The phenomenon called sluicing has received much attention in the field of generative syntax in recent years. We can observe a construction in Japanese that appears to involve what is similar to sluicing (see Inoue 1976 and Takahashi 1994). Though the standard analysis of sluicing assumes that it involves deletion of TP subsequent to wh-movement (Ross 1969 and Merchant 2001), it has been controversial how the Japanese counterpart is treated: While Takahashi (1994) proposes to assimilate it to the standard analysis of sluicing, researchers like Kuwabara (1996), Nishiyama, Whitman, and Yi (1996), Saito (2004), and so on argue that it should be analyzed as deriving from the cleft construction (henceforth, the cleft analysis). The purpose of this article is to provide novel data pertaining to Japanese sluicing that are difficult to accommodate under the cleft analysis and to suggest an alternative analysis of the phenomenon in question in terms of non-constituent deletion (van Craenenbroeck and den Dikken 2006).
This article is organized as follows: In Section 1, we will briefly review the cleft analysis of Japanese sluicing in order to set up the stage for the discussion thereafter. In Section 2, we will provide data where negative polarity items (henceforth, NPIs) occur as remnants of Japanese sluicing, pointing out that they cannot be accounted for by the cleft analysis. In Section 3, we will propose an alternative way to handle the phenomenon in question, which crucially assumes nonconstituent deletion, and present an additional supportive argument for our analysis. In Section 4, we will strengthen our hypothesis further by considering data where small clause predicates appear as remnants. In the final section, we will summarize our discussion, concluding the present work.

1. Japanese Sluicing and the Cleft Analysis

Inoue (1976) and Takahashi (1994) observe that a phenomenon similar to sluicing exists in Japanese. They provide cases like the following:

(1)  

a. Ken-ga dareka-ni atta sooda.  
   Ken -NOM someone-DAT met I-heard  
   'I heard Ken met someone.'

      I-TOP who-DAT Q imagine.cannot  
      'I cannot imagine who.'

   c. Boku-wa [Ken-ga dare-ni atta ka]  
      I-TOP Ken -NOM who-DAT met Q  
      soozoodekinai.  
      imagine.cannot  
      'I cannot imagine who Ken met.'

In the context where (1a) precedes (1b), the embedded clause in (1b) is a reduced indirect question, which consists only of the wh-phrase and the question marker (henceforth, Q-marker). Though truncated, it has the same interpretation as the full-fledged form in (1c). This superficially resembles what is called sluicing in English, exemplified below:

(2)  

a. John dated someone.
   
   b. I cannot imagine who.
   
   c. I cannot imagine who John dated.

Anteceded by (2a), (2b) has a reduced indirect question composed just of the wh-phrase, which is understood in the same way as the full-fledged form in (2c). Ross (1969) proposes an analysis of sluicing in English, according to which sluiced clauses are derived from their complete forms.
by deletion of TP. This idea has recently been reinforced by Merchant (2001), and has become the standard analysis.

As for Japanese sluicing, the predominant view at present is that it arises from the cleft construction, which is illustrated below:

(3)  a. Ken-ga Hana-ni atta.
     Ken-NOM Hana-DAT met
     ‘Ken met Hana.’

     b. [CP Ken-ga e atta no]-wa Hana-ni da.
        Ken-NOM met that-TOP Hana-DAT be
        ‘It was Hana that Ken met.’

     c. [CP Ken-ga e atta no]-wa dare-ni desu ka?
        Ken-NOM met that-TOP who-DAT be Q
        ‘Who was it that Ken met?’

The example in (3a) is a normal sentence conforming to the basic word order in Japanese (SOV). Its cleft counterpart is given in (3b), where the object is focused and dislocated from the clause it belongs to. The cleft construction typically consists of a clausal subject headed by the complementizer no, followed by the topic marker, a focused element, and the copula, as shown in (3b). The clausal subject serves as the presupposition and contains a gap inside (indicated as e above), which is associated with the focus. We note that wh-phrases also can appear as foci in cleft sentences, as exemplified in (3c).

Saito (2004) argues that sluiced sentences in Japanese are derived from corresponding cleft constructions (we consider Saito’s (2004) analysis as representative of the cleft analysis). This is illustrated in (4), which shows the analysis of (1b):

(4)  Boku-wa [CP Ken-ga e atta no]-ga dare-ni
     I-TOP Ken-NOM met that-NOM who-DAT
     (da) ka) soozoodekinai.
     be Q imagine.cannot
     ‘lit. I cannot imagine Q it was who that Ken met.’

