

Japanese Pseudo-slucing and Quantifier Raising

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1. Introduction

It has been widely assumed in the literature that quantificational phrases such as English *someone* and Japanese *dareka* “someone” undergo movement at LF, via a process known as Quantifier Raising (QR). QR was first proposed in order to account for inverse scope readings of sentences with more than one quantified phrases. There have also been proposed other motivations for assuming QR; for example, positing QR, we can solve the “infinite regress” problem in Antecedent Contained Deletion (ACD).¹ In this paper, I would like to show that there is another motivation for assuming QR, based on the analysis of pseudo-slucing in Japanese. These motivations corroborate the assumption that every quantified phrases must undergo QR, whether or not the sentence contains more than one quantified phrase.

(1) is an example of Japanese pseudo-slucing construction. Japanese pseudo-slucing is apparently very similar to the English slucing exemplified in (2a).

- (1) Taro-ga nanika-o kat-ta ga, watasi-wa **nani** ka sira-nai.
Taro-Nom something-Acc buy-past but I-Top what Q know-not
‘Taro bought something, but I don’t know what.’
- (2) a. Taro bought something, but I don’t know **what**.
b. Taro bought something, but I don’t know [CP what; C⁰ [IP Taro bought t_i]].

¹ (ia) is an example of ACD, where the antecedent VP of the truncated verb *do* (*like everyone that I do*) contains *do* itself.

- (i) a. You like everyone that I do.
b. *You [_{VP} like everyone that I [_{VP} like everyone that I [_{VP} like everyone that...]]].
c. [_{IP} [everyone that I do [_{VP} like t]] [_{IP} you [_{VP} like t]]]

If the content of the deleted VP *do* is to be restored by replacing *do* with the antecedent VP at LF, it causes “infinite regress” as you see in (ib). By applying QR to the quantificational phrase *everyone that I do*, however, the antecedent VP does not contain the truncated verb *do* anymore as shown in (ic); the remainder of the QR (*like t*) can serve as the antecedent of *do* with no problem. See Kennedy (1997) for details.

According to Merchant (1998, 2001), the English sluiced sentence (2a) has the configuration in (2b), and is derived in the following way. (i) *Wh*-movement applies in the embedded question CP in the second conjunct. (ii) The IP, out of which the *wh*-phrase is moved, is elided at PF, leaving only the fragmentary *wh*-phrase. The Japanese pseudo-sluicing example in (1) is similar to this construction in that it also has a fragmentary *wh*-phrase *nani* “what” in the second conjunct.

Despite the superficial similarity, however, Kuwabara (1997) and Merchant (1998), among others, argue that the Japanese pseudo-sluicing construction is quite different from that of English sluicing. They claim that sentences such as (1) are examples of an elliptical cleft whose pivot is a *wh*-phrase. Under this view, the second conjunct in (1) has the configuration in (3a).

- (3) a. *watasi-wa* [*pro* [*nani da*] *ka*] *sira-nai*.
 b. *watasi-wa* [[_{CP} [_{IP} *Taro-ga kat-ta*] *no-ga*] [*nani da*] *ka*] *sira-nai*.
 I-Top Taro-Nom buy-past thing-Nom what be Q know-not
 ‘I don’t know what it was that Taro bought.’

The configuration is basically the same as that of (3b). The embedded part of (3b) is a cleft sentence, whose pivot is *nani* “what.” In this cleft sentence, the pivot phrase *nani* followed by the copula *da* “be” serves as the predicate, and the remainder of the CP serves as the subject of the cleft with the nominalizer *no* “thing” attached. It is observed that CPs with the nominalizer *no* behave like NPs and are followed by Case-markers such as Nominative *-ga*. (I will not go into the issue of the exact status of the nominalizer here.) Under the analysis of Kuwabara (1997) and Merchant (1998), if the copula in (3b) is omitted and the nominalized CP is replaced with *pro*, we obtain the pseudo-sluiced sentence (3a).

It is observed that the pronominal subject *sore* “it” optionally occurs in pseudo-sluiced sentences as shown in (4).

- (4) *Taro-ga nanika-o kat-ta ga, watasi-wa (sore-ga) nani da ka sira-nai*.
 Taro-Nom something-Acc buy-past but I-Top it-Nom what be Q know-not
 ‘Taro bought something, but I don’t know what.’

