SLUICING AND STRIPPING IN JAPANESE AND SOME IMPLICATIONS

by

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Abstract

This dissertation is a generative-grammatical study of the constructions called sluicing and stripping in Japanese. It argues for the thesis, advocated by Hoji & Li (1994) and Fukaya & Hoji (1999), that sluicing and stripping are manifestations of the same syntactic phenomenon in Japanese, i.e., that their derivations involve the same set of formal operations. In order to establish the thesis, this dissertation investigates significantly more involved empirical materials pertaining to island sensitivity and the availability of the sloppy identity reading than previous studies of these constructions.

Chapters 2 and 3 examine the properties of sluicing and stripping in Japanese with respect to island sensitivity. Chapters 4 and 5 investigate their properties with respect to the availability of the sloppy identity reading. It is demonstrated in these four chapters that Japanese sluicing and stripping exhibit the same set of properties in regard to these two aspects. It is then claimed that ellipsis resolution in the case-marked versions of sluicing and stripping involves Constituent Raising in the "antecedent" IP and the copying of the resulting IP onto the ellipsis site. It is also claimed that ellipsis resolution in their non-case-marked counterparts, by contrast, does not necessarily involve such operations and that the copula structure is also a possibility for them. Chapter 6 then argues that the alternative accounts that analyze sluicing as analogous to wh-questions in English cannot capture the clear parallelism between sluicing and stripping demonstrated in the preceding chapters and also that stripping and, as a result, sluicing cannot be reduced to the cleft construction, contrary
to what has sometimes been proposed in the literature. This chapter also discusses some implications of the present analysis for English sluicing and fragments. Chapter 7 summarizes the thesis and addresses some outstanding issues.
Chapter 1

Introduction

1.1. Introduction

Primary data in the study of language are phonetic strings (which are often referred to as example sentences) and the "meaning" they give rise to, and it is one of the main goals of linguistics to elucidate the principles governing the relations between these two outputs of our internal knowledge of language. In order to achieve this goal, linguists have attempted to reveal structures which lie behind surface phonetic strings and the sources of the "meaning" that is brought about. The fact that most languages allow ellipsis poses a very interesting question in this light: how are we able to retrieve "meaning" from silence? One might suggest that the "retrieval" of the "meaning" for what is missing phonetically is pragmatically controlled, i.e., the context of the utterance in question is responsible for the "retrieval". One of the main points of this dissertation is to argue that not all instances of "retrieval" are due to pragmatics.¹

¹ Sluicing and stripping in Japanese, which are to be investigated in the following chapters, can be classified into two subtypes according to whether or not the stranded (wh-)NP is case-marked: the case-marked sluicing/stripping and the non-case-marked sluicing/stripping. I will demonstrate in this dissertation that, while the "retrieval" of the "meaning" can be pragmatically controlled in the non-case-marked sluicing/stripping, it must be syntactically controlled in the case-marked sluicing/stripping. I will show that the "retrieval" of the "meaning" in case-marked sluicing/stripping is sensitive to syntactic islands and the structural relation of c-command. See section 1.2.
One of the elliptical constructions that have been extensively studied in English is VP ellipsis (VPE), but this phenomenon, as pointed out by Merchant (2001: 3), is not attested in many other languages. Japanese is one of those languages that lack VPE. Sluicing, on the other hand, is attested in many languages including Japanese.

Sluicing, as illustrated in (1b), is an elliptical phenomenon first brought to light by Ross (1969).

(1) a. Somebody just left--guess who just left.
   b. Somebody just left--guess who.

(Ross 1969: 252)

Inoue (1976, 1978) was the first to note that Japanese also has a construction corresponding to sluicing in English.

(2) a. John-wa dareka-o suisensita ga, boku-wa
   -TOP someone-ACC recommended but I-TOP
   [dare-o ka] siranai.
   who-ACC Q know:not

---

3 Otani & Whitman (1991) argued, following Huang's (1988, 1991) analysis of relevant Chinese data, that the null object construction in Japanese is an instance of VPE, based on the availability of the sloppy reading. Hoji (1998), however, demonstrated that the sloppy reading available in the null object construction is not a genuine sloppy reading but what he calls a sloppy-like reading, which arises without a structure parallel to the antecedent clause.
4 Merchant 2001, which is the most extensive cross-linguistic study of the phenomenon, contains examples of sluicing from Arabic, Basque, Bulgarian, Catalan, Chinese, Czech, Danish, Dutch, Finnish, French, Frisian, German, Greek, Hindi, Hebrew, Hungarian, Icelandic, Irish, Italian, Japanese, Norwegian, Persian, Polish, Romanian, Russian, Serbo-Croatian, Slovene, Spanish, Swedish, Turkish, Tzotzil, and Yiddish.
'John recommended someone, but I don't know who.'

b. John-wa Mary-ga dareka-o suisensita to itteita ga,

- TOP - NOM someone-ACC recommended that said but

boku-wa dare-o ka oboeteinai

I-TOP who-ACC Q remember: not

'John said that Mary recommended someone, but I don't remember who.'

(Inoue 1978: 56)

In the 1990's, a series of works on sluicing in Japanese were published. Takahashi (1994) claimed that sluicing in Japanese is equivalent to sluicing in English and argued that it involves wh-movement and deletion, along the lines of Ross's (1969) account of English sluicing. In response to this claim, Nishiyama, Whitman, & Yi (1995) (NWY, henceforth) argued, based on the parallelism between sluicing and the cleft construction, that Japanese sluicing should be analyzed as a covert copula structure with a null pronominal element situated in the subject position. Shimoyama (1995), Kizu (1997), and Kuwabara (1997), then, independently argued, contra Takahashi and à la NWY, that sluicing in Japanese is a reduced cleft construction.5 Nishigauchi (1999), on the other hand, defended Takahashi's position that Japanese

---

5 Hiraiwa & Ishihara 2002 can also be considered to belong to this group, although they do not propose to link the cleft and sluicing directly. They claim that both the cleft and sluicing are derived from the same no da in-situ focus construction, which is "a construction where the entire matrix clause is headed by the nominalizer -no followed by the copula -da" (Hiraiwa & Ishihara 2002: 38), as in (i).

(i) (= Hiraiwa & Ishihara 2002: (9))

[CP Taro-ga kono-ringo-o tabeta no] da

Taro-NOM this-apple-ACC ate C COP

'It is that Taro ate this apple.'
sluicing is equivalent to English sluicing, although he adopted for Japanese sluicing Chung, Ladusaw, & