Sluicing Cannot Apply In-Situ in Japanese

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Abstract. Ross (1969) proposed that sluicing in English is derived by wh-movement and deletion. The wh-movement analysis, however, is not straight-forwardly applicable to in wh-in-situ languages like Japanese. A number of studies argued that sluicing in Japanese is based on wh-cleft structure with much empirical evidence. More recently, however, Kimura (2010) and Abe (2015) have proposed an in-situ analysis of sluicing in Japanese, which deletes everything but a wh-phrase (and the Q-complementizer) in situ, without movement. In this paper, building on immobile elements, I will provide decisive evidence against the in-situ deletion analysis of sluicing and for the wh-cleft analysis of sluicing.

Keywords. sluicing; deletion; ellipsis; wh-movement; wh-cleft; in-situ; existential indeterminates; Japanese; syntax

1. Introduction. As is well known, Ross (1969) proposed that a truncated wh-question such as example (1) has a full-fledged structure of wh-question and is derived from wh-movement and deletion. He called the phenomenon *sluicing*.

(1)   Somebody just left. Guess who ~~just left~~.

Whether sluicing in a wh-in-situ language like Japanese has the same syntactic derivation or not has been lively discussed in the literature, and three analyses have been proposed: a wh-movement analysis, a wh-cleft analysis, and an in-situ deletion analysis: In this short article, I will provide evidence for a wh-cleft analysis of sluicing and, crucially, against the in-situ deletion analysis (Kimura 2010 and Abe 2015, 2016) (and the wh-movement analysis).

2. Three Approaches to Sluicing in Japanese. Inoue (1976) observed that a similar truncated wh-question also exists in Japanese. Takahashi (1994) adopt the same analysis for it, in which TP-deletion applies after wh-movement (see also Takita 2009).

(2)   Wh-movement+Deletion
        (Context: I know that Mary bought something there, but)

        [Nani-o$_1$ [~~Mary ga~~ ~~sokode~~ t$_1$ ~~katt~~a] ka] siranai.
        what-Acc Mary-Nom there   bought Q   1Sg.know.Neg

        'I don't know what ~~Mary bought there~~.'

This analysis assumes that a wh-phrase moves to the specifier of CP in Japanese, just as it does in English.

For wh-in-situ languages such as Japanese, however, an application of the wh-movement analysis is not straightforward due to the lack of overt wh-movement (see Merchant & Simpson 2012). In fact, many have argued against such an analysis of sluicing in Japanese, pointing to the facts that a copula optionally appears a pronominal subject is grammatical in sluicing in Japanese (Nishiyama et al. 1996, Kuwabara 1997, Fukaya & Hoji 1999, Saito 2004, Kizu

2005, and Hiraiwa & Ishihara 2012). Furthermore, a negative polarity item is disallowed in stripping and cleft (Hiraiwa & Ishihara 2012).

(3) Sluicing with a copula

[Nani-o   (da) ka] siranai.
what-Acc Cop Q   1Sg.know.Neg

'I don't know what (it was).'

(4) Sluicing with a pronominal subject

[Sore-ga nani-o   (da) ka] siranai.
it-Nom   what-Acc Cop Q   1Sg.know.Neg

'I don't know what it was.'

(5) Stripping (Hiraiwa & Ishihara 2012)
(Context: Although I hear that Naoya did not called some of the people that he was sup-posed to call after all)[1]

*[Dare-ni-mo (da) ka (wa)] siranai.
who-Dat-also Cop Q Top   1Sg.know.Neg

'I don't know if he didn't call anyone.'

The data in (3)–(5) are unexpected under the wh-movement analysis of sluicing, because wh-movement introduces neither a copula nor a pronominal subject and is compatible with an negative polarity item.

Rather, they indicate that sluicing in Japanese has a cleft structure. More specifically, sluicing in Japanese has a wh-cleft structure, from which the topicalized clause is deleted.[2]

(6) Wh-Cleft+Deletion

[[Mary ga   sokode t$_1$ katta   no] wa nani-o$_1$ (da) ka] siranai.
  Mary-Nom there   bought C-Top   what-Acc Cop Q   1Sg.know.Neg

'I don't know what (it was) that Mary bought there.'

