On Clausal Ellipsis in Japanese*

Masanori Nakamura

1. Introduction

There have been controversies over how "sluicing" (Ross 1969) in Japanese, shown in (1), is derived.[1]

(1)   Ken-ga   dareka-ni   atta rasii   kedo,
      Ken-NOM someone-DAT   met I.hear but
      'I hear Ken met someone, but ...'
      boku-wa dare-ni   (da)   ka   siranai.
      I-TOP   who-DAT COP   Q   know.NEG
      'I don't know who.'

Takahashi (1994) argues that sluicing in Japanese involves *wh*-movement just like its English counterpart (see Merchant 2001 for extensive discussion). His analysis, however, has been criticized by a number of authors, who advocate analyses whereby sluicing in Japanese derives from clefts (see, for example, Hoji 1990 for discussion of cleft constructions in Japanese). Consider the pair in (2).

(2)   a. Ken-ga   Mari-ni   atta.
         Ken-NOM Mari-DAT   met
         'Ken met Mari.'

b. Ken-ga   atta no   wa   Mari-ni da.
   Ken-NOM met NMLZ TOP   Mari-DAT COP
   'It is Mari that Ken met.'

(2a) and (2b) are propositionally similar, but the latter is the cleft version of the former. Thus in (2b) the focused phrase *Mari-ni* 'Mari-DAT' appears right before the copula *da*, and the rest of the sentential constituent *Ken-ga atta* 'Ken-NOM met' in (2a) is nominalized, to which the topic-marker *wa* attaches.[2]

Kuwabara (1996), Nishiyama *et al.* (1996), Kizu (2005), and, recently, Hiraiwa and Ishihara (2012) all argue for the view that sluicing is based on clefting in Japanese, though the details of their analyses differ. According this family of analyses, the relevant portion of (1) involves the following derivation:[3]

(3)   boku-wa [Ken-ga   atta no   wa] dare-ni   (da) ka siranai
       I-TOP   Ken-NOM met NMLZ TOP who-DAT COP Q know.NEG
       ' I don't know who (Ken met).'

One can obtain the sluicing in (1) by eliding the topicalized sentential constituent, as in (3). Let us refer to this kind of analysis as "the cleft analysis."

The main purpose of this paper is to show contra the authors mentioned in the preceding paragraph that clausal ellipsis (including sluicing and stripping (see below)) in Japanese does not involve clefts. I will argue for "the focus movement analysis" of the kind proposed by Hiraiwa and Ishihara (2002), whereby the focused phrase moves to Spec of Focus Phrase (Rizzi 1997) and the complement of the Focus head undergoes phonological deletion (see also Kim 1997).

The organization of this paper is as follows. Section 2 briefly touches upon Fukaya and Hoji's (1999) claim, adopted here, that sluicing is only a species of stripping (see Hankamer 1971, Hoji 1990) in Japanese. Section 3 summarizes Hiraiwa and Ishihara's (2012) recent analysis of sluicing as

ellipsis of topicalized sentential constituents in clefts. Section 4 presents data that pose serious problems for the cleft analysis. Section 5 dispels the possible concern that advocates of the cleft analysis might raise about the validity of the counterargument in Section 4. Specifically, it will be shown that the superficial amelioration effects observed in the problematic data are not due to "repair by ellipsis" in the sense of Lasnik (2001, 2007). Section 6 explains how the focus movement analysis deals with the examples the cleft analysis fails to handle. Section 7 makes concluding remarks on the discussion here and some theoretical implications.

2. Sluicing as Stripping

Before proceeding to a critical examination of the cleft analysis, let us keep in mind that in Japanese, sluicing is only a species of stripping (Hoji 1990 following Hankamer 1971), as Fukaya and Hoji (1999) propose. An example of stripping is given in (4).

(4) A: Ken-ga   Mari-ni   atta rasii   yo.
         Ken-NOM Mari-DAT met I.hear PRT
         'I hear Ken met Mari.'
     B: Boku-wa Yuki-ni   (da) to omotteita.
         I-TOP   Yuki-DAT COP C   thought
         'I thought (it was) Yuki (that Ken met).'

In reaction to the statement made by the A person, the B person highlights the difference in opinion on who Ken actually met by replacing *Mari* with *Yuki*. The parallel between (1) and (4) is straightforward: the only relevant difference between sluicing and stripping is that a *wh*-phrase (*dare* in the case of (1)) is focused in the former, whereas a non-wh-phrase (*Yuki* in the case of (4)) is in the latter. Since a sluiced clause is an interrogative one, it obligatorily contains the Q-marker *ka*. On the other hand, a stripped clause is a declarative one, requiring a complementizer other than *ka* (for example, *to* in (4)). In both types of ellipsis, the elements shared by the antecedent

clause get deleted and the copular *da* following the focused remnant is optional (see Fukaya and Hoji 1999 for other similarities between sluicing and stripping).[4]

In short, sluicing is only a variant of stripping in Japanese. This fact will turn out to be crucial in rebutting the cleft analysis, because stripping, which does not include *wh*-remnants, provides us with more empirical testing grounds than sluicing.

3. Sluicing as Clefting

As mentioned earlier, there has been a series of analyses of sluicing in Japanese that make use of clefting (see Kuwabara 1996, Nishiyama *et al.* 1996, Kizu 2005, and Hiraiwa and Ishihara 2012 among others). Here let us consider Hiraiwa and Ishihara's (2012) recent analysis, which overcomes various problems with its competing analyses (see Hiraiwa and Ishihara 2012:159-163 for details).