I would like to assume that this *sore* “it” is a pronoun which corresponds to *pro* in (3a). I will show in this paper that in order for this pronoun to have an appropriate antecedent, the quantified phrase *nanika* “something” in the first conjunct of (4) has to undergo QR.

This paper is organized as follows. Section 2 briefly reviews some pieces of evidence for supporting the analysis of pseudo-sluicing in (3a). In Section 3, I will

consider what serves as the antecedent of the pronominal subject in Japanese pseudo-slucing. In Section 4, I will take up a related problem: the “infinite regress” problem of adjunct sluicing pointed out in Yoshida (2003). I will show that, besides QR of the quantified phrase, Yoshida’s PP-extraction approach should be applied to Japanese pseudo-slucing. Section 5 concludes the paper.

2. Argument for Pseudo-slucing as a Cleft Sentence

In Section 1, we have seen the analysis of pseudo-slucing construction proposed by Kuwabara (1997) and Merchant (1998). There is an alternative analysis for the construction in (1) proposed by Takahashi (1993, 1994). In this section, I would like to review basic properties of pseudo-slucing and argue for the former analysis.

Unlike Kuwabara (1997) and Merchant (1998), Takahashi (1993, 1994) argues that Japanese pseudo-slucing can be dealt with in the same way as English sluicing. He argues that Japanese has overt *wh*-movement just as English does, and that the underlying structure of the elliptical sentence in (1) is (5).

- (5) watasi-wa [_{CP} nani_i [_{IP} ~~Taro-ga-t_i-kat-ta~~] ka] sira-nai.
 I-Top what Taro-Nom buy-past Q know-not

In (5), the IP inside the embedded interrogative CP is elided, leaving the fragment *wh*-phrase *nani* “what” and the complementizer *ka*. This configuration is the same as that of English sluicing illustrated in (2b).

His analysis, however, encounters a problem. Recall that Japanese pseudo-slucing can have a pronominal subject *sore* “it” as we have seen in (4). In the configuration in (5), there is no position for the pronominal subject in the embedded CP. If we adopt the analysis of Kuwabara (1997) and Merchant (1998), such a problem does not arise, because they claim that *pro* is located in the embedded subject position of the second conjunct of pseudo-slucing; it is not unreasonable to assume that an overt pronominal element also occurs in this position instead of *pro*.

Merchant (1998) points out three similarities between pseudo-slucing and cleft in Japanese to show that pseudo-slucing is a kind of cleft. First, as shown in (6) and (7), case-markers tend to be omitted both on the pivot of Japanese cleft and on the *wh*-phrase in pseudo-slucing. This tendency is especially strong in the case of the nominative marker *ga*.²

² Hiraiwa and Ishihara (2002) (H&I) employ different terminology for sentences like (7). They call elided sentences in which the *wh*-phrase has a case-marker “sluicing” and those in which the

- (6) a. Bungo-ni Aya-o syookaisi-ta no-wa Kota(*-ga) da.
 Bungo-Dat Aya-Acc introduce-past thing-Top Kota(*-Nom) be
 ‘It is Kota that introduced Aya to Bungo.’
- b. Kota-ga Bungo-ni syookaisi-ta no-wa Aya(??-o) da.
 Kota-Nom Bungo-Dat introduce-past thing-Top Aya(??-Acc) be
 ‘It is Aya that Kota introduced to Bungo.’
- c. Kota-ga Aya-o syookaisi-ta no-wa Bungo(?-ni) da.
 Kota-Nom Aya-Acc introduce-past thing-Top Bungo(?-Dat) be
 ‘It is Bungo that Kota introduced Aya to.’ (Merchant (1998))
- (7) a. Dareka-ga sono hon-o yon-da ga, watasi-wa dare(*-ga) ka wakara-nai.
 someone-Nom the book-Acc read-past but I-Top who(*-Nom) Q know-not
 ‘Someone read the book, but I don’t know who.’
- b. Taro-ga dareka-o nagut-ta ga, watasi-wa dare(??-o) ka wakara-nai.
 Taro-Nom someone-Acc hit-past but I-Top who(??-Acc) Q know-not
 ‘Taro hit someone, but I don’t know who.’ (Merchant (1998))
- c. Taro-ga hon-o dareka-ni age-ta ga,
 Taro-Nom book-Acc someone-Dat give-past but
 watasi-wa dare(?-ni) ka wakara-nai.
 I-Top who(?-Dat) Q know-not
 ‘Taro gave a book to someone, but I don’t know who.’

