(1999) To appear in WCCFL 18.

Stripping and Sluicing in Japanese and Some Implications

TERUHIKO FUKAYA AND HAJIME HOJI

1 Introduction*

The Japanese analogue of the English sluicing example in (1a) is (1b).

(1) a. John met someone, but **I don't know who**. (See Ross 1969.)
b. John-wa dareka-ni atta rasii ga,
-TOP someone-DAT met seem but
boku-wa dare(-ni) ka wakaranai.
I-TOP who -DAT Q know:not (See Inoue 1978:56.)
'It seems that John met someone, but I don't know who.'

The case-marker on the wh-phrase is optional as indicated.[1] We will call forms like (1b) with a case-marker 'C(ase-)M(arked)-sluicing' and those without any 'Non-CM-sluicing'.

* We are grateful for the help and encouragement from Daisuke Bekki, J.-R. Hayashishita, Yukinori Takubo, Yukiko Tsuboi, and Ayumi Ueyama. The first author is partially supported by the Fulbright scholarship. This is a substantially simplified version of the paper we presented in the Move and Interpret α Workshop held at Kanda University of International Studies in Chiba, Japan, in March 1999, in which we provided the empirical materials and their analyses that are significantly more complex, but more accurate (based on our present understanding).

[1] One might point out that the status of the CM-examples are often felt to be marginal, in contrast to the Non-CM-examples. We maintain, however, that the marginality that may be associated with the CM-examples is not due to grammatical factors, but rather due to some factors related to registers, as pointed out in Hoji & Ueyama 1998:footnote 6, for example.

The semantic effects, if there are any, of the presence and the absence of the case-marker are not obvious. The CM-sluicing and the Non-CM-sluicing, however, manifest different properties. First, CM-sluicing requires a linguistic antecedent while Non-CM-sluicing does not, as indicated in (2).[2]

(2) [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(*-o)** ka] sitteru yo.
I-TOP who -ACC Q know
'I know who.' (intended as 'I know who the teacher is scolding'.)

Second, the element in the first sentence/conjunct corresponding to the wh-phrase in the CM-sluicing cannot appear in the subjacency context while that in the Non-CM-sluicing can.[3]

(3) John-wa [[otooto-ni nanika-o okuttekita] hito]-o
-TOP brother-DAT something-ACC sent person-ACC
syootaisita rasiiga, boku-wa [**nani(*-o)** ka] siranai.
invited seem:but I-TOP what -ACC Q know:not
'It seems that John invited a person who had sent something to his brother, but I don't know what.'

On the other hand, both CM- and Non-CM-sluicing appear to give rise to sloppy readings.

(4) A: Toyota-ga [soko-ga [dono kaisya]-o uttaeta ka] happyoosita.
-NOM it-NOM which company-ACC sued Q announced
'Toyota announced which company it had sued.'
B: Nissan-mo [**[dono kaisya](-o)** ka] happyoosita.
-also which company-ACC Q announced
'Nissan also announced which company.'

Irrespective of whether the wh-phrase is case-marked or not, the sentence in (4B) seems to have the sloppy reading (i.e., the 'Nissan announced which

---

Even those speakers who tend to dislike CM-examples find much improvement or accept them quite readily, once the relevant examples are modified so that they are of a more formal register. The retention of a case-marker (such as *o* and *ga*) occurs more often in a formal register than in an informal register, generally speaking, and especially in the constructions under discussion.

[2] (2) with the case-marker is acceptable when there is a linguistic antecedent, e.g., when it follows *Sensei-ga dareka-o sikatte iru mitai da* 'The teacher seems to be scolding someone'.

[3] The two observations concerning CM-sluicing are made in Takahashi 1994: Sec.2.1 & 3.3.

company Nissan had sued' reading), as well as the strict reading (i.e., the 'Nissan announced which company Toyota had sued' reading).[4]

2. Proposal

2.1 Sluicing as a Special Instance of Stripping

In Japanese there is a construction which Hoji (1990) calls 'stripping' (following the terminology of Hankamer 1971), an example of which is the second part in *John-ga Bill-o hihansita; Tom(-o) mo da* 'John criticized Bill; and Tom, too'. When the copula *da* appears before the Q-maker *ka* in sluicing,[5] it looks very similar to embedded stripping in (5).