According to their theory (as well as their previous one (Hiraiwa and Ishihara 2002)), sluicing is derived from the so-called in-situ focus construction (Kuno 1973). Observe the following examples.
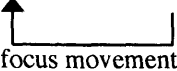
(5) a. Ken-ga   Mari-ni   atta.
         Ken-NOM Mari-DAT met
         'Ken met Mari.'
     b. Ken-ga   MARI-ni atta no   da.
         Ken-NOM Mari-DAT met NMLZ COP
         'Ken met MARI.'

(5b) is an example of the construction, where the nominalizer *no* and the copula *da* have been added to the end of (5a). In the in-situ focus construction, any elements bearing a phonological stress are taken to be in focus/contrast. In (5b) *MARI* in capital letters is singled out as a focus in situ (notice that the position of the dative phrase in (5b) is the same as that in (5a)).
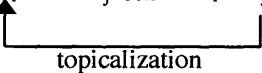
Hiraiwa and Ishihara posit (6) as the underlying structure of the sluice in (1).

(6) boku-wa [Ken-ga   dare-ni   atta no   da   ka] siranai
     I-TOP   Ken-NOM who-DAT met NMLZ COP Q   know.NEG

Above, *dare* 'who' occupies its base position. Hiraiwa and Ishihra argue that (6) undergoes what they call "syntactic metamorphosis" to yield (1). First, the *wh*-phrase moves to Spec of Foc(us)P(hrase) (Rizzi 1997) whose head is the copula *da*, resulting in the following representation:

(7) boku-wa [[$_{FocP}$ dare$_i$-ni [Ken-ga t_i atta no] da] ka] siranai

    focus movement

Then the nominalized clause headed by *no* undergoes syntactic topicalization into Spec of Top(ic)P(hrase) above FocP to yield (8).

(8) boku-wa [$_{TopP}$ [Ken-ga t_i atta no]$_j$ [$_{FocP}$ dare$_i$-ni t_j da] ka]] siranai

    topicalization

This is exactly how Hiraiwa and Ishihara derive the cleft construction in (3), where the topicalized constituent is marked with the topic-marker *wa*. Finally, the topicalized clause undergoes ellipsis, as in (9).

(9) boku-wa [$_{TopP}$ ~~[Ken-ga t_i atta no]~~$_j$ [$_{FocP}$ dare$_i$-ni t_j da] ka]] siranai
                          ellipsis

Through ellipsis, (9) attains the surface string found in the sluiced sentence in (1).

In brief, Hiraiwa and Ishihara's (2012) theory of sluicing (and stripping) in Japanese involves two instances of syntactic movement, that is,

focus movement and topicalization. The former applies to in-situ focus constructions and the latter applies to the output of the former, followed by ellipsis of topicalized phrases.

4. Counterevidence

The cleft analysis makes clear, empirically testable predictions regarding the correlations between clefting and sluicing. Consider the following table, which exhausts the four possible combinations of grammaticality judgments on the two constructions in question:

(10)

	A	B	C	D
Clefting	OK	*	OK	*
Sluicing	OK	*	*	OK

The cases A and B are uninteresting. Under Hiraiwa and Ishihara's (2012) analysis, they are just what is expected: when the underlying cleft construction is OK, its sluicing counterpart is also OK, and when the former is bad, the latter is also bad with no well-formed input in the first place. Things get more interesting when we take into consideration the C and D possibilities where we find opposite judgments. In the case C, the underlying cleft is grammatical, but its sluicing equivalent is ruled out. Informative as it may seem, this case would be difficult to serve as solid evidence against the cleft analysis, simply because ellipsis is known to be subject to various kinds of constraints (see Lobeck 1995, Merchant 2001 among numerous others for licensing conditions on ellipsis) and the ungrammaticality in question may be for an independent reason having to do with ellipsis. This brings us to the final case D, where clefting is illegitimate, but its sluicing counterpart is legitimate. Obviously, this pattern is not expected under the cleft analysis, whereby sluicing derives from its

base cleft construction.[5]

Hiraiwa and Ishihara (2012) seem to be aware of the problematic pattern in (10) and suggest (at least tacitly) that the case D does not exist. In other words, they contend that whenever the source cleft is ill-formed, no sluicing can be derived from it (the case B). Their relevant examples involve NPs with focus particles such as *sura/sae* 'even.' Observe the following triplet adapted from Hiraiwa and Ishihara 2012:169:

(11) a. Naoya-wa Mari-ni-sura/sae denwasita.
         Naoya-TOP Mari-DAT-even   called
         'Naoya even called Mari.'
     b. Naoya-wa MARI-ni-sura/sae denwasita no   da.
         Naoya-TOP Mari-DAT-even   called   NMLZ COP
         'Naoya even called MARI.'
     c. *Naoya-ga   denwasita no   wa Mari-ni-sura/sae da.
         Naoya-NOM called   NMLZ TOP Mari-DAT-even   COP
         ('It was even Mari that Naoya called.)

(11a) is the baseline example where the dative NP is marked with one of the intensifying particles. (11b) shows that the NP in question can appear in the in-situ focus construction. Interestingly, however, the same NP cannot appear in the focus position of the cleft construction, as shown in (11c).

Given the ungrammaticality of (11c), the cleft analysis predicts that the *sura/sae*-marked *wh*-phrase is incompatible with sluicing. Hiraiwa and Ishihara (2012:169) argue that the prediction is borne out, citing the following example (their (54a,b)):

(12) a *Naoya-ga   denwasita no   wa dare-ni-sura/sae desu ka?
        Naoya-NOM called   NMLZ TOP who-DAT-even   COP Q
        ('Even who is it that Naoya called?)

b. *Naoya-wa dareka igaina hito-ni denwasita rasii
   Naoya-TOP someone unexpected person-DAT called I.hear
   kedo, dare-ni-sura/sae ka siranai.
   but who-DAT-even Q know.NEG
   ('Naoya called someone unexpected, but I don't know even who.')