Second, both Japanese cleft and Japanese pseudo-slucing are sensitive to island conditions as shown in (8) and (9).

- (8) a. *[Hanako-ga [_{DP} [_{CP} *t_i* Taro-ni age-ta] hito]-ni at-ta no]-wa kuruma_i da.
 Hanako-Nom Taro-Dat give-past person-Dat meet-past thing-Top car be
 ‘*It is a car_i that Hanako met [the person who gave *t_i* to Taro].’

case-marker is omitted “pseudo-slucing.” They claim that the optional pronoun *sore* “it” occurs only in the absence of the case-marker on the *wh*-phrase (in their terms, only in the case of “pseudo-slucing”).

- (i) Taro-ga nanika-o kat-ta ga,
 Taro-Nom something-Acc buy-past but
- a. watasi-wa (**sore-ga*) nani-o ka wakara-nai. (“slucing” in H&I)
 I-Top (*it-Nom) what-Acc Q know-not
- b. watasi-wa (*sore-ga*) nani ka wakara-nai. (“pseudo-slucing” in H&I)
 I-Top (it-Nom) what Q know-not

If their judgment is correct, we might need another analysis for (ib) than the one I propose here. (See also Manabe (2004) in this volume for the contrast between (ia) and (ib).) However, some Japanese accept (ia) with the presence of *sore-ga*, and in this paper, I do not treat them as two different constructions and would like to call them “pseudo-slucing” altogether for simplification.

- b. *[Hanako-ga [_{PP} Taro-ga t_i kat-ta atode] okot-teiru no]-wa kuruma_i da.
Hanako-Nom Taro-Nom buy-past after be-angry-pres thing-Top car be
'*It is a car_i that Hanako is angry [after Taro bought t_i].'
- (9) a. *Hanako-ga [_{DP} [_{CP} Taro-ni nanika-o age-ta] hito]-ni at-ta ga,
Hanako-Nom Taro-Dat something-Acc give-past person-Dat meet-past but
watasi-wa nani ka sira-nai.
I-Top what Q know-not
'Hanako met [a person who gave something to Taro], but I don't know what.'
- b. *Taro-ga [_{PP} Hanako-ga nanika-o kat-ta kara] okot-teiru ga,
Taro-Nom Hanako-Nom something-Acc buy-past because be-angry-pres but
watasi-wa nani ka sira-nai.
I-Top what Q know-not
'Taro is angry [because Hanako bought something], but I don't know what.'
- (Merchant (1998))

(9) shows that the *wh*-phrase in Japanese pseudo-sludging cannot target the NP inside an island. On the other hand, English sludging is not island-sensitive, as the English translation of (9) shows.³

Third, as shown in (10), the *wh*-phrase in the pseudo-sludging construction can optionally be followed by the copula *da* "be," in the same way that the pivot of the clefts can be.

³ H&I judge a sentence such as (9a) as acceptable, while the case-marked version of it is not acceptable. They observe the contrast between (ia) and (ib).

- (i) Hanako-ga [_{DP} [_{CP} Taro-ni nanika-o age-ta] hito]-ni at-ta ga,
Hanako-Nom Taro-Dat something-Acc give-past person-Dat meet-past but
- a. *watasi-wa nani-o ka wakara-nai. ("sludging" in H&I)
I-Top what-Acc Q know-not
- b. watasi-wa nani ka wakara-nai. ("pseudo-sludging" in H&I)
I-Top what Q know-not

The judgment differs from person to person, but the point is that, for those who observe island effects in (pseudo-)sludging with a case-marker, cleft with a case-marker is also island-sensitive as shown in (ii).