(5) A: Sensei-ga Bill-ni kogoto-o itteta yo.
teacher-NOM -DAT scolding-ACC was:saying
'The teacher was scolding Bill.'
B: Boku-wa [$_{CP}$ Tom(-ni) (da) to] omotteita yo.
I-TOP -DAT COP that thought
'I thought (it was) Tom (that he was scolding).'

It seems reasonable to assume that some kind of clausal structure with the copula as (part of) the head predicate is involved in both sluicing and stripping. The only difference is that sluicing involves the embedding of an interrogative clause while stripping involves that of a declarative one. Note that in embedded stripping the copula is also optional. Hoji & Li (1994), in fact, propose to assimilate sluicing to stripping, in part based on these observations. The similarity between these two constructions are independently evidenced by the fact that the CM- and Non-CM versions of stripping pattern in exactly the same way as the two versions of sluicing with respect to the three properties examined above, as discussed in Hoji 1990:Ch.5. We thus wish to maintain that sluicing is a special instance of stripping, basically following Hoji & Li. In the following discussion, we make our points mainly by discussing the stripping construction, but the account of the two types of stripping carries over directly to the two types of sluicing.[6,7]

---

[4] The availability of the sloppy reading in Japanese sluicing is also observed in Takahashi 1994: Sec.2.2.

[5] In part based on this observation, Nishiyama et al. (1995) argue that 'Japanese sluicing' is an instance of the copula structure; cf. footnote 6.

[6] We thus claim that sluicing and stripping in Japanese have the same formal properties. Shimoyama (1995), Kizu (1997), and Kuwabara (1997) argue in effect that sluicing is derived from cleft in Japanese. It is argued independently in Hoji 1990:Ch.5 that the cleft construction 'underlies' the stripping construction in Japanese. If the CM versions of the stripping, sluicing and cleft constructions in Japanese indeed have the same formal properties, we expect them to

2.2 The Structures of CM- and Non-CM-Constructions

The fact that a linguistic antecedent is required in the CM-construction can be reasonably taken as indicating the need for parallel phrase markers at LF. It also seems reasonable to assume that the parallel phrase markers are not required in the Non-CM-construction. The presence vs. absence of locality effects can be construed as evidence that some kind of movement operation is involved in the CM-construction, but not in the Non-CM-construction.

We propose that the CM- and the Non-CM-constructions have the structures in (6) at Spell-Out.[8]

(6) a. CM-construction: $[_{IP}\ [_{VP}\ [_{IP}$ NP-CM **$[_{IP}$ *ec*]** (be)] I]
b. Non-CM-construction: $[_{IP}\ [_{VP}$ **$[_{NP}$ *ec*]** $[_{V'}$ NP-∅ $[_{V}$ (be)]]] I]

We maintain that the interpretation of the empty IP requires the copying onto it at LF of an IP that is 'fully' represented and available in the linguistic environment, while that of the empty NP can be brought about very much like the interpretation of *that* in (7B), not involving LF copying.[9]

(7) A: John washed his car on that rainy day.
B: Bill did that too.

We thus claim in effect that the empty IP is necessarily an instance of surface anaphora and the empty NP an instance of deep anaphora, in the sense of Hankamer & Sag 1976.

Let us now illustrate our proposal by the derivation of (5). The derivation of the CM-version is schematically shown in (8) below. In the first sentence, the object of the verb *Bill-DAT* undergoes Constituent Raising (CR) (cf. Reinhart 1991), generating an IP with a gap inside it, as indicated

---

exhibit the same properties not only in terms of what is discussed in this paper, but also in terms of 'reconstruction effects' (discussed in Hoji 1987 and Hoji & Ueyama 1998 in the case of cleft), the local disjointness effects associated with Principle B of Binding Theory (discussed in Hoji 1998 in the case of comparatives), and so on. We plan to address these questions in a separate paper.

[7] Some of the issues suppressed here are whether the locality effects observed in this paper are subjacency or clause-boundedness effects, whether sluicing, stripping, and cleft in Japanese share the same properties with respect to locality, and whether English sluicing and its Japanese counterpart exhibit the same locality effects. Fukaya 1998 contains much relevant discussion of the locality effects in Japanese sluicing in this regard. See also Levin 1982 and Chung et al. 1995 for discussion of (the absence of) the locality effects in English sluicing. Merchant's (in preparation) analysis of the lack of locality effects in English sluicing seems to have some bearing on how the locality effects in Japanese sluicing are to be characterized.

[8] The choice of 'NP' over 'DP' is immaterial in this paper. We put aside the phrase structural concerns that must be addressed in regard to (6a).