(12a), where *Mari* in (11c) has been replaced by *dare* 'who' and, accordingly, the sentence-final Q-marker *ka* has been added, is ill-formed, just as expected. Hiraiwa and Ishihara claim that (12b), whose second conjunct derives from (12a) under their analysis, is predictably ill-formed, providing support for the analysis.

   In addition to (12b), Hiraiwa and Ishihra offer another argument for their theory based on stripping (recall sluicing constitutes part of the larger phenomenon stripping; see section 2). They point out that negative polarity items (NPIs) cannot occupy the focus position in clefting. Observe the following triplet (based on Hiraiwa and Ishihara 2012:171):

(13) a. Naoya-wa dare-ni-mo denwasinakatta.
        Naoya-TOP who-DAT-also called.NEG
        'Naoya didn't call anyone.'
     b. Naoya-wa DARE-ni-mo denwasinakatta no da.
        Naoya-TOP who-DAT-also called.NEG NMLZ COP
        'Naoya didn't call ANYONE.'
     c. *Naoya-ga denwasinakatta no wa dare-ni-mo da.
        Naoya-NOM called.NEG NMLZ TOP who-DAT-also COP
        ('It was even Mari that Naoya called.)

One can see the same pattern in (11) repeated in (13). As shown in (13a), the NPI here is *dare-ni-mo* 'to anyone,' which requires the presence of the negative form of the verb *denwasinakatta* 'didn't call.' The NPI can appear in the in-situ focus construction, as in (13b), but cannot be clefted, as in (13c).

   Given (13c), the cleft analysis predicts that NPIs cannot be a remnant

of stripping. Hiraiwa and Ishihara (2012:171) give the following example (their (61)) in support of the analysis:

(14) *Naoya-wa kekkyoku yoteisiteita nan-nin-ka-ni denwasinakatta
    Naoya-TOP after.all planned what-CL-Q-DAT called.NEG
    rasii kedo, boku-wa dare-ni-mo da to omou.
    I.hear but I-TOP who-DAT-also COP C think
    'Although I hear that Naoya did not call some of the people that he was supposed to call after all, I think that he didn't call anyone.'[6]

(14) contains the NPI *dare-ni-mo* as the remnant of stripping and is expectedly ungrammatical.

    Now I argue that the examples in (12b) and (14) are deviant for reasons having nothing to do with their alleged source clefts in (12a) and (13c), respectively. Consider (12b) first. I maintain that the example sounds awkward because the antecedent clause is not parallel enough to license the ellipsis that follows. It is well known that ellipsis is subject to certain parallelism constraints. Some have argued that the relevant constraints are (in part) semantic (Fox 2000 among others), while others have suggested that they are syntactic (Merchant 2008a, Tanaka 2011 among others). Putting irrelevant details aside, the point is that if we carefully control factors associated with parallelism, we can in fact construct well-formed examples of sluicing in which *wh*-remnants are marked with *sura* or *sae*. Observe (15), which is completely grammatical.

(15) Naoya-ga dareka-ni-sura/sae denwasita rasii kedo,
    Naoya-NOM someone-DAT-even called I.hear but
    'I hear Naoya called even someone, but ...'
    boku-wa dare-ni-sura/sae (da) ka siranai.
    I-TOP who-DAT-even COP Q know.NEG
    'I don't know even who (Naoya called).'

(15) differs from (12b) in that its antecedent clause is fully parallel to the

sluiced clause, with the particle *sura* or *sae* attached to both the antecedent *dareka-ni* 'someone-DAT' and the remnant *dare-ni* 'who-DAT.' The grammaticality of examples like (15) indicates clearly that the ungrammaticality of (12b) has nothing to do with the *wh*-remnant bearing the focus particle, thereby nullifying Hiraiwa and Ishihara's argument. As a matter of fact, (15) counts as strong evidence against their analysis for the above-mentioned reason: cleftability is certainly not a prerequisite for sluicing.

A similar set of facts can be found with other particles such as *koso*, which emphasizes the phrase it attaches to. Observe the following paradigm that mimics (11).

(16) a. Naoya-ga   Mari-ni-koso   aubeki   da.
         Naoya-NOM   Mari-DAT-EMPH   should.meet   COP
         'Naoya should meet (nobody else but) Mari.'
     b. Naoya-ga   MARI-ni-koso   aubeki   na   no   da.
         Naoya-NOM   Mari-DAT-EMPH   should.meet   COP NMLZ COP
         'Naoya should meet MARI.'
     c. *Naoya-ga   aubeki   na   no   wa   Mari-ni-koso   da.
         Naoya-NOM   should.meet COP NMLZ TOP Mari-DAT-EMPH   COP
         ('It was even Mari that Naoya called.)

As (16c) shows, the *koso*-marked NP cannot be clefted. In spite of this, it can readily be a remnant of stripping.

(17) A: Naoya-ga   Yuki-ni-koso   aubeki   da.
         Naoya-NOM   Yuki-DAT-EMPH   should.meet   COP
         'Naoya should meet (nobody else but) Yuki.'
     B: Boku-wa   Mari-ni-koso   (da) to   omotteita.
         I-TOP   Mari-DAT-EMPH   COP C   thought
         'I thought (it is) Mari (that Naoya should meet).'

The cleft analysis cannot handle (17).