The embedded clause in (4) is a cleft construction. The presuppositional clausal subject may be elided because Japanese generally allows ellipsis of arguments. Further, the copula may be omitted optionally in embedded contexts, as independently indicated below:

     I-TOP Ken-NOM student be Q asked
‘I asked whether Ken was a student.’

These yield the form in (1b).

That cleft structures underlie Japanese sluicing is supported by the fact that the copula can optionally appear in sluiced clauses (Takahashi 1994, Saito 2004). Thus, (1b) has the following alternative form:

I-TOP who-DAT be Q imagine.cannot
‘I cannot imagine who.’

The copula appears between the wh-phrase and the Q-marker, and this is exactly what the cleft analysis expects.

2. Negative Polarity Items as Remnants

The cleft analysis should predict that only those expressions that can be foci in cleft constructions should be able to be remnants in Japanese sluicing. In this regard, we consider data involving the NPI *sika ‘anything/anyone but’, which is illustrated below (just for convenience, we gloss it as *Sika):

(7)  a. Ken-wa Hana-ni-sika awanakatta.
Ken-TOP Hana-DAT-SIKA met.not
‘Ken did not meet anyone but Hana. / Ken met only Hana.’

b. * Ken-wa Hana-ni-sika atta.
Ken-TOP Hana-DAT-SIKA met
‘* Ken met anyone but Hana.’

Here the NPI is attached to the object. While it is allowed in the negative sentence in (7a), it results in ungrammaticality without negation as in (7b).

Kizu (2005) observes that NPIs generally fail to occur in focus positions in cleft constructions. Thus, the following examples are degraded:

(8)  a. * [Ken-ga e awanakatta no]-wa Hana-ni-sika da.
Ken-NOM met.not that-TOP Hana-DAT-SIKA be
‘lit. It was anyone but Hana that Ken did not meet.’

b. * [Ken-ga e awanakatta no]-wa dare-ni-sika desu
Ken-NOM met.not that-TOP who-DAT-SIKA be
Q
‘lit. Anyone but who was it that Ken did not meet?’
The sentence in (8a) is obtained if the object in (7a) is put in the focus position in the cleft construction. It is unacceptable. The status does not change if the object is switched to a *wh*-phrase as in (8b). NPIs in Japanese are subject to the requirement that they be clausemates with the negation marker (Muraki 1978). In (8), the NPI is dislocated out of the presuppositional clauses, violating the condition.

Let us now construct an example of Japanese sluicing where an expression accompanied by the NPI appears as the remnant, to see whether the prediction made by the cleft analysis is borne out. The following is a relevant case:¹

(9) a. Ken-wa hitori-no onnanoko-sika awanakatta sooda.  
Ken-TOP one-GEN girl-DAT-SIKA met.not I-heard  
‘I heard Ken did not meet anyone but one girl.’

b. Dare-ni-sika ka osiete-kudasai.  
who-DAT-SIKA Q tell-please  
‘lit. Please tell me anyone but who.’

Anteceded by (9a), (9b) has a reduced indirect question. Although the NPI occurs with the remnant *wh*-phrase, the sentence sounds fairly acceptable, in sharp contrast with (8a-b). This is confirmed by the following data:

(10) a. Ken-wa hitori-no onnanoko-kara-sika tyoko-o

¹ Nishigauchi and Fujii (2006) observe that the NPI cannot occur in remnants in fragment answers, on the basis of the following data:

(i) a. Kono neko-wa nani-sika tabenai no?  
this cat-TOP what-SIKA eat.not Q  
‘Only what does this cat eat?’

tuna-SIKA be  
‘Only tuna.’

The sluicing counterpart sounds fairly acceptable to us, however:

(ii) a. Kono neko-wa aru syu-no sakana-sika tabenai sooda.  
this cat-TOP a.certain kind-GEN fish-SIKA eat.not I-heard  
‘I heard this cat does not eat anything but a certain kind of fish.’

b. Donna sakana-sika ka osiete-kudasai.  
what fish-SIKA Q tell-please  
‘lit. Please tell me anything but what fish.’

We have no explanation of this discrepancy between fragment answers and sluicing at the moment.
Ken-TOP one-GEN girl-from-SIKA chocolate-ACC
morawanakatta sooda.
received.not I-heard
‘I heard Ken did not receive chocolate from anyone but one
girl.’

b. Boku-wa dare-kara-sika ka soozoodekinai.
I-TOP who-from-SIKA Q imagine.cannot
‘lit. I cannot imagine anyone but who.’