[9] We assume that what makes it necessary for the CM-construction to have the empty IP structure is the 'licensing' of the case-marker on the NP. Briefly put, we assume that the case-marked NP is interpreted by being 'connected' to a position within the θ-domain of a verb.

in (8a). The IP that obtains by the application of CR in the first sentence gets copied onto the empty IP in the structure as in (6a), yielding (8b).

(8) a. The embedded clause in the first conjunct/sentence in (5) after the raising of *Bill-DAT* by CR at LF:
[$_{IP}$ [$_{NP}$ Bill-DAT] **[$_{IP}$ [$_{NP}$ teacher-NOM] [$_{VP}$ was:scolding t]]**]
b. The relevant part of the second conjunct/sentence after IP Copying:
[$_{IP}$ [$_{NP}$ Tom-DAT] **[$_{IP}$ [$_{NP}$ teacher-NOM] [$_{VP}$ was:scolding t]]**]

We assume that the bold-faced lower IP in (8b) corresponds to a λ-predicate in the Semantic Representation, namely λ *x (the teacher was scolding x)*.[10] In the case of the Non-CM-construction, on the other hand, we propose that it is represented as in (6b) throughout its post-Spell-Out derivation.

Given that the derivation of the CM-construction involves the copying of a linguistic object, it follows that the CM-construction requires a linguistic antecedent. Given that it involves CR, locality effects in this construction are also as expected. The derivation of the Non-CM-construction, by contrast, is assumed not to involve the copying of a linguistic object or CR. Hence, the absence of the linguistic antecedent requirement and that of locality effects in the case of the Non-CM-construction are also accounted for.[11]

3 Japanese Stripping and Sloppy Readings

Let us turn to the availability of sloppy readings. As a starting point, we assume the conditions for sloppy readings in (9). These are more or less standard, although not totally uncontroversial assumptions; cf. Hoji 1998 and the references cited there.

(9) The necessary conditions for the availability of sloppy readings:
a. At LF there must be two parallel structures.
b. The 'sloppy pronoun' must have certain properties such that it can be 'dependent' on another expression, i.e., it must be a β-occurrence in the sense of Fiengo & May 1994.
(We will henceforth represent the relevant property as [+β].)
c. The 'sloppy pronoun' must be c-commanded by its antecedent.

---

[10] We assume that CR is an optional operation. If it does not apply in the first sentence, what gets copied onto the empty IP will be an IP *The teacher was scolding Bill*. This, however, results in the case-marked NP adjoined to the empty IP being not 'connected' to a position within a θ-domain of a verb. See also footnote 9 and Section 5.

[11] Our assumptions concerning an empty IP and an empty NP raise empirical questions in regard to the availability of Mix readings, to be discussed in Section 4, in the case of 'N-bar Deletion' and paycheck sentences. We plan to return to this issue in a separate work.

(Lasnik 1976: Appendix; Reinhart 1983: Ch. 7)

Now let us see how the sloppy reading obtains in the case of the CM-construction. Take (10) for example.

(10) A: Toyota-ga [soko-no [roodoo kumiai]]-o hihansita
-NOM it-GEN labor union -ACC criticized
'Toyota criticized its labor union.'
B: Iya. Nissan-ga da.
'No. Nissan-NOM COP.'

(10B) has the 'Nissan criticized Nissan's labor union' reading (sloppy reading) and the 'Nissan criticized Toyota's labor union' reading (strict reading). All of the conditions in (9) are satisfied in (10). There is a source for IP Copying; hence there can be 'parallel phrase markers' at LF after copying. *Soko* 'it' is [+β]; cf. Ueyama 1998 and the references therein. *Toyota* c-commands *soko*. Hence, CR in (11a), the copying of an IP in (11b), and other operations in (11c-d) give rise to the sloppy reading in (10).