Turning now to the stripping case involving a NPI in (14), once again, its ill-formedness seems to stem from the lack of parallelism, syntactic, semantic or otherwise. This suggestion receives support from examples like the following:

(18) A: Naoya-ga   dareka-ni   denwasinakatta rasii.
         Naoya-NOM someone-DAT called.NEG   I.hear
         'I hear Naoya didn't call someone.'
     B: Boku-wa dare-ni-mo   (da) to   omou.
         I-TOP   who-DAT-also COP C   think
         Lit. 'I think that it is anyone (that he didn't call).'

In the above example, care is taken to make the antecedent sentence and the sluiced one fully parallel, and the result is the complete grammaticality. The NPI *dare-ni-mo* can be a remnant of clausal ellipsis after all. This fact is of course problematic for the analysis put forth by Hiraiwa and Ishihara (2012).

One can build the same kind of argument against the cleft analysis on the basis of another NPI *sika* 'only' (see Tanaka 1997 for discussion). Observe the following examples:

(19) a.   Ken-ga   Mari-ni-sika   denwasinakatta.
           Ken-NOM Mari-DAT-only called.NEG
           'Ken called only Mari.'
     b.   Ken-ga   MARI-ni-sika denwasinakatta no   da.
           Ken-NOM Mari-DAT-only called.NEG   NMLZ COP
           'Ken called only MARI.'
     c. *Ken-ga   denwasinakatta no wa Mari-ni-sika   da.
           Ken-NOM called.NEG   C   TOP Mari-DAT-only COP
           (Lit. 'It is only Mari that Ken called.')

As the above paradigm similar to (13) shows, the *sika*-marked NP cannot be the focus of the cleft construction ((19c)), though it can be focused in situ

((19b)). The following example demonstrates that the *sika*-marked NP qualifies as a legitimate remnant in stripping, contrary to the prediction made by the cleft analysis:

(20) A: Ken-ga   Mari-ni-sika   denwasinakatta rasii.
       Ken-NOM Mari-DAT-only called.NEG   I.hear
       'I hear Ken called only Mari.'
    B: Boku-wa Yuki-ni-sika   (da) to omotteita.
       I-TOP   Yuki-DAT-only COP C   thought
       'I thought (it was) only Yuki (that Ken called).'

The well-formedness of the above sentence produced by the B person poses a problem for Hiraiwa and Ishihara (2012).

To summarize so far, Hiraiwa and Ishihara's (2012) arguments for their analysis based on the behavior of NPs marked with particles such as *sura/sae* and NPIs are ill-founded. In fact, these elements can be used to argue against the analysis if necessary care is taken to construct truly relevant examples.

The kind of arguments built around the D case in Table (10) goes beyond data involving special particles and NPIs. In what follows, I will present three pieces of additional evidence against the cleft analysis. They come from different strands of the Japanese grammar.

First, although various kinds of constituents can occupy the focus position in clefts, there exist phrases that cannot. For instance, "small clauses" (Kikuchi and Takahashi 1991), exemplified in (21), are excluded from the position.[7]

(21) a. Ken-ga   Mari-o   kawaiku omotta.
       Ken-NOM Mari-ACC cute   thought
       'Ken thought Mari cute.'
    b. Ken-ga   MARI-o KAWAIKU omotta no   da.
       Ken-NOM Mari-ACC cute   thought NMLZ COP
       'Ken thought MARI CUTE.'

    c. *Ken-ga   omotta   no wa   Mari-o   kawaiku da.

       Ken-NOM   thought   C   TOP   Mari-ACC cute   COP

       (Lit. 'It was Mari cute that Ken thought.')

(21a) is a typical example of the small clause construction in Japanese. There the phrase *Mari-o kawaiku* 'Mari cute' is supposed to constitute a small clause complement of the verb *omotta* 'thought.' (21b) shows that the small clause can be focused in situ. (21c) demonstrates that it cannot be clefted.

    In view of (21c), the cleft analysis predicts that small clauses cannot survive clausal ellipsis, stripping in particular, a prediction falsified by (22).

(22) A: Ken-ga   Yuki-o   kasikoku omotta.

         Ken-NOM   Yuki-ACC wise   thought

         'Ken thought Yuki wise.'

     B: Boku-wa Mari-o   kawaiku (da) to   kantigaisiteita.

         I-TOP   Mari-ACC cute   COP C   misunderstood

         Lit. 'I misunderstood it was Mari cute (that Ken thought).'

As shown above, the same small clause causing the ungrammaticality in (21c) poses no problem in the case of stripping.

    Second, another argument against the cleft analysis can be developed in relation to multiple foci. It has been pointed out in the literature (see Koizumi 1995 among others) that Japanese clefts tolerate multiple foci in many ways. Kawamura (2006), however, notes that generally, one cannot cleft the combination of a *wh*-phrase and a non-*wh*-phrase.[8] Consider (23).

(23) a. Ken-ga   itu   Mari-ni atta no?

         Ken-NOM when Mari-DAT met Q

         'When did Ken meet Mari?'

     b. Ken-ga   ITU   MARI-ni atta no   desu ka?

         Ken-NOM when Mari-DAT met NMLZ COP   Q

         'WHEN did Ken meet MARI?'

c. *Ken-ga   atta no   wa   itu   Mari-ni   desu ka?
Ken-NOM   met NMLZ TOP when Mari-DAT COP Q
(Lit 'When Mari is it that Ken met?')

The above examples all contain the sequence *itu Mari-ni* 'when Mari-DAT.'
(23a) and its in-situ focus version in (23b) are fine. On the other hand, (23c),
where the *wh*-phrase and the dative NP are simultaneously clefted, is ruled
out, in accordance with Kawamura's (2006) observation.