More recently, however, Kimura (2010) and Abe (2015, 2016) have argued for an in-situ deletion analysis of sluicing in which deletion applies to non-constituents without any move-ment (see also den Dikken et al. 2002 and van Craenenbroeck & den Dikken 2006). In this analysis, a wh-sluice does not need to move and deletion applies to everything but the wh-phrase in-situ. They also proposed the same analysis for wh-movement languages like English.

(7) In-Situ Deletion

[$_{CP}$ Mary ga   sokode nani-o   katta   no (da) ka] siranai.
    Mary-Nom there   what-Acc bought C   Cop Q   1Sg.know.Neg

'I don't know Mary bought what there.'

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[1] See Section 3.2 for similar evidence from sluicing. Hiraiwa & Ishihara's argument based on the stripping example in (5) was indirect in the sense that they assumed that stripping has the same syntactic mechanism as sluicing.
[2] Whether the wh-cleft structure involves null operator movement (Nishiyama et al. 1996, Kuwabara 1997, Fukaya & Hoji 1999, Saito 2004, Kizu 2005) or overt movement (Hiraiwa & Ishihara 2012) is immaterial here.

This in-situ deletion analysis has gained some popularity in the literature (see Sato 2016, Kimura & Narita 2021).

3. A Prediction: Immobility and Deletion. A simple logical prediction arising from the three analyses is this. Suppose that there is a wh-element X that is "immobile" (the definition of immobility here: X is immobile iff it cannot be clefted). If sluicing with X is grammatical, then it tells against the wh-cleft analysis of Japanese sluicing. On the other hand, if sluicing with X is ungrammatical, then it provides evidence against the in-situ deletion analysis and the wh-movement analysis of Japanese sluicing.

In this paper, I present very simple evidence that clinches the debate in favor of the wh-cleft analysis of sluicing in Japanese over the other two analyses.

3.1. WH-ADJUNCTS 'WHY'. Japanese has various lexical items for asking a reason: not just morphologically simplex *naze*, but also morphologically complex *nande*, and *doosite* (see Fukui 1998, Fujii et al. 2014). But there are also other forms such as *nandemata* and *nandatte*.

(8)   [John-ga   {naze/nande/doosite/nandemata/nandatte} Mary-ni   atta no (da) ka]
       John-Nom why   Mary-Dat met C Cop Q
       siranai.
       1Sg.know.Neg
       'I don't know why John met Mary.'

Positions of these wh-adjuncts are free both in matrix and embedded clauses. They can be in clause-medial position as shown in (8) or in clause-initial position, as shown in (9).

(9)   [{naze/nande/doosite/nandemata/nandatte} John-ga   Mary-ni   atta no (da) ka]
       why   John-Nom Mary-Dat met C Cop Q
       siranai.
       1Sg.know.Neg
       'I don't know why John met Mary.'

Whether the clause-initial word order in (9) is due to scrambling/wh-movement (Takahashi 1994) or base-generation (Ko 2005) is immaterial for us. Rather, of special importance here is the fact that *nandemata* and *nandatte* cannot be clefted, as shown in (10).

(10)   Wh-Cleft

       [[John-ga   Mary-ni   atta no]-wa {naze/nande/doosite/*nandemata/*nandatte} (da) ka]
       John-Nom Mary-Dat met C-Top why   Cop Q
       siranai.
       1Sg.know.Neg

       'I don't know why it was that John met Mary.'

Of course, it is not the case that wh-adjuncts in general cannot be clefted in Japanese. Note that *naze*, *nande*, and *doosite* are grammatical in wh-cleft sentences.

Having established that *nandemata* and *nandatte* are immobile, now let us examine if sluicing is grammatical or not. As the examples in (11) show, sluicing with the immobile wh-adjuncts *nandemata* and *nandatte* is indeed ungrammatical, while sluicing with *naze*, *doosite*, and *nande* is perfectly grammatical.

(11) Sluicing
      (Context: I know John met Mary for a reason, but)

      [[~~John ga Mary ni   atta no~~] wa {naze/nande/doosite/*nandemata/*nandatte} (da) ka]
      John-Nom Mary-Dat met C-Top   why   Cop Q
      siranai.
      1Sg.know.Neg

      'I don't know why (it was) ~~that John met Mary~~.'

   Similarly, in matrix fragment questions, *nandemata* and *nandatte* also sound terribly bad, while the others are all fine.

(12) Fragment Question

      [[~~John ga Mary ni   atta no~~] wa {naze/nande/doosite/*nandemata/*nandatte} desu
      John-Nom Mary-Dat met C-Top   why   Cop
      ka]?
      Q

      'Why (was it) ~~that John met Mary~~?'