- (ii) a. *John-ga [[t_i kai-ta] hito]-o hihansi-ta no]-wa kono ronbun_i-o da.
John-Nom write-past person-Acc criticize-past thing-Top this paper-Acc be
- b. John-ga [[t_i kai-ta] hito]-o hihansi-ta no]-wa kono ronbun_i da.
John-Nom write-past person-Acc criticize-past thing-Top this paper be
'It is this paper_i that John criticized the person who wrote t_i.' (cf. H&I: 37)

This correlation in judgment shows the parallelism between cleft and (pseudo-)sludging. About the island sensitivity of these constructions, see Manabe (2004) in this volume, where H&I's judgment is adopted.

- (10) a. [[Taro-ga kat-ta] no]-wa hon **da/dat-ta**.
 Taro-Nom buy-past thing-Top book **be/be-past**
 'It is/was a book that Taro bought.'
- b. Taro-ga nanika-o kat-ta ga, watasi-wa nani (**da/dat-ta**) ka sira-nai.
 Taro-Nom something-Acc buy-past but I-Top what (**be/be-past**) Q know-not
 'Taro bought something, but I don't know what it is/was.'

As we have already seen in (3a), the copula in pseudo-slucing can be omitted.

Moreover, Merchant (1998) notes that Japanese pseudo-slucing is quite different from English slucing in that it is compatible with any complementizer. English slucing, on the other hand, only allows *wh*-agreeing complementizers and not non-agreeing complementizers such as *whether*, *if*, and *that*. The English sluiced sentences (11b, d), which are supposed to correspond to the Japanese pseudo-sluced sentences (11a, c), are totally unacceptable.

- (11) a. John-ga dareka-o kubinisi-ta ga,
 John-Nom someone-Acc fire-past but
 watasi-wa Bill(??-o) **kadooka** sira-nai.
 I-Top Bill(??-Acc) **whether/if** know-not
- b. *John fired someone, but I don't know **whether/if** Bill.
- c. John-ga dareka-o kubinisi-ta ga, watasi-wa Bill(??-o) **to** omou.
 John-Nom someone-Acc fire-past but I-Top Bill(??-Acc) **that** think
- d. *John fired someone, but/and I think **that** Bill.

Above argument shows that Japanese pseudo-slucing is not slucing but a kind of cleft.

3. The Pronominal Subject in Japanese Pseudo-slucing and Its Antecedent

In this section, let us consider the issue of the pronominal subject in Japanese pseudo-slucing. We have seen in Section 1 that the second conjunct of pseudo-slucing has a pronominal subject *pro* or *sore* "it." How does the interpretation of this pronominal subject obtain? In this section, I would like to show that the antecedent of this pronominal subject is the first conjunct of the pseudo-slucing construction with the quantified phrase moved out by QR.

As for interpretation of English pseudo-slucing, Merchant (2001) convincingly argues that the deletion site of slucing and its antecedent do not have to satisfy the "isomorphism condition"; the deleted IP and the first conjunct of slucing are not necessarily identical.

(12) **Abby is reading**, but I don't know what [~~Abby is reading *t*~~].

For example, the first conjunct in (12) involves the intransitive verb *read*, although the deleted IP involves the transitive verb *read*, taking *what* as its internal argument. Based on this and other observations, Merchant claims that the possibility of PF-deletion in sluicing is not assured by syntactic identity between deletion site and its antecedent, and that conditions imposed on deletion are purely semantic.⁴

Japanese pseudo-sluicing, on the other hand, does not involve deletion, as we have seen in the previous section. Instead, the environment where pseudo-sluicing is properly interpreted should be restated as the environment where the pronominal subject of the cleft can receive an appropriate interpretation. I would like to consider two questions here. Does this pronominal subject take an antecedent at all? If so, what serves as the antecedent?

It is pointed out in the literature that pseudo-sluicing needs a linguistic antecedent.^{5,6} Look at the examples in (13).

- (13) a. Smith: Celtic-no sukauto-ga dareka-o sagasi-teru mitaida.
 Celtic-Gen scout-Nom someone-Acc look-for-prog seem
 'It seems that the scout from the Celtics is looking for someone.'
 Jim: Watasi-wa *pro/sore*-ga dare ka wakara-nai.
 I-Top *pro/it*-Nom who Q know-not
 'I don't know who.'
- b. [Context: The Huskies are participating in the Gampel Pavillion. They see the scout from the Celtics hanging around there.]
 Jim: #Watasi-wa *pro/sore*-ga dare ka wakara-nai.
 I-Top *pro/it*-Nom who Q know-not
 'I don't know who.' (cf. Kuwabara (1997))

In (13a), Smith's utterance serves as the first conjunct of pseudo-sluicing; the

⁴ See Merchant (2001) for the details of the analysis.