Exactly the same combination can be a remnant of clausal ellipsis, as
shown below:

(24) Ken-ga   sonouti Mari to Yuki-ni   (betubetuni) au   kedo,
     Ken-NOM soon   Mari and Yuki-DAT (separately) meet but
     'Ken will meet Mari and Yuki soon (on separate occasions), but ...'
     boku-wa itu   Mari-ni   (da) ka siranai.
     I-TOP   when Mari-DAT COP Q know.NEG
     Lit. 'I don't know when Mari (Ken will meet).'

The grammaticality of (24) is mysterious under the cleft analysis.

Finally, as mentioned in Hiraiwa and Ishihara 2012, clefts generally
obey what is known as the Clause Mate Condition (CMC), which demands
that focused elements in clefts be clause mates (Koizumi 1995). Consider
(25), adapted from Hiraiwa and Ishihara 2012.

(25) a. Mari-ga   sensei-ni   Naoya-ga   ringo-o   mittu   tabeta
         Mari-NOM teacher-DAT Naoya-NOM apple-ACC three   ate
         to   iituketa.
         C   told
         'Mari told the teacher that Naoya ate three apples.'

b. Mari-ga   SENSEI-ni   Naoya-ga   RINGO-o MITTU tabeta
   Mari-NOM teacher-DAT Naoya-NOM apple-ACC three   ate
   to iituketa   no   da.
   C told   NMLZ COP
   'Mari told THE TEACHER that Naoya ate THREE APPLES.'

c. *Mari-ga   Naoya-ga   tabeta to iituketa no   wa sensei-ni
   Mari-NOM Naoya-NOM ate   C   told   NMLZ TOP teacher-DAT
   ringo-o   mittu   da.
   apple-ACC three   COP
   (Lit. 'It was the teacher, three apples that Mari told that Naoya
   ate.')

(25a) is the baseline biclausal example. (25b) shows that in-situ focusing can target more than one element belonging to different clauses. In contrast, clefting is subject to the CMC, as shown in (25c) where *sensei-ni* 'teacher-DAT' originating from the main clause and *ringo-o mittu* 'apple-ACC three' originating from the embedded clause are clefted.

Now observe the following grammatical example of stripping:

(26) A: Mari-ga   oya-ni   Naoya-ga   mikan-o   yottu tabeta
         Mari-NOM parent-DAT   Naoya-NOM apple-ACC four ate
         to   iituketa.
         C   told
         'Mari told her parent that Naoya ate four oranges.'

     B: Boku-wa sensei-ni   ringo-o   mittu   (da) to omotteita.
         I-TOP   teacher-DAT apple-ACC three   COP C   thought
         Lit. 'I thought (it was) the teacher, three apples (that Mari told that
         Naoya ate).'

(26) confirms that the CMC-violating combination of the two arguments in (25c) qualifies as a remnant of ellipsis, strongly indicating that the cleft analysis that takes (25c) as the source of the stripping in (26) is on the wrong track.

5. Repair by Ellipsis?

In the previous section, I alluded to the examples that fall into the category D in (10), suggesting that they pose insurmountable problems for the cleft analysis. The proponents of the analysis, however, might be tempted to circumvent the problems by saying that what is involved in the relevant cases is "repair by ellipsis" in the sense of Lasnik (2001, 2007) (see also Ross 1969, Merchant 2001, 2008b). Compare (27) and (28) (taken from Lasnik 2001).

(27) *How much of his$_i$ work did every linguist$_i$ met a philosopher who criticized t?

(28) Every linguist$_i$ met a philosopher who criticized some of his$_i$ work, but I'm not sure [$_{CP}$ how much of his$_i$ work [$_{IP}$ ~~every linguist, met a philosopher who criticized t~~]].

(27) involves extraction out of the complex NP island (Ross 1967) and hence incurs a violation. (28) shows that the island violation in (27) can be repaired by sluicing. A skeptic might say that the inaudible structure in (28) does not contain any island in the first place (cf. Merchant 2001). But that is not the case. Notice that in (28) there is a variable, that is, *his*, inside the *wh*-element, which is bound by the subject universal quantifier *every linguist*. The presence of the bound variable, which must reconstruct into a position c-commanded by its binder at LF, guarantees that the sluicing site contains the complex NP island.[9]

Lasnik (2002) points out that adjunct *wh*-phrases are not eligible for island repair. Observe (29).

(29) *Mary liked a man who left for some reason, but I don't know [$_{CP}$ why [$_{IP}$ ~~Mary liked a man who left t~~]]].

In (29) the *wh*-adjunct *why* has been extracted out of the complex NP island headed by *a man*. Although ellipsis deletes the entire clause containing the island, no amelioration is detectable in (29).

Why should there be such an argument/adjunct asymmetry with respect to island repair? Lasnik's (2002) answer to this question relies on Lasnik and Saito's (1992) claim that locality constraints on adjuncts (unlike those on arguments) must be satisfied at LF. In contrast, an island violation incurred by argument extraction, as in (27), leads only to PF-uninterpretability (see Lasnik 2002, Merchant 2008b among others). Since ellipsis is a PF operation (Lasnik 2007, Merchant 2001, 2008b, Temmerman to appear, cf. Chomsky and Lasnik 1993), its repair effects are observable only with arguments. The relevant generalization is as follows (Merchant 2010):[10]

(30) Ellipsis repairs only PF violations internal to the ellipsis site.

The locality violation in (29) persists even under ellipsis because it causes the derivation to crash in LF.[11]

With (30) in mind, let us go back to the examples that fall into the category D in Table (10). They do count as evidence against the cleft analysis if they are shown not to involve PF violations and hence cannot represent cases of repair by ellipsis.