The truncated embedded clause in (10b) contains a wh-phrase remnant accom-
panied by the NPI; Nonetheless, the sentence is acceptable.

The observation that (9b) and (10b) are possible would not be explained
by the cleft analysis, which would predict them to be degraded just like
those cases where the NPI accompanies the foci in the cleft constructions in
(8a-b).

Before leaving this section, we should mention the fact that the copula
may still appear in (9b) and (10b) though they are unlikely to involve cleft
structures. Thus, (9b) and (10b) may be expressed alternatively as in (11a-
b), respectively.

(11) a. Dare-ni-sika da ka osiete-kudasai.
who-DAT-SIKA be Q tell-please
I-TOP who-from-SIKA be Q imagine.cannot

The source of these sluiced clauses, whatever it may be, must be a construc-
tion that can optionally contain the copula and allows the NPI to accompany
wh-phrases.

3. Proposal

Basically following Hiraiwa and Ishihara (2002), we propose that the cases
of Japanese sluicing above be derived from the so-called no da ‘that be’
construction (Kuno 1973), which is illustrated below:2

(12) a. Ken-ga Hana-ni atta.
Ken-NOM Hana-DAT met
‘Ken met Hana.’

2 Hiraiwa and Ishihara (2002) assume that the sluicing construction is derived from the no
da construction via cleft formation, and hence their analysis is another instance of the cleft
analysis of Japanese sluicing. We depart from them in not assuming the involvement of cleft
formation in the derivation of Japanese sluicing (see below).
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b. Ken-ga Hana-ni atta no da.
   Ken-NOM Hana-DAT met that be
   ‘It was that Ken met Hana.’

The example in (12a) is a normal transitive sentence. Its no da counterpart is given in (12b). While the cleft construction must dislocate foci in the designated focus position, the no da construction allows focused elements to remain in situ: Thus, the subject Ken or the object Hana can be focused in (12b) without causing a word order shift (for details about this construction, see the references above). We just assume that the no da construction has the following configuration (see Hiraiwa and Ishihara 2002 for a more elaborate structure):

(13)  [TP (pro) [T' [VP [CP [TP Ken-ga Hana-ni atta] noC] da] V] T]]

Here the TP in (12a) is selected by the complementizer no, and the resulting CP is the complement of the copula verb da. The matrix TP may or may not contain a null expletive subject: If it does, the whole structure directly corresponds to the English construction given as the translation in (12b).

Let us note that the no da construction can be embedded, as below:

(14)  Boku-wa [Ken-ga Hana-ni atta no (da) ka] kiita.
   I-TOP Ken-NOM Hana-DAT met that be Q asked
   ‘I asked whether it was that Ken met Hana.’

In (14), the construction in question is embedded in the indirect question. What is noteworthy is the fact that the copula is optional in this environment too. Further, phrases accompanied by the NPI sika can appear in the no da construction.

(15)  Ken-ga dare-ni-sika awanakatta no (da) ka
   Ken-NOM who-DAT-SIKA met.not that be Q osiete-kudasai.
   tell-please
   ‘lit. Please tell me Q it was that Ken did not meet anyone but who.’

In (15), the wh-phrase is attached to by the NPI, and the entire sentence is acceptable, which is natural because the NPI is in the same clause as the negation marker. As seen in (14), the copula is optional here too.
Capitalizing on those properties of the no da construction, we assume that it underlies the cases of Japanese sluicing considered in the previous section. Our analysis of (9b) and (11a) is shown below:

(16) \[
\text{[CP} \text{[TP} \text{Ken-ga dare-ni-sika awanakatta no]} \text{[da ka]} \text{osiete-kudasai be Q tell-please 'lit. please tell me Q it was that Ken did not meet anyone but who']}
\]

We have a no da construction inside the embedded question in (16). The CP headed by the complementizer no is affected by nonconstituent deletion so that the part excluding the wh-phrase plus the NPI is elided. The result yields (9b) or (11a) depending on whether the copula is omitted or not.

Nonconstituent deletion is independently motivated by van Craenenbroeck and den Dikken (2006) in their analysis of fragmentary answers such as the following:

(17) a. What didn’t work?
   b. Any of the printing equipment.

The fragment in (17b) is intended as an answer to the question in (17a). It might be thought that (17b) stems from the nonelliptic form in (18).

(18) * Any of the printing equipment didn’t work.