⁵ Actually, Kuwabara (1997) gives the example of pseudo-sluicing in (13a) as grammatical even with the accusative marker *-o*, as in (i), which differs from our judgment given in (7b).

(i) Jim: Watasi-wa *pro/sore*-ga dare-o ka wakara-nai.
 I-Top *pro/it*-Nom who-Acc Q know-not
 'I don't know who.'

The point in (7) is that the acceptability of clefts and pseudo-slucices correlates with respect to the existence of the case-markers, and even if the acceptability of (i) differs from person to person, it does not necessarily cause a problem for the argument here.

⁶ # in (13b) indicates that the sentence is unacceptable in the expected interpretation: in this case, the interpretation in which the antecedent of the pseudo-slucice is the context noted in (13b).

pseudo-sluced sentence which Jim uttered is linked to the previous utterance of Smith. On the other hand, in (13b), there is no previous utterance, and there is a context to show that “the scout from the Celtics is looking for someone.” As the unacceptability of (13b) shows, pseudo-slucing is not licensed by such a non-linguistic context.⁷ This shows that the pronominal subject in pseudo-slucing is an example of “surface anaphora” in Hankamer and Sag’s (1976) sense, and must be controlled by a linguistic antecedent.⁸

Then, what serves as the linguistic antecedent for *pro/sore* in pseudo-slucing? Recall that pseudo-slucing is a cleft construction which has a pronominal subject instead of a full CP subject. Pseudo-sluced sentence (14a) has a cleft configuration which corresponds to the full cleft sentence (14b).

⁷ Fukaya and Hoji (1999) argue that this kind of pragmatic control is possible when the Case-marker on the *wh*-pivot is omitted.

- (i) [Context: The angry voice of a teacher whom John and Bill both know is coming out of a room. The teacher is obviously scolding someone.]

John to Bill: Boku-wa [dare da ka] wakaru.

I-Top who be Q know

‘I know who.’

(Fukaya and Hoji (1999) with a slight modification)

In this context, John and Bill perceive the presence of the “someone” who is being scolded. This might be the cause of the contrast between (i) and (13b), where Smith and Jim cannot see or hear “someone” being looked for. I suspect that, in the situation like (i), the subject of the embedded question sentence might be different from that of pseudo-slucing. If it has a *pro* subject, it could be analyzed as a normal *pro*-drop subject, which takes a pragmatically-controlled antecedent.

- (ii) John to Bill: Boku-wa [*pro* dare da ka] wakaru.

I-Top *pro* who be Q know

‘I know who.’

Actually, as seen in (iii), the optional pronoun *sore-ga* “it-Nom” cannot appear in the same situation, which suggests a different analysis for (i) from (13b).

- (iii) John to Bill: #Boku-wa [*sore-ga* dare da ka] wakaru.

I-Top it-Nom who be Q know

‘I know who (it is).’

I will leave open how (i) should be analyzed in future research.

⁸ Although the availability of sloppy readings has sometimes been considered as the evidence for surface anaphora, Japanese pseudo-slucing does not yield sloppy readings as shown in (i).

- (i) Taro-ga nanika-o kat-ta ga, watasi-wa *pro/sore-ga* nani ka wakara-nai.
 Taro-Nom something-Acc buy-past but I-Top *pro/it*-Nom what Q know-not
 a. strict: Taro bought something, but I don’t know what Taro bought.
 b. *sloppy: Taro bought something, but I don’t know what I bought.

However, as Hoji (2003) notes, the availability of sloppy readings cannot be the hallmark for surface anaphora, as deep anaphora such as the English expression *do the same thing* also shows strict/sloppy ambiguity.