Let us now consider why the following examples of clefts, repeated here from the preceding section, are ruled out:

(31) a. *Naoya-ga   denwasita no   wa Mari-ni-sura/sae da. (=(11c))
        Naoya-NOM called   NMLZ TOP Mari-DAT-even COP
        ('It was even Mari that Naoya called.)
    b. *Naoya-ga   denwasinakatta no   wa dare-ni-mo   da. (=(13c))
        Naoya-NOM called.NEG   NMLZ TOP who-DAT-also COP
        ('It was even Mari that Naoya called.)
    c. *Ken-ga   omotta no wa   Mari-o   kawaiku da. (=(21c))
        Ken-NOM thought C TOP Mari-ACC cute   COP
        (Lit. 'It was Mari cute that Ken thought.')

d. *Ken-ga   atta no   wa   itu˙   Mari-ni   desu ka? (=(23c))
   Ken-NOM met NMLZ TOP when Mari-DAT COP Q
   (Lit 'When Mari is it that Ken met?')

e. *Mari-ga   Naoya-ga   tabeta to iituketa no   wa sensei-ni
   Mari-NOM Naoya-NOM ate   C told   NMLZ TOP teacher-DAT
   ringo-o   mittu   da. (=(25c))
   apple-ACC three   COP
   (Lit. 'It was the teacher, three apples that Mari told that Naoya
   ate.')

(31a) involves the illegitimate clefting of NPs with the focus particles *sura/sae* 'even.' It has been standardly assumed that focus is a semantic notion (see Rooth 1992 for example) (though it may have syntactic and phonological reflexes) and elements associated with it, being scope-taking objects, are licensed in LF. As for Japanese focus particles, Aoyagai (2006) argues within the early minimalist framework (Chomsky 1995) that they undergo LF movement to appropriate heads to be licensed. In other words, the ungrammaticality of (31a) has nothing to do with the PF component. Then the grammaticality of the sluiced example in (15), which the cleft analysis derives from (31a), cannot instantiate repair by ellipsis. The conclusion is that (31a) cannot underlie (15).[12]

   The same conclusion can be reached on the basis of data such as (31b) where NPIs are involved. There is a consensus in the literature (see Uribe-Echevarria 1994 among numerous others) by now that NPIs are licensed in LF. Again, the ill-formedness of (31b) cannot be attributed to a PF-related problem. The apparent repair of (31b) in the stripping example in (18) is only deceptive; in fact, (18) is not linked to (31b) in any way, undermining the cleft analysis.[13]

   Moving on to (31c), I maintain that there is nothing phonologically wrong with it. In particular, there is no ban on splitting *kawaiku omou*, which might be regarded as some kind of complex predicate (cf. Kawai 2008), as shown in (32).

(32) Ken-ga   omotta yo,   Mari-o   kawaiku.
     Ken-NOM   thought PRT   Mari-ACC cute
     (Lit. 'Ken thought, Mari cute.')

In (32) the small clause *Mari-o kawaiku* has been right-dislocated (see Tanaka 2001 for an analysis of right-dislocation in Japanese).[14] What goes wrong with (31c) then must be ascribed to a violation in LF. Under Koizumi's (2002) analysis, the adjectival head (*kawaiku* in (31c) and (32)) must move covertly to its host (*omotta* in (31c) and (32)) in order to θ-mark arguments. Given this type of derivation, the failure of LF incorporation in (31c) leads to a violation of the Principle of Full Interpretation, which cannot be mended by ellipsis. The well-formed stripping example in (22) thus goes against the cleft analysis.

Certainly, (31d) involves no PF violation. As Kawamura (2006) shows, the general impossibility of clefting a combination of a *wh*-phrase and a non-*wh*-phrase is due to the fact that they cannot form a single unit both semantically (especially in terms of event quantification) and syntactically. This implies that (24) is not a case of repair by ellipsis and constitutes real evidence against the cleft analysis.

How about (31e)? Curiously enough, Hiraiwa and Ishihara (2012:173-174) point out that the CMC is lifted when multiple *wh*-phrases are clefted or the CMC-violating cleft sentence, with more than one non-*wh*-phrases, is turned into a yes-no question, giving the following examples (their (65b,c)):

(33) a. Naoya-ga   Mari-ga   nonda to iituketa no   wa
        Naoya-NOM Mari-NOM   drank C   told   NMLZ   TOP
        dare-ni   nani-o   na   no?
        who-DAT   what-ACC COP Q
        Lit. 'To whom what is it that Naoya told that Mari drank?'

b. Naoya-ga   Mari-ga   nonda to iituketa no   wa
   Naoya-NOM Mari-NOM   drank C   told   NMLZ TOP
   Yumi-ni   wain-o   na   no?
   Yumi-DAT wine-ACC COP Q
   Lit. 'Is it to Yumi, wine that Naoya told that Mari drank?'

The question is: what is responsible for the discrepancy between (31e) and (33)? Hiraiwa and Ishihara suggest in essence that it is the special focus prosody associated with the questions in (33), in particular, with the *wh*-phrases in (33a) and the clefted phrases in (33b). According to their proposal, (31e) is ruled out because the focused phrases lack the special kind of prosody that rescues (33a,b) from potential CMC violations.

Let us now ask whether (26) is a case of repair by ellipsis. The answer is negative, which means that the example runs counter to the cleft analysis. Under Hiraiwa and Ishihara's account, what is wrong with (31e) is indeed phonological. However, exactly the same alleged phonological defect with the focused phrases remains in the stripping example in (26). Furthermore, only phonological defects within the ellipsis site are supposed to be repairable. In short, the ellipsis in (26) has not repaired anything.

To recapitulate, the five classes of examples that have been cited in the previous section to argue against the cleft analysis are not instances of repair by ellipsis and thus lead us to conclude with confidence that the analysis is incorrect.