As indicated, however, this cannot be the source of (17b). It is ungrammatical because the NPI any is not c-commanded by the negation marker. The authors mentioned above propose that (17b) be derived rather from the structure below by nonconstituent deletion:

(19) \[
\text{[TP T not [VP any of the printing equipment work]]}
\]

Here the subject remains in VP without moving to the specifier position of TP, and deletion applies to TP so that the elements except the subject are elided. This analysis can account for the grammaticality of (17b) since it posits that the subject stays in VP so as to be c-commanded by the negation marker. According to van Craenenbroeck and den Dikken (2006), the sub-

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3 In fact, Ross’ (1969) formulation of sluicing assumes nonconstituent deletion.
ject can remain in situ in (19) because T is deleted and consequently the EPP requirement, which is arguably associated with T, becomes void.

We now adduce an argument for our analysis of Japanese sluicing depicted in (16). It is based on the observation made by Hasegawa (1994) with regard to cases like the following:

(20)  a. Ken-wa Hana-ni manga-sika yomanai Ken-TOP Hana-DAT comic.book-SIKA read.not to told.not yooni iwanakatta. ‘Ken did not tell Hana not to read anything but comic books.’

b. Manga-sika Ken-wa Hana-ni yomanai comic.book-SIKA Ken-TOP Hana-DAT read.not to told.not yooni iwanakatta. ‘lit. Anything but comic books, Ken did not tell Hana not to read.’

In (20a), the embedded object is accompanied by the NPI sika and the matrix clause and the embedded clause are negated. The sentence is ambiguous between the two readings in (21) depending on which negation the NPI is associated with.

(21)  a. It was only comic books that Ken told Hana not to read.

b. Ken did not tell Hana that she should read only comic books.

In (20b), the embedded object is preposed into the matrix clause by scrambling. Hasegawa (1994) observes that the sentence loses ambiguity and is confined to the interpretation in (21a).

Bearing this in mind, let us consider the following data:

(22)  a. Ken-wa Hana-ni aru syu-no hon-sika Ken-TOP Hana-DAT a.certain kind-GEN book-SIKA yomanai yooni iwanakatta. read.not to told.not ‘Ken did not tell Hana not to read anything but a certain kind of book.’

The sentence in (22a) is like (20a) in that the embedded object is modified by *sika* and may be associated with either negation. (22a) antecedes (22b), where the embedded clause is sluiced and the *wh*-phrase remnant is accompanied by the NPI. We find (22b) to be ambiguous with regard to the association of the NPI with negation in parallel with (22a): It has either of the two readings in (23).

(23)  
   a. Please tell me only what kind of book Ken told Hana not to read.  
   b. Please tell me only what kind of book Ken did not tell Hana to read.

The ambiguity of (22b) is expected by our remnant-in-situ analysis of Japanese sluicing, according to which it is analyzed as follows:

(24)  
   *[[Ken-*ga*—Hana-ni* donna hon-sika yomanai Ken-NOM Hana-DAT what.kind book-SIKA read.not yooni iwanakatta-no] (da) ka] osiete-kudasai to told.not that be Q tell-please  
   ‘lit. please tell me [that Ken did not tell Hana not to read anything but what kind of book]]’

Here again, to account for the fact that the copula may optionally appear in (22b), we assume that the *no da* construction underlies the sluiced embedded clause. Nonconstituent deletion applies to the CP headed by *no*, eliding everything in the clause except the *wh*-phrase. Note that the NPI accompanying the *wh*-phrase is in situ, so that it is expected to be able to be associated with either negation just as in (20a).

On the other hand, if one were to derive (22b) by constituent deletion, he/she would have to treat it in the following way:

(25)   
   *[[donna hon-sika [Ken-*ga*—Hana-ni* yomanai what.kind book-SIKA Ken-NOM Hana-DAT read.not yooni iwanakatta-no] (da) ka] osiete-kudasai to told.not that be Q tell-please  
   ‘lit. please tell me [Q anything but what kind of book (it) was [that Ken did not tell Hana not to read]]’

In (25), the remnant *wh*-phrase is dislocated out of the *no* clause (it is immaterial exactly where it is located), and deletion applies to the whole clause to elide everything contained there. Notice that this analysis would predict that (22b) should not be ambiguous because the NPI is dislocated out of the
clause it originally belongs to just as in (20b). Thus, the analysis assuming constituent deletion could not accommodate the ambiguity of (22b), whereas our analysis in terms of nonconstituent deletion makes the right prediction for the example.