The immobile wh-adjuncts present clear and conclusive evidence that Japanese does NOT allow in-situ sluicing. If UG allowed for a mechanism of in-situ sluicing, which would delete non-constituents freely, the examples like (11)–(12) would be grammatical irrespective of the kinds of wh-adjuncts.

   The immobile wh-adjuncts also argue against the wh-movement analysis of sluicing in Japanese. As the data in (8) and (9) show, word order of those wh-adjuncts is free. Therefore, the wh-movement analysis should predict the all wh-adjuncts to be grammatical in (11)–(12). Note also that my argument does not depend on whether a wh-cleft derivation involves direct movement of a focused phrase (Hiraiwa & Ishihara 2012) or a null operator movement (Nishiyama et al. 1996, Kuwabara 1997, Fukaya & Hoji 1999, Saito 2004, Kizu 2005), because the fact still remains anyway that wh-cfleft of *nandemata* and *nandatte* are ungrammatical.

   One might entertain a possibility that whether or not wh-cleft is possible is somehow related to whether wh-adjuncts in question are morphologically complex or not. Clearly, the immobile wh-adjuncts *nandemata* and *nandatte* are morphologically complex, consisting of *nan-de-mata* 'what-P-again' and *nan-datte* 'what-Cop', respectively. But it is worth noting that actually, all the wh-adjuncts above (except *naze*) are morphologically complex: *nan-de* 'what-P' and *doo-site* 'how-do'.

   Furthermore, these immobile wh-adjuncts seem to be one word. Fujii et al. (2014) correctly show that *nandemata* exhibits a compound pitch accent.

(13) na'ndemata (HLLLL)

Thus, the morpheme *mata* of *nandemata* does not have the meaning 'again' when used as a wh-adjunct. This contrasts with the interpretation when *nande* and *mata* are syntactically detached. In such a case, they are pronounced *na'nde* (HLL) and *mata* (LH), respectively (cf. (13)).

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(14) [Nande John-ga   mata Mary-ni   atta no (da) ka] siranai.
      why   John-Nom again Mary-Dat met C Cop Q   1Sg.know.Neg
      'I don't know why John met Mary again.'

In summary, the immobile wh-adjuncts demonstrate that UG prohibits in-situ sluicing for Japanese, contrary to the recent claims by Kimura (2010) and Abe (2015, 2016). Rather, whenever clefting is blocked, sluicing is also blocked, supporting the claim that sluicing in Japanese is structurally derived from wh-cleft.

3.2. NCI *sika*. There is another piece of evidence against the in-situ deletion analysis and the wh-movement analysis of sluicing in Japanese. *sika* is a negative concord item (NCI) that requires clause-mate negation (see Tanaka 1997 on the *sika ... nai* construction and Watanabe 2004 for NCIs in Japanese).

(15) John-wa niku-sika tabe-nai/*taberu.
      John-Top meat-NCI eat-Neg/eat
      'John does not eat anything but meat.'

While they can be freely scrambled, as Hiraiwa & Ishihara (2012) observe, NCIs cannot be clefted.

(16) a. Niku-sika$_i$ John-wa t$_i$ tabenai.
          meat-NCI John-Top   eat.Neg
          'John does not eat anything but meat.'
      b. *[John-ga   tabenai no]-wa niku-sika desu.
          John-Nom eat.Neg C-Top meat-NCI Cop
          '(Lit.) It is anything but meat that John does not eat.'

Now, if the NCI *sika* is combined with a wh-phrase *nani* 'what', we get a wh-question sentence as in (17a). Note that *nani-sika* 'what-NCI' can also be scrambled as shown in (17b). But crucially, it cannot be wh-clefted, as (18) shows. Thus, this NCI is another immobile element.

(17) a. John-wa nani-sika tabe-nai no?
          John-Top what-NCI eat-Neg C
          '(Lit.) Anything but what does John not eat?'
      b. Nani-sika$_i$ John-wa t$_i$ tabe-nai no?
          what-NCI John-Top   eat-Neg C
          '(Lit.) Anything but what does John not eat?'

(18) Wh-Cleft

      *[John-ga tabe-nai no]-wa nani-sika desu ka?
      John-Nom eat-Neg C-Top what-NCI Cop Q

      '(Lit.) Anything but what is it that John does not eat?'