(11) a. CR of *Toyota-NOM* in (10A):
[Toyota-NOM] [$_{IP}$ t criticized it-GEN labor union]
b. IP-copying in (10B):
[Nissan-NOM] [$_{IP}$ t criticized it-GEN labor union]
c. Mapping of (11b) to Semantic Representation:
[Nissan-NOM] λ*x* (*x* criticized it-GEN labor union)
d. Conversion of the dependent term to a variable in (11c):
[Nissan-NOM] λ*x* (*x* criticized *x*-GEN labor union)

While the CM-construction can thus satisfy the conditions in (9), the Non-CM-construction cannot because no IP Copying is involved. As we have observed in Section 1, however, sloppy readings are available in the Non-CM-construction. The proposed analysis of the Non-CM-construction, therefore, leads to the conclusion, reached in Hoji 1998, that there must be another type of sloppy reading, which is not contingent upon the existence of an articulated structure and the conditions in (9). This conclusion seems to be supported by two sets of empirical evidence. First, the sloppy reading in the Non-CM-construction is possible even if an element that is not [+β] is used as a 'sloppy pronoun', as shown in (12).[12] This contrasts with the unavailability of the sloppy reading with a non-[+β] element in the CM-construction.[13]

(12) A: John-wa Toyota$_i$-ni [**asoko**$_i$-ni hairitagatteita hito]-o

[12] *A*-words, unlike *so*-words, cannot be dependent terms and must always be 'referential'; cf. Ueyama 1998 and the references there.
[13] The relevant dichotomy in (12) and (13) was noted in Hoji 1990:Ch.5:39-40.

-TOP -DAT that place-DAT wanted:to:join person-ACC
syookaisita
introduced
'John introduced to Toyota$_i$ someone who wanted to join it$_i$.'
B: Nissan(-ni)-mo da.
'Nissan(-DAT)-also COP.'

Second, the sloppy reading in the Non-CM-construction is possible even without the relevant c-command relation, as shown in (13). This contrasts with the impossibility of the sloppy reading without the relevant c-command relation in the CM-construction.

(13) A: John-wa [**soko**$_i$-ni hairitagatteita hito]-ni
-TOP it-DAT wanted:to:join person -DAT
Toyota$_i$-no koto-o tazuneta
-GEN matter-ACC asked
'John asked someone who wanted to join it$_i$ about Toyota$_i$.'
B: Nissan-no koto(-o) mo da
-GEN matter-ACC also COP
'About Nissan, too.'

It thus seems that the availability of a sloppy reading in the CM-construction is contingent upon the conditions in (9), while that in the Non-CM-construction is not.[14] Note that the preceding discussion does not preclude the possibility that the sloppy reading in the Non-CM-construction can be based on the conditions in (9). In the following section, we will present evidence that the sloppy reading available in the Non-CM-construction cannot be based on the conditions in (9).

4 Mix Readings

4.1 Preliminaries

Fiengo & May (1994:Ch. 4) give an account for the following observations originally discussed in Dahl 1974. Let us look at the sentence in (14a), where the first pronoun c-commands the second. In addition to the

[14] An issue remains as to how sloppy readings obtain in the Non-CM-construction. Suppose that the Non-CM-construction involves deep anaphora, as proposed here. Given that the interpretation of deep anaphora is largely determined by pragmatic considerations, as Hankamer & Sag (1976) suggest, it is not surprising if we find some judgmental fluctuation (among speakers) in regard to the availability of sloppy readings in the Non-CM-construction. Some speakers in fact seem to have initial difficulties in obtaining the sloppy readings in the Non-CM-construction with a non-[+β] element or without the relevant c-command relation. See also footnote 20.

A(cross)-T(he)-B(oard) strict reading and the ATB sloppy reading, (14a) allows the Oscar-Oscar-Max reading in (15c). We will call this reading 'M(ix) 1'. (14a), however, does not allow the Oscar-Max-Oscar reading in (15d). We will call this reading 'M(ix) 2'. In the case of (14b), by contrast, all the four possibilities in (16) are allowed. Note that in (14b) the first pronoun does not c-command the second.

(14) a. Max said **he** saw **his** mother; Oscar did, too.
b. Max said **his** mother saw **him**; Oscar did, too.

(15) a. Max_1 said he_1 saw his_1 mother; $Oscar_2$ said he_1 saw his_1 mother.
b. Max_1 said he_1 saw his_1 mother; $Oscar_2$ said he_2 saw his_2 mother.
c. Max_1 said he_1 saw his_1 mother; $Oscar_2$ said he_2 saw his_1 mother.
d. *Max_1 said he_1 saw his_1 mother; $Oscar_2$ said he_1 saw his_2 mother.

(16) a. Max_1 said his_1 mother saw him_1; $Oscar_2$ said his_1 mother saw him_1.
b. Max_1 said his_1 mother saw him_1; $Oscar_2$ said his_2 mother saw him_2.
c. Max_1 said his_1 mother saw him_1; $Oscar_2$ said his_2 mother saw him_1.
d. Max_1 said his_1 mother saw him_1; $Oscar_2$ said his_1 mother saw him_2.