4. Small Clause Predicates as Remnants

In this section we provide a further supportive argument for our analysis of Japanese sluicing. It has to do with cases where predicates of small clauses occur as remnants. As a preliminary, let us review some basic properties of small clauses in Japanese. They typically appear as complements of such verbs as *omow* ‘think,’ *kanzi* ‘feel,’ and *su* ‘make’ (see Kikuchi and Takahashi 1991). Below are representative cases:

Ken-TOP Hana-ACC pretty thought
‘Ken considered Hana pretty.’

b. Ken-wa [Hana-no te-o atuku] kanzita.
Ken-TOP Hana-GEN hand-ACC hot felt
‘Ken felt Hana’s hand hot.’

c. Ken-wa [gakusei-o sake-ni totemo tuyoku] sita.
Ken-TOP student-ACC liquor-DAT very strong made
‘lit. Ken made his students very strong in liquor.’

The parts surrounded by brackets in (26a-c) are small clauses, where the subjects are marked accusative and the predicates are adjectives without a tense marker. Kikuchi and Takahashi (1991) observe that predicates of small clauses resist movement. Let us try dislocating the predicate in (26c) in the following way:

(27) a. * Totemo tuyoku Ken-wa gakusei-o sake-ni sita.
very strong Ken-TOP student-ACC liquor-DAT made
‘lit. Very strong, Ken made his students in liquor.’

b. * Ken-ga gakusei-o sake-ni sita no-wa
Ken-NOM student-ACC liquor-DAT made that-TOP
totemo tuyoku da.
very strong be
‘lit. It was very strong that Ken made his students in liquor.’
The predicate is preposed by scrambling in (27a), while it is dislocated by cleft formation in (27b). Both examples are quite degraded.\(^4\)

With this in mind, let us consider the following case of Japanese sluicing:

(28) a. Ken-wa gakusei-o sake-ni tuyoku si-tai
    Ken-TOP student-ACC liquor-DAT strong make-want
    I-heard
    ‘lit. I heard Ken wanted to make his students strong in liquor.’

b. Kimi-wa [dorekurai tuyoku (da) ka] soozoodekimasu ka?
    you-TOP how strong be Q imagine.can Q
    ‘Can you imagine how strong?’

Preceded by (28a), (28b) contains a sluiced embedded clause, where the small clause predicate occurs as a remnant. The cleft analysis would predict that (28b) should be impossible just like (27b), but the fact is that it is perfectly acceptable. Also, if one were to try to derive (28b) by constituent deletion, he/she would analyze it as follows:

(29) * kimi-wa [dorekurai tuyoku [Ken-ga gakusei-o
    you-TOP how strong Ken-NOM student-ACC
    sake-ni si-tai no] (da) ka] soozoodekimasu ka
    liquor-DAT make-want that be Q imagine-can Q
    ‘lit. can you imagine Q (it) was [how strong [that Ken wanted
to make his students in liquor]]’

In (29), the remnant wh-phrase is assumed to be moved out of the CP headed by no (we do not have to be concerned about the precise location of the wh-phrase), and then deletion elides the whole CP as a unit. Although this analysis could adhere to constituent deletion, it would not be able to rule in the sentence because we know from (27a) that the predicate cannot be moved in the way depicted in (29).

On the other hand, our analysis can handle the example easily. We analyze it as follows:

(30) kimi-wa [Ken-ga gakusei-o sake-ni dorekurai
    you-TOP Ken-NOM student-ACC liquor-DAT how
    tuyoku si-tai no] (da) ka] soozoodekimasu ka

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\(^4\) We are not concerned about the reason for the observed failure. See Kikuchi and Takahashi 1991 for this matter. It suffices for our purpose that predicates in question are immobile.
strong make-want that be Q imagine-can Q
’lit. can you imagine Q (it) was [that Ken wanted to make his students how strong in liquor]]’

Here the small clause predicate remains in situ. Nonconstituent deletion applies to the no clause, eliding everything except the wh-phrase. Since the predicate is not moved, the structure should be deemed to be wellformed, as desired.

5. Conclusion
To summarize, we have considered those cases of Japanese sluicing that have phrases accompanied by the NPI sika or small clause predicates as remnants, arguing that they cannot be accounted for by the cleft analysis. We have proposed an alternative analysis of Japanese sluicing, according to which the relevant cases are derived from no da constructions by nonconstituent deletion. To the extent that our analysis is successful in handling the data the previous analyses have difficulty accommodating, it provides support for the existence of deletion that affects nonconstituents. There are languages like Japanese that have wh-phrases in situ in wh-questions and nonetheless exhibit sluicing. Previous approaches have postulated wh-movement or some other operations that dislocate wh-phrases such as cleft formation to explain the phenomenon in question. The idea offered in this article, on the other hand, does not take recourse to such movement operations, shedding a new light on the issue.

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