- (14) a. [_{CP} Taro-ga nanika-o kat-ta] ga,
 Taro-Nom something-Acc buy-past but
 watasi-wa [*pro*/sore-ga [nani da] ka] sira-nai.
 I-Top *pro*/it-Nom what be Q know-not
- b. watasi-wa [[_{CP} [Taro-ga kat-ta] no]-ga [nani da] ka] sira-nai.
 I-Top Taro-Nom buy-past thing-Nom what be Q know-not
 ‘I don’t know what it was that Taro bought.’

Thus, it is natural to assume that the antecedent of the pronominal subject in (14a) is something like the CP subject inside the cleft configuration in (14b).

Note, however, that the CP subject in (14b) and the first conjunct CP of pseudo-sludging are not identical; only the latter includes the quantified phrase *nanika* “something.” This means that the antecedent of the pronoun in the pseudo-sludge in (14a) cannot be the whole previous sentence. If it were, it would yield the incorrect interpretation in (15).

- (15) *watasi-wa [[_{CP} [Taro-ga nanika-o kat-ta] no]-ga [nani da] ka] sira-nai.
 I-Top Taro-Nom **something-Acc** buy-past thing-Nom what be Q know-not
 ‘*I don’t know what it was that Taro bought something.’

One might claim that the antecedent of the pronoun in (14a) is the quantified NP *nanika* “something” in the first conjunct, and not the first conjunct itself. At first sight, this view seems to yield the correct interpretation, since this *nanika* can be restated as “the thing Taro bought.” However, this analysis does not work, given the fact that even if the quantified NP denotes a person as in (16b), the inanimate pronoun *sore* “it” can still appear as the subject of the pseudo-sludged sentence.

- (16) a. Taro-ga Jiro_i-o tatai-ta.
 Taro-Nom Jiro-Acc hit-past
Pro/**Sore*-wa/Sono hito-wa/Kare-wa_i Taro-no tomodati da.
Pro/it-Top/that person-Top/he-Top Taro-Nom friend be
 ‘Taro hit Jiro_i. *Pro*/*It/That person/He_i is Taro’s friend.’
- b. [_{CP} Taro-ga [aru otoko]_i-o tatai-ta] ga,
 Taro-Nom a-certain man-Acc hit-past
 watasi-wa *pro*/sore-ga/sono hito-ga/??kare-ga_i dare (da) ka sira-nai.
 but I-Top *pro*/it-Nom/that person-Nom/??he-Nom what (be) Q know-not
 ‘Taro hit a certain man, but I don’t know who.’

As shown in (16a), *sore* “it” cannot take an NP denoting a person as its antecedent; the pronoun *sore* in (16b) cannot directly denote *aru otoko* “a certain man” in the previous sentence.^{9,10}

Assuming that every quantified phrase has to undergo QR, we can, on the other hand, easily explain how the interpretation of the second conjunct in (14a) can be the same as the cleft sentence in (14b). (17) illustrates the LF representation of (14a) with QR applied.

- (17) [nanika_i-o [_{CP} Taro-ga *t*_i kat-ta]_j] ga, watasi-wa *pro/sore*-ga_i nani ka sira-nai.
 something-Acc Taro-Nom buy-past but I-Top *pro/it*-Nom what Q know-not
 (*pro/sore* = Taro-ga *t* kat-ta “Taro-Nom *t* buy-past”)

In this configuration, *pro/sore* in the second conjunct can take the phrase *Taro-ga t kat-ta* “Taro *t* bought” as its antecedent, which will bear the expected interpretation. If this analysis is on the right track, this will serve as another piece of evidence to support the hypothesis where quantified phrases undergo QR even when they yield no scope ambiguity.¹¹

⁹ In this example, the latter two pronouns, *sono hito* “that person” and *kare* “he,” are assumed to denote *aru otoko* “a certain man” in the previous sentence, since these pronouns are exclusively used for humans. Notice, however, the sentence with *kare* is much more degraded compared to the sentence with *sono hito*. This fact might have something to do with the fact that the Japanese pronouns *kare* and *kanojo* “she” cannot be bound by quantified expressions.

¹⁰ Even in the cases where no pseudo-slucing construction is involved, the pronoun *sore* “it” can refer to the previous sentence with a quantifier phrase which denotes a person, on condition that the tense of the second sentence agrees with the antecedent sentence.