6. Focus Movement Analysis

Having established that clausal ellipsis in Japanese such as sluicing and stripping does not derive from clefts, I suggest that the alternative analysis making use of focus movement (Kim 1997, Hiraiwa and Ishihara 2002) is on the right track. Under this analysis, the sluicing example in (1) has the following derivation:

(34) a. boku-wa [Ken-ga   dare-ni   atta no   da ka] siranai   (=(6))
        I-TOP   Ken-NOM who-DAT met NMLZ COP Q   know.NEG

    b. boku-wa [[$_{FocP}$ dare$_i$-ni [Ken-ga t_i atta no] da] ka] siranai   (=(7))

focus movement

    c. boku-wa [[$_{FocP}$ dare$_i$-ni [~~Ken-ga t_i atta no~~] da] ka] siranai
                                    ellipsis

As shown above, the analysis differs from the cleft analysis in that no topicalization is involved. Thus, after the *wh*-phrase moves to the Spec of FocP, as in (34b), the complement of the Foc head undergoes deletion. To put it differently, Hiraiwa and Ishihara (2012) is only half correct; ironically, they have gone too far and should go back to their 2002 proposal.

    The above grammatical examples of ellipsis that turned out to be problematic for the cleft analysis are collected below, with the relevant instances of focus movement and ellipsis indicated:

(35) a. boku-wa dare-ni-sura/sae   ~~Naoya-ga *t* denwasita no~~   (da)
        I-TOP   who-DAT-even   Naoya-NOM called   NMLZ COP
        ka siranai.   (=(15))
        Q   know.NEG
        'I don't know even who (Naoya called).'

    b. Boku-wa dare-ni-mo   ~~Naoya-ga *t* denwasinakatta no~~   (da)
        I-TOP   who-DAT-also Naoya-NOM called.NEG   NMLZ COP
        to   omou.   (=(18))
        C   think
        Lit. 'I think that it is anyone (that Naoya didn't call).'

    c. Boku-wa Mari-o   kawaiku ~~Ken-ga *t* omotta no~~   (da)
        I-TOP   Mari-ACC cute   Ken-NOM thought NMLZ COP
        to   kantigaisiteita.   (=(22))
        C   misunderstood
        Lit. 'I misunderstood it was Mari cute (that Ken thought).'

d. boku-wa itu Mari-ni ~~Ken-ga~~ ~~t~~ ~~au~~ ~~no~~ (da)
    I-TOP when Mari-DAT Ken-NOM meet NMLZ COP
    ka siranai. (= (24))
    Q know.NEG
    Lit. 'I don't know when Mari (Ken will meet).'
e. Boku-wa sensei-ni ringo-o mittu ~~Mari-ga~~ ~~t~~ ~~Naoya-ga~~ ~~t~~
    I-TOP teacher-DAT apple-ACC three Mari-NOM
    ~~tabeta-to~~ ~~iituketa~~ ~~no~~ (da) to omotteita. (=(26))
    ate C told NMLZ COP C thought
    Lit. 'I thought (it was) the teacher, three apples (that Mari told that Naoya ate).'

These examples are all fine with or without the ellipsis.[15] Hence, the focus movement analysis naturally explains them and is superior to the cleft analysis.

7. Conclusion and Implications

It has been shown that the analyses of Japanese sluicing/stripping that crucially rely on clefting (Kuwabara 1996, Nishiyama *et al.* 1996, Kizu 2005, Hiraiwa and Ishihara 2012) are incorrect: clausal ellipsis is not dependent on topicalization. It has also been shown that the analysis that takes sluicing/stripping to be derived by focus movement followed by the deletion of the complement of the Foc head (Kim 1997, Hiraiwa and Ishihara 2002) offers a straightforward account of all the data reviewed here.

The above discussion has interesting cross-linguistic implications. Aelbrecht and Haegeman (2012) show contra Johnson (2001) that VP ellipsis is not licensed by VP topicalization in English.[16] Their conclusion about VP ellipsis extends directly to clausal ellipsis in Japanese. The observation seems to be that constituents targeted by ellipsis cannot simply undergo movement in general. This is exactly part of what Nakamura (2009:321) calls the Ellipsis Movement Generalization:

(36) *The Ellipsis Movement Generalization* (EMG)

    If a certain category can undergo ellipsis, it cannot undergo movement except when it is phonologically null.

Nakamura (2009) argues that (36) covers Irish *v*P (see McCloskey 2004), English VP, and Japanese CP and that it can be derived by a revised notion of phase (Chomsky 2001, 2008). [17] The present paper together with Aelbrecht and Haegeman 2012 provides further support for Nakamura's (2009) claim and the phase-based deletion theory of ellipsis.

    At the same time, the present paper prompts rethinking of the various analyses of ellipsis in the literature (Szczegielniak 2006 on Polish and Russian, Authier 2011 on French, and Funakoshi 2012 on English, to name a few), whereby constituents need to undergo syntactic movement before they undergo phonological deletion. I would like to take up this important task in future work.

Notes

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1. As a matter of fact, the case-marker on the *wh*-phase in the sluice can be dropped. Thus the dative case-marker *-ni* in (1) can be omitted, as shown (i).

  (i) boku-wa dare (da)   ka siranai.
       I-TOP   who COP   Q know.NEG
       'I don't know who.'

I will not be concerned with non-C(ase)-M(arked)-sluicing (Fukaya and Hoji 1999) such as (i) (as well as non-CM-stripping, see below), because it appears to have no bearing on the main question of the present paper: how clausal ellipsis is derived through syntactic movement. As has been pointed

out by Takahashi (1994), although CM-sluicing exhibits Subjacency effects, non-CM-sluicing (or stripping) does not, indicating that it does not involve movement of the focused phrase. See Takahashi 1994 for other differences between CM-sluicing and non-CM-sluicing.

