, its rejection of Rescue by PF Deletion of Merchant (2001) and others has been shown to hold if it is supplemented by the Visibility Condition on Syntactic Constraints in (12).

4. Generalized Overt Syntax Hypothesis/Condition

The introduction of the Visibility Condition might appear to some to be nothing more than a desperate attempt to salvage the failing part of the Sideward Movement analysis of Tonoike (2011b) because it is simply the reverse of the Rescue by PF Deletion account. However, reformulation of islands by the introduction of the Visibility Condition makes a prediction distinct from that of the Rescue by PF Deletion approach. The PF deletion account predicts that amelioration takes place only as a result of deletion in the PF component of the relevant structure, and that amelioration will not take place if no PF deletion is involved. The proposed account by the Visibility Condition, on the other hand, predicts that islands are not violated unless they are phonetically overt (i.e., visible). The predictions of the two accounts are almost identical except in cases involving discourse. Consider the following situation.
(19) Speaker A: They want to hire someone who speaks a Balkan language.
    Speaker B: Really? I wonder which Balkan language.

In this situation, there is no evidence to claim that Speaker B’s utterance has undergone PF deletion of the string *they want to hire someone who speaks*. It is far more natural to assume that upon successfully processing Speaker A’s utterance, the relevant LF representation given in (20a) has arisen in the mind/brain of Speaker B. Here I am using {} to indicate an LF representation without a phonetic shape. Speaker B can then take this LF representation and replace {}a Balkan language by *which Balkan language* with both its LF representation and phonetic shape, giving (20b). Speaker B can then merge (20b) with C [+wh], giving (20c) and apply WH-movement to *which Balkan language*, giving (20d).

(20) a. {}they want to hire someone who speaks a Balkan language
    b. {}they want to hire someone who speaks} which Balkan language
    c. [C[+wh] {}they want to hire someone who speaks} which Balkan language]
    d. [which BL C[+wh] {}they want to hire someone who speaks t}]

Speaker B can then take (20d) to form “I wonder which Balkan language.” In this derivation WH-movement of *which Balkan language* has not crossed any overt island, and hence has not incurred any island violation and is correctly predicted to be well-formed. Compare this to what the Rescue by PF Deletion account predicts. Since no PF deletion has taken place (20d) has violated Complex NP Constraint and the violation cannot be nullified by deleting the violation marking(s) on it, making the wrong prediction that Speaker B’s utterance is ungrammatical.7

Furthermore, the Visibility Condition takes on a whole new meaning when it is considered in conjunction with the Overt Syntax Hypothesis (7) that underlies the

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7 See Tonoike (2018) for a proposal about how to deal with LF representations from preceding utterance in discourse, where I suggested to use the notion “discourse registry.”
proposal of Tonoike (2011b) as its subtitle “A Step Toward Eliminating PF Deletion and LF Copying” indicates. The Overt Syntax Hypothesis imposes a restriction on movement (Internal Merge) that it can see only an element with a(n associated) phonetic shape. The Visibility Condition imposes a restriction on elements that block movement (IM): that it have a phonetic shape and hence visible to IM. The two can be combined to form a Generalized Overt Syntax Hypothesis/Condition.

(20) Generalized Overt Syntax Hypothesis/Condition

Elements that undergo Internal Merge as well as configurations that block Internal Merge must be overt in the sense that they have some phonetic shape.

The generalized hypothesis now eliminates all invisible element from the operation of Internal Merge. By doing so, it restricts what can be moved, requiring it to have some phonetic shape, while it relaxes island constraints making them violable when they lack a phonetic shape.

If this is correct, then what it means is that Rescue by PF Deletion is an epiphenomenon and that it is indeed possible to eliminate both PF deletion and LF copying, as the subtitle of Tonoike (2011b) suggests.

References