Hoji (1997b) argues that the same pattern of judgments is observed in CM-comparatives in Japanese. The relevant examples are supplied in (17) and (18); cf. Hoji 1997b:Sec.2.[15]

(17) [Bill-ni yori-mo saki-ni] sensei-wa John-ni
-DAT than earlier teacher-TOP -DAT
[kare-ga [kare-no ruumumeeto]-o butta to] iwaseta.
he-NOM he-GEN roommate -ACC hit that say:made
'The teacher made John say he hit his roommate earlier than Bill.'

(18) [Bill-ni yori mo saki-ni] sensei-wa John-ni
-DAT than earlier teacher-TOP John-DAT
[[kare-no ruumumeeto]-ga kare-o butta to] iwaseta.
he-GEN roommate -NOM he-ACC hit that say:made
'The teacher made John say his roommate hit him earlier than Bill.'

When an element that is not [+β] is used as an intended 'sloppy pronoun', the Mix readings become unavailable in English. The relevant examples can be obtained by substituting *Max* or *Max's* for the pronouns in (14).[16] Crucially, when the 'sloppy pronoun' is not c-commanded by its

[15] *Kare* can be a dependent term, although it cannot be construed as a bound variable with certain Q-NPs (as discussed in Hoji 1997b, 1998).
[16] It is necessary to suppress Condition C effects for the relevant experiment.

'antecedent' as in (19), the Mix readings are not possible, as pointed out in Hoji 1998:44.[17]

(19) The policeman who arrested John$_i$ said that he$_i$ had hit his$_i$ roommate; and the one who arrested Bill did too. (*M 1; *M 2)

The Japanese CM-comparative exhibits the same distribution of Mix readings. The relevant examples for the cases of non-[+β] elements can be obtained by replacing two occurrences of *kare* 'he' by *John* in (17) and (18). (20) is an example in which the 'antecedent' fails to c-command the 'sloppy pronouns'.

(20) [[[[2 zikan mae kara] Bill-o torisirabeteita] keezi]-ni
hours before since -ACC was:interrogating detective-DAT
yori mo saki-ni] syotyoo-wa [[[5 zikan mae kara] John-o
than earlier chief-TOP hours before since -ACC
torisirabeteita] keezi]-ni [kare-ga [kare-no ruumumeeto]-o
was:interrogating detective-DAT he-NOM he-GEN roommate -ACC
nagutta to] mitometa to happyoosaseta.
hit that admitted that announce:made
'The chief made the detective who had been interrogating John for five hours announce that he admitted that he hit his roommate earlier than the detective who had been interrogating Bill for two hours.'

Furthermore, Hoji (1998) observes that the use of deep anaphora (e.g., *do the same thing*) instead of VP Ellipsis in English results in the unavailability of Mix readings altogether. The same is true of the Japanese CM-comparative. If we use *soo su* 'do so', an instance of deep anaphora in Japanese, in the *than*-clause, the Mix readings become unavailable.[18]

The state of affairs so far is summarized in Table 1.[19]

	he…his…	his…he…	*[+β]	no c-c.
VPE in English & JP CM-compara.	M1 *M2	M1 M2	*M1 *M2	*M1 *M2
do the same thing & *soo su*	*M1 *M2	*M1 *M2	*M1 *M2	*M1 *M2

Table 1: Summary of Mix Readings in English and Japanese

[17] The ATB sloppy reading is possible in (19), just as the sloppy reading in (i).

(i) The policeman who arrested John$_i$ read him$_i$ his$_i$ rights, and the one who arrested Bill did too. (Fiengo & May 1994:109)

[18] See Hoji 1997b:Sec.4.3.

[19] In Table 1 and 2, *he* and *his* stand for the relevant dependent terms.

4.2 Mix Readings in Japanese CM- and Non-CM-Constructions

With this much background, let us turn to CM- and Non-CM-constructions in Japanese. Table 2 shows the summary of the results of applying the Mix reading tests to them.

	he…his…	his…he…	*[+β]	no c-c.
CM-const.	M1 *M2	M1 M2	*M1 *M2	*M1 *M2
Non-CM-const.	*M1 *M2	*M1 *M2	*M1 *M2	*M1 *M2

Table 2: Mix readings in CM- & Non-CM-constructions in Japanese

(21) and (22) are the CM examples for the first and second columns in Table 2. The relevant CM examples for the third column can be obtained by replacing *kare* 'he' by *John* in (21) and (22). A CM example for the last column in Table 2 is (23). The Non-CM examples will be obtained by deleting the case-markers on the NP in each of those examples.