Again, sluicing is disallowed in this case, too.

(19) Sluicing
      (Context: I know that John does not eat anything but something, but)

*[[~~John ga~~ ~~tabe nai~~ ~~no] wa~~ nani-sika (da) ka] siranai.
John-Nom eat-Neg C-Top what-NCI Cop Q 1Sg.know.Neg

'(Lit.) I don't know anything but what (it is) ~~that John does not eat~~.'

The ungrammaticality of (19) offers another piece of strong evidence against the in-situ deletion analysis (as well as the wh-movement analysis) in favor of the wh-cleft analysis.[3]

4. Existential Indeterminates and Sluicing. I have demonstrated that sluicing in Japanese is built on a wh-cleft structure. Existential indeterminates lends further support for this conclusion. Japanese composes various indefinite expressions by combining a wh-indeterminate and a particle (see Kuroda 1965, Shimoyama 2008, Hiraiwa 2015, 2017). Existential indeterminates are built with a wh-indeterminate and the particle *ka*.

(20)   a.   dare-ka 'someone'
           b.   nani-ka 'something'
           c.   doko-ka 'someplace'

The indeterminates for wh-adjuncts 'why' are no exception.

(21)   a.   naze-ka 'for some reason'
           b.   nande-ka 'for some reason'
           c.   doosite-ka 'for some reason'

However, it is very interesting that those immobile wh-adjuncts cannot form existential indeterminates.[4]

(22)   a.   *nandemata-ka 'for some reason'
           b.   *nandatte-ka 'for some reason'

It has been generally assumed that such existential indeterminates as (20)–(21) are categorically nominal. Contrary to the standard view, however, Hiraiwa & Nakanishi to appear, and Hiraiwa (2020) argue that existential indeterminates in Japanese and Okinawan are syntactically clausal and derived from a wh-question structure by sluicing and *dunno-deletion* (cf. Haspelmath 1997).[5]

(23)   So-called existential indeterminates in Japanese and Okinawan are syntactically derived from an embedded wh-question by sluicing and *dunno*-deletion. (Hiraiwa & Nakanishi to appear, and Hiraiwa 2020)

(24)   [(~~Sore ga~~) dare (da) ka] ~~sira nai~~
         3Sg-Nom who Cop C know-Neg
         'someone (lit. I don't know who it is)'

Crucial evidence for this clausal analysis comes from the existence of the intermediate form *dare-ka-sira* 'someone', in which only the negation *-nai* is deleted, with the verb 'know' left intact (see Hiraiwa & Nakanishi to appear).

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[3] For fairness, it should be noted that Takita (2009) argues for the wh-movement analysis based on sluicing with non-finite complements. I will not discuss his argument and its potential problems here, but the evidence from the immobility of certain wh-adjuncts and NCIs indicate that sluicing in Japanese cannot be derived from wh-movement.

[4] I am very grateful to Tommy Tsz-Ming Lee for pointing out this fact to me.

[5] See Hiraiwa & Nakanishi (2020) for a theory of bare indeterminates.

(25) [dare ka] sira~~-nai~~
      who Q   know-Neg
      'someone (lit. I don't know who it is)'

Given the hypothesis in (23), existential indeterminates are contingent on sluicing. Because sluicing in Japanese has a wh-cleft structure, as we have seen above, it is predicted that existential indeterminates should also be ungrammatical, if their indeterminates cannot be wh-clefted, either. We have already shown that *nandemata* and *nandatte* are indeed disallowed in wh-cleft in (11)–(12). Therefore, it follows that they cannot form existential indeterminates, either, as shown in (22). Thus, a wh-cleft analysis can correctly predict the otherwise unexpected asymmetry between (20)–(21) and (22).

5. Conclusion. In this paper, building on immobile wh-adjuncts and NCIs, I have demonstrated that sluicing in Japanese cannot apply in-situ. Whenever a wh-phrase cannot be focused in wh-cleft, sluicing is ungrammatical. If sluicing applied in-situ, sluicing with such an immobile wh-phrase should be licit. Similarly, NCIs, which cannot be focused in wh-cleft, do not allow sluicing.These facts provide clear evidence against the in-situ deletion analysis as well as the wh-movement analysis of sluicing. Furthermore, whenever a wh-phrase can be focused in wh-cleft, sluicing is grammatical. This supports the wh-cleft analysis of sluicing.

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