- (i) Taro-ga [aru otoko]-o tatai-ta. Sore-wa Taro-no tomodati dat-ta/??da.
 Taro-Nom a-certain man-Acc hit-past it-Top Taro-Nom friend be-past/??be
 ‘Taro hit a certain man. It was/??is Taro’s friend.’

Putting aside the problem of tense, I would like to assume that, in (i), the first sentence without the quantified phrase serves as the antecedent of *sore*. This analysis is the same as that of pseudo-slucing I give in this paper.

¹¹ In the above examples, the pivot of pseudo-slucing (*nani* “what”) is an argument *wh*-phrase. There are also examples such as those in (ia), where the pivot of the pseudo-slucice is an adjunct *wh*-phrase and the preceding sentence does not contain any quantified phrase. (Levin (1982) classifies fragment *wh*-phrases in English sluicing into three types, and differentiates adjunct *wh*-phrases with argument/potential argument *wh*-phrases.) The interpretation of (ia) corresponds to that of the full cleft sentence in (ib).

- (i) a. [_{CP} Taro-ga hon-o kat-ta]_i ga,
 Taro-Nom book-Acc buy-past but
 watasi-wa *pro/sore*_i-ga doko(-de)/itu/naze ka sira-nai.
 I-Top *pro/it*-Nom where(-at)/when/why Q know-not
 ‘Taro bought a book, but I don’t know where/when/why.’
 b. Watasi-wa [[_{CP} [Taro-ga hon-o kat-ta] no]-ga
 I-Top Taro-Nom book-Acc buy-past thing-Nom

4. Adjunct Sluicing in Japanese

We have seen in the previous section that by introducing QR, we can obtain the appropriate linguistic antecedent for the pronominal subject *pro/sore* in the pseudo-sluiced sentence. There remains one case, however, in which the proper interpretation of the pronoun cannot be given even by adopting QR. (18) is an example of Japanese adjunct pseudo-sluicing.¹²

- (18) Taro-ga [_{PP} *pro/sore-ga dare(?-ni)* (da) ka sira-zu-ni]
 Taro-Nom *pro/it-Nom* who(?-Dat) (be) Q know-not-with
 dareka-ni kiss(-o) si-ta.
 someone-Dat kiss do-past
 ‘Taro kissed someone without knowing who.’

In this section, we will consider the potential “infinite regress” problem which adjunct pseudo-sluicing has. We will see that, in order to avoid the problem, not only QR, but also Yoshida’s (2003) PP-extraction approach should be applied to the analysis of Japanese pseudo-sluicing.

The pseudo-sluiced adjunct in (18) is interpreted in the same way as the cleft sentence (19).¹³

[doko(-de)/itu/naze (da)] ka] sira-nai.
 where/when/why (be) Q know-not

‘I don’t know where/when/why it was that Taro bought a book.’

Unlike examples of argument *wh*-phrases, in (ia), the first conjunct does not contain any quantified phrases. However, we could posit null quantified phrases concerning time, places, reasons, etc. to apply our analysis to examples with adjunct *wh*-phrases. These null pronouns would correspond to overt phrases such as *some time*, *somewhere*, *for some reason*, etc. If these null quantified phrases undergo QR and the remainder of the first conjunct serves as the antecedent of the pronominal subject in the second conjunct, the structure of (ib) would be parallel to that of examples with argument *wh*-phrases.

¹² I am grateful to Yoshida (p.c.) for letting me notice this point.

¹³ In Japanese, subjects often undergo topicalization, so (i) might sound more natural than (19).

- (i) **Taro-wa** [_{PP} *pro/sore-ga dare(?-ni)* (da) ka sira-zu-ni] dareka-ni kiss(-o) si-ta.
Taro-Top *pro/it-Nom* who(?-Dat) (be) Q know-not-with someone-Dat kiss do-past
 ‘Taro kissed someone without knowing who.’

However, the subject inside clefts cannot be topicalized as shown in (ii), so I employ the example with the nominative marker *-ga* here.

- (ii) ***Watasi-ga/wa** [_{CP} [**Taro-wa** kiss(-o) si-ta] no]-ga dare(?-ni) ka sira-nai.
 I-Nom/Top **Taro-Top** kiss do-past thing-Nom who(?-Dat) Q know-not
 ‘I don’t know who it is that Taro kissed.’