(21) A: Sensei-wa J-ni [kare-ga [kare-no ruumumeeto]-o butta to] iwaseta.
'The teacher made John say that he hit his roommate.'
B: Tigau yo. Bill-ni da yo.
'No. Bill-DAT COP.'

(22) A: Sensei-wa J-ni [[kare-no ruumumeeto]-ga kare-o butta to] iwaseta.
'The teacher made John say that his roommate hit him.'
B: Tigau yo. Bill-ni da yo.
'No. Bill-DAT COP.'

(23) A: Syotyoo-wa [[[2 zikan mae kara] John-o torisirabeteita]
chief-TOP hours before since -ACC was:interrogating
keezi]-ni [kare-ga [kare-no ruumumeeto]-o nagutta to]
detective-DAT he-NOM he-GEN roommate-ACC hit that
hookokusaseta.
report:made
'The chief made the detective who had been interrogating John for two hours report that he had hit his roommate.'
B: [[[5 zikan mae kara] Bill-o torisirabeteita] keezi]-ni
hours before since -ACC was:interrogating detective-DAT
mo da.
also COP
'The detective who had been interrogating Bill for five hours, too.'

The generalizations that emerge are as given below.

(24) a. The CM-constructions give rise to Mix readings, patterning with English VPE and Japanese CM-comparatives.
b. The Non-CM-constructions do not give rise to Mix readings, patterning with constructions involving deep anaphora.

It thus seems that the sloppy reading as manifested in Mix readings is necessarily regulated by the conditions in (9), while the 'simple' sloppy reading, as in (4B) without a case-marker, is not.

5 Remaining Issues

We have observed that Non-CM-constructions pattern with constructions involving deep anaphora. The 'interpretation' of deep anaphora is largely determined by pragmatic considerations, as pointed out in Hankamer & Sag 1976, while that of CM-constructions is crucially based on formal syntactic operations. It is therefore imperative that we examine the properties of CM-constructions, rather than those of Non-CM-constructions, if we are to discover formal properties of Japanese grammar, and ultimately, of UG.

It is noteworthy that the CM vs. Non-CM distinction is observed quite pervasively in Japanese.[20] The CM-topic vs. Non-CM-topic distinction, for example, is discussed in Saito 1985:329-339. The CM-focus vs. Non-CM-focus distinction is discussed in Hoji 1987 in regard to the cleft constructions. It is pointed out in these works that the CM-constructions exhibit locality effects associated with movement while the Non-CM-constructions do not.[21] It is also interesting to note that in these works the Non-CM-constructions are considered to be structurally ambiguous and can be represented on a par with their CM counterparts. This is not an unreasonable position, given that there is a phenomenon in Japanese often called 'case-drop', as exemplified by the optionality of the accusative marker *o* in *Mary-wa susi(-o) tabeta* 'Mary ate sushi'. One might then

---

[20] It seems that English also exhibits a distinction analogous to that between CM- and Non-CM-constructions, as pointed out in Hoji 1998.

(i) A: His$_i$ students often talk to John$_i$.
B: Bill, too. / Well, Bill, too.
B': To Bill, too. / Well, to Bill, too. (Hoji 1990:Ch.5 48-49)

In (iB) the sloppy reading (i.e., the 'Bill's students also often talk to Bill' reading) is readily available for many speakers, contrary to what is reported in Reinhart 1983:Ch.7. In (iB'), however, the sloppy reading is not possible even for those speakers. Informally put, it seems that some speakers can analyze (iB) as analogous to 'that is true of Bill as well', with the 'content' of *that* being one's students often talking to one, while such an option does not seem available in the case of (iB'). If the relevant difference between the B and B' forms in (i) is essentially of the same nature as that between the Non-CM vs. CM distinction in Japanese, we expect the two types of stripping in English to exhibit the different properties of the sort discussed in the preceding sections. The initial investigation appears to confirm the expectation, but the space limitation prevents us from pursuing the discussion here.