The abbreviations used in the glosses are as follows:

ACC-accusative; C-complementizer; CL-classifier; COP-copula; DAT-dative; EMPH-emphatic; NEG-negative; NMLZ-nominalizer; NOM-nominative; PRT-particle; Q-question marker; TOP-topic

2. In the majority of examples examined in this paper, I will use dative-marked NPs in the focus position in order to avoid complications that arise with nominative and accusative NPs (see Koizumi 1995).

3. Throughout this paper, I indicate ellipsis by strikethrough.

4. The optionality of the copula *da* in (1) and (4) seems to be due to morphophonological factors. Hiraiwa and Ishihara (2012) suggest that it can be captured by assuming that ellipsis targets two different projections: when Foc(us)P is deleted, *da* gets erased, but when Fin(ite)P below FocP is deleted, *da* survives (see Hiraiwa and Ishihara 2012 for details). Their analysis cannot be correct, because the optionality of *da* is observed even in cases where no ellipsis is involved. Consider the following examples:

(i) a. Mari-wa   sensei   (da).
         Mari-TOP   teacher COP
         'Mari is a teacher.'
     b. Boku-wa   MARI-ga   katu   no   *(da) to omou.
         I-TOP   Mari-NOM win   NMLZ COP   C   think
         'I think it is Mari that will win.'
     c. Boku-wa   MARI-ga   katu   no   (da) ka siranai.
         I-TOP   Mari-NOM win   NMLZ COP   C   know.NEG
         'I don't know whether it is Mari that will win.'

In (ia) and (ic), the copula is optional. In (ib), on the other hand, it is obligatory. Comparing (ib) and (ic), one can notice that the *no-to* sequence

is banned, whereas the *no-ka* sequence is permitted. The observation is that the phonological realization of the copula is optional in principle but is required when its non-realization results in an illegitimate morphophonological sequence. In sluicing and stripping, the nominalizer *no* is deleted (see below) and thus the presence of the copula is only optional.

In some cited examples below, the optionality of *da* is not indicated.

5. Unless the ill-formedness associated with the source cleft is somehow remedied by ellipsis (cf. Lasnik 2001, 2007). I will come back to this issue in section 5.

6. I corrected an obvious error in their English translation.

7. The exact structure of a small clause in Japanese is still a matter of debate. See Koizumi 2002 and Kawai 2008 for views different from the one defended in Kikuchi and Takahashi 1991.

8. An exception to this observation is the combination of *naze* 'why and a non-*wh*-phrase. See Kawamura (2006) for an account.

9. As pointed out by Takahashi (1994), Japanese sluicing fails to exhibit island repair even when the remnant is a case-marked argument. See Nakamura 2012 for an analysis of the crosslinguistic difference between English and Japanese.

10. Merchant's (2010) exact wording is: "All true cases of elliptical repair reduce to predicted properties of strong features, internal to the ellipsis site."

11. In fact, adjuncts simply cannot move long-distance under sluicing. Lasnik (2002) notes that examples like (i) are excluded, even though they do not contain any islands.

(i) ?*Mary claimed that John left for some reason, but I don't know [$_{CP}$ why [$_{IP}$ ~~Mary claimed [that John left *t*~~]]].

The extreme locality imposed on the adjunct remnant of sluicing can be accounted for by combining Lasnik and Saito's (1992) theory with Fox and Lasnik's (2003) proposal on parallelism.

12. The same line of argument can be based on (16c) and (17).

13. The same is true of (19c) and (20).

14. In this respect, small clauses contrast sharply with uncontroversial complex predicates such as *-te miru* 'try,' which can never be phonologically split, as shown in (i).

(i) a. Ken-ga   sono mondai-o   toite mita.
      Ken-NOM   that problem-ACC solve saw
      'Ken tried to solve the problem.'
   b. *Ken-ga   mita yo,   sono mondai-o   toite.
      Ken-NOM saw   PRT   that problem-ACC solve
      (Lit. 'Ken tried, to solve the problem.')

15. When no ellipsis takes place, the presence of the copula *da* is obligatory in (35b, c, e) for the reason mentioned in footnote 4. In that case, (35e) sounds somewhat degraded, due probably to some processing difficulty.

     As expected, the following examples containing the focused NPs with *koso* and *sika* are grammatical with or without ellipsis:

(i)   Boku-wa   Mari-ni-koso   ~~Naoya ga~~ ~~*t* aubeki~~   ~~na~~ ~~no~~
      I-TOP   Mari-DAT-EMPH   Naoya-NOM should.meet   COP NMLZ
      (da) to omotteita.   (=(17))
      COP C   thought
      'I thought (it is) Mari (that Naoya should meet).'
(ii)   Boku-wa   Yuki-ni-sika   ~~Ken-ga~~ ~~*t* denwasinakatta~~ ~~no~~
      I-TOP   Yuki-DAT-only   Ken-NOM called.NEG   NMLZ
      (da) to omotteita.   (=(20))
      COP C   thought
      'I thought (it was) only Yuki (that Ken called).'

In (i) and (ii), as in (35b, c, e), *da* cannot be omitted without ellipsis.

16. In an attempt to capture the similarities between VP-ellipsis and VP-topicalization, Aelbrecht and Haegeman (2012) suggest that they are both licensed by the same mechanism Agree.

17. See Holmberg 2001 for one of the initial attempts to tie ellipsis with

cyclic Spell-Out. See also Nakamura 2009 for evidence for the "except" clause in (36).

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