- (19) [[_{CP} Taro-ga kiss(-o) si-ta] no]-ga dare(?-ni) (da) ka sira-zu-ni
 Taro-Nom kiss do-past thing-Nom who(?-Dat) (be) Q know-not-with
 ‘without knowing who it was that Taro kissed’

However, as long as the PP in (18) is in its original position, when *pro/sore* takes the whole sentence as its antecedent, it would cause infinite regress; the pronoun could not be interpreted correctly, even after the quantified phrase *dareka-ni* “someone-Dat” is moved out by QR.

- (20) a. [dareka_i-ni [_{CP} Taro-ga [_{PP} *pro/sore*-ga dare(?-ni) (da) ka sira-zu-ni]
 someone-Dat Taro-Nom *pro/it*-Nom who(?-Dat) (be) Q know-not-with
 t_i kiss(-o) si-ta]].
 kiss do-past
 ‘Taro kissed someone without knowing who.’
 b. *pro/sore* =
 [_{CP} Taro-ga [_{PP} *pro/sore*-ga dare(?-ni) (da) ka sira-zu-ni] t_i kiss(-o) si-ta]

(20a) illustrates the situation after the QR of *dareka-ni* “someone-Dat” applies. In this sentence, the antecedent of *pro/sore* has to contain itself (see (20b)), which would yield the infinite regress in interpretation.

As is pointed out in Yoshida (2003), the same problem arises in English adjunct sluicing. In Section 2, we have seen that English sluicing involves PF-deletion. In the adjunct sluicing example (21a), however, the deletion of the IP after *wh*-movement would not yield the proper interpretation.

- (21) a. [_{IP} John [_{VP} [_{VP} kissed someone] [_{PP} without knowing [_{CP} who]]]].
 b. [_{IP} John [_{VP} [_{VP} kissed someone] [_{PP} without knowing [_{CP} who_i C⁰ [_{IP} ~~John~~
 kissed t_i without knowing [_{CP} who_i C⁰ [_{IP} John was...] ...]]]]]].
 (cf. Yoshida (2003: 2))

As shown in (21b), as long as we assume that the adjunct clause headed by *without* is adjoined to the matrix VP, the interpretation would end up in infinite regress inside the adjunct clause, just as the ACD example in footnote 1 does. To avoid infinite regress, Yoshida argues that the PP in adjunct sluicing, which is first generated in the VP-adjoined position, must be moved out to the IP-adjoined position at LF as illustrated in (22).

- (22) [[_{PP} Without knowing [_{CP} who [_{IP} e]]]_i] [_{IP} John [_{VP} [_{VP} kissed someone] t_i]
 (Yoshida (2003: 5))

Applying this PP-extrapolation approach to Japanese, we can avoid the problem in (20). As is shown in (23), we can obtain the phrase *Taro-ga kiss(-o) si-ta* “Taro kiss do-past” without encountering a problem if the PP moved out of the VP-adjoined position.

- (23) a. [[_{PP} *pro/sore-ga dare(?-ni) (da) ka sira-zu-ni*]_j [_{dareka_i-ni} (QR) [_{CP} Taro-ga t_j *pro/it-Nom who(?-Dat) be Q know-not-with someone-Dat Taro-Nom t_i kiss(-o) si-ta*]]].
 kiss do-past
 ‘Taro kissed someone without knowing who.’
 b. *pro/sore* = [_{CP} Taro-ga t_j t_i kiss(-o) si-ta]

Thus, adjunct pseudo-slucing examples need two movement processes to be derived correctly from the underlying cleft configuration: QR of the quantified phrase and PP extrapolation.

5. Conclusion

In this paper, we have considered some properties of Japanese pseudo-slucing. Japanese pseudo-slucing has a cleft construction whose subject is *pro* or an overt pronoun (*sore*). I have shown that, in order for the pronoun to get the appropriate antecedent, the sentence which provides the antecedent of the pseudo-sluced sentence must involve QR of the quantified phrase. This is another piece of supporting evidence for the widespread assumption that every quantified phrase must undergo QR. I have further shown that the PP-extraction approach of English adjunct slucing should be extended to Japanese adjunct pseudo-slucing.

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