[21] Watanabe (1993) and Hayashishita (1996) discuss the CM- and Non-CM-comparatives in Japanese, reaching the same conclusion.

expect it to be possible to analyze the Non-CM-stripping (and hence Non-CM-sluicing) as an instance of a CM-construction, with the case-marker being 'dropped' at PF. If the Non-CM-construction can in fact be analyzed on a par with its CM counterpart, however, we would expect, contrary to what has been reported above, that the Mix readings should be available in the Non-CM-construction, as in the case of the CM-construction. It, in fact, seems to be the case, although it has been suppressed in the preceding discussion, that some speakers find Mix readings to be possible in the Non-CM-construction, to varying degrees. We wish to maintain that the Mix readings are only marginally available in the Non-CM-construction for most speakers because the unmarked analysis of it is as proposed in the preceding discussion.[22]

Another issue that cannot be discussed in any depth here has to do with comparison between English sluicing/stripping and Japanese sluicing/stripping. Takahashi (1994) tries to assimilate Japanese sluicing to its English counterpart, claiming that they share the same properties concerning locality effects and sloppy readings, among other things. A closer examination of the empirical materials in English, however, suggests that some of Ross's original observations, upon which Takahashi bases his arguments, are not accurate. Merchant (in preparation), for example, observes that English sluicing fails to give rise to sloppy readings. It thus seems that English sluicing and Japanese sluicing must be derived and represented differently. Exactly how the relevant differences can be derived must be addressed in a separate work.

One conceptual problem that remains is how to theoretically characterize the distinction between the CM- and the Non-CM-constructions. The CM-construction necessarily involves CR, which we take to subsume what has sometimes been considered null operator movement in Japanese.[23] The Non-CM-construction need not. Discussing the differences between the CM-cleft and the Non-CM-cleft, Hoji (1987) suggests that the relevant movement involved in the former is necessary for the 'licensing' of the case-marker in the focus. As suggested in Section 2, we assume that this is essentially what is responsible for the relevant difference between the two types of constructions.[24]

---

[22] In this sense, the proposed analyses of the CM- and Non-CM-constructions in this paper are meant to express the unmarked representations of the two constructions.

[23] Hoji & Ueyama 1998 contains much relevant discussion, addressing mainly the issues of 'reconstruction' effects and 'resumption'.

[24] The implicit assumptions underlying Hoji's (1987) suggestion can be articulated as in (i).

(i) a. A case-marker must be licensed (in a broad sense, not in the sense of Checking Theory) by being syntactically related to the verb.
b. θ-positions are syntactically related to the verb that θ-marks them.

6 Summary and Some Implications

In this paper, we have examined the properties of Japanese stripping, hence of Japanese sluicing. We have proposed that the derivations and the representations of the CM- and the Non-CM-versions are radically different, as indicated in (6). The crucial difference between the two types is that the former is 'fully represented' at LF by way of CR and IP Copying while the latter is not. Although the properties concerning linguistic antecedents and locality were straightforwardly accounted for, given the present proposal, the properties concerning sloppy readings posed a puzzle. We have then investigated the nature of sloppy readings by looking at Mix readings. We have observed that CM- and Non-CM-constructions in fact diverge with respect to their availability; Mix readings are available in the CM-construction but not in the Non-CM-construction. We have also observed that the availability of Mix readings in the CM-constructions is contingent upon the conditions in (9b-c). These observations have led us to conclude that the Non-CM-construction cannot be 'fully represented' at LF and that 'simple' sloppy readings in the Non-CM-version are brought about only by deep anaphora even in the cases where the conditions in (9b-c) are satisfied. We have thus provided evidence for our claim that these two types are represented in radically different fashions although the differences in meaning between the two are not obvious at all.

Notwithstanding the many remaining issues, only a few of which we briefly touched upon in the previous section, we hope to have demonstrated the importance of separating the CM-construction from its Non-CM counterpart. We wish to reiterate that it is only through investigating the properties of the former, but not of the latter, that we can hope to attain some insight into the formal properties of Japanese grammar, and ultimately, of UG.

Another noteworthy implication is that 'meanings' must be understood as distinct from LF representations. Many factors of distinct natures contribute to the so-called 'meaning' of a sentence. Among them are the properties of the LF representation. If our goal is to understand the formal properties of the language faculty, we therefore need to isolate the contributions of the LF properties to the 'meaning' from other non-syntactic

---

c. The movement of an empty operator results in syntactically relating the focus of the CM-cleft with the trace of the empty operator (which is in the θ-position).

factors.[25] The general point of the research presented in this paper is precisely this.

REFERENCES

Chung, S., W. Ladusaw and J. McCloskey. 1995. Sluicing and Logical Form. *Natural Language Semantics* 3: 239-282.

Dahl, Ö. 1974. How to Open a Sentence: Abstraction in Natural Language. *Logical Grammar Reports.* University of Göteberg.

Fiengo R. and R. May. 1994. *Indices and Identity*. Cambridge: MIT Press.

Fukaya, T. 1998. On the So-Called 'Sluicing' in Japanese. Ms., USC.

Hankamer J. 1971. *Constraints on Deletion in Syntax*. Doctoral dissertation. Yale University.

Hankamer J. and I. Sag. 1976. Deep and Surface Anaphora. *LI* 7: 391-426.

Hayashishita, J.-R. 1996. Interpretation of Ellipsis in Japanese Comparative Construction. Ms., USC.

Hayashishita, J.-R. 1999. Two Ways of Deriving Distributive Readings. To appear in *Proceedings of the 23rd Annual Penn Linguistics Colloquium*.

Hoji, H. 1987. Japanese Clefts and Reconstruction/Chain Binding Effects. A talk at WCCFL 6 at University of Arizona, March 21, 1987.

Hoji, H. 1990. Theories of Anaphora and Aspects of Japanese Syntax. Ms., USC.

Hoji, H. 1997a. Otagai. Ms., USC. A talk at WCCFL 17 at University of Washington.

Hoji, H. 1997b. Sloppy Identity and Formal Dependency. *WCCFL 15*: 209-223.

Hoji, H. 1998. Surface and Deep Anaphora, Sloppy Identity, and Experiments in Syntax. To appear in A. Barss, and T. Langendoen (eds.) *Explaining Linguistics*. Cambridge: Blackwell.

Hoji, H. and A. Li. 1994. Comments on Syntax Papers (Panel I). Presented at 5th Japanese and Korean Linguistics Conference, UCLA, Nov. 4, 1994.

Hoji, H. and A. Ueyama. 1998. Resumption in Japanese. Ms., USC.

Inoue, K. 1978. *Nihongo-no Bunpoo Kisoku* [Grammatical Rules in Japanese]. Tokyo: Taishukan.

Kizu, M. 1997. Sluicing in Wh-in-situ Languages. Presented at CLS 1997.

Kuwabara, K. 1997. On the Properties of Truncated Clauses in Japanese. In K. Inoue (ed.) *Researching and Verifying an Advanced Theory of Human Language: Explanation of the human faculty for constructing and computing sentences on the basis of lexical conceptual features.* Chiba: Kanda University of International Studies. 61-83.

[25] Hayashishita (1999), Hoji (1997a, 1998), Hoji & Ueyama (1998) and Ueyama (1998) also argue for the same general point, in regard to quantifier scope, the so-called reciprocal in Japanese *otagai*, sloppy readings, resumption, and bound variable anaphora.

Lasnik, H. 1976. Remarks on Coreference. *LA* 2: 1-22.

Levin, L. S. 1982. Sluicing: a lexical interpretation procedure. In J. Bresnan (ed.) *The Mental Representation of Grammatical Relations*. Cambridge: MIT Press.

Merchant, J. In preparation. *Sluicing and Deletion.* (a tentative title) Doctoral dissertation, UCSC.

Nishiyama, K., J. Whitman, and E.-Y. Yi. 1995. Syntactic Movement of Overt Wh-Phrases in Japanese and Korean. *Japanese and Korean Linguistics 5*: 337-351.

Reinhart, T. 1983. *Anaphora and Semantic Interpretation*. London: Croom Helm.

Reinhart, T. 1991. Elliptic Conjunctions–Non-Quantificational LF. In A. Kasher (ed.) *The Chomskyan Turn.* Cambridge: Blackwell. 360-384.

Ross, J. R. 1969. Guess Who? *CLS 5*: 252-86.

Saito, M. 1985. *Some Asymmetries in Japanese and their Theoretical Implications*. Doctoral dissertation, MIT.

Shimoyama, J. 1995. On 'Sluicing' in Japanese. Ms., UMass.

Takahashi, D. 1994. Sluicing in Japanese. *JEAL* 3: 263-300.

Ueyama, A. 1998. *Two Types of Dependency*. Doctoral dissertation, USC. Distributed by GSIL publications, USC, Los Angeles.

Watanabe, M. 1993. On the So-Called NP-Comparative, Ms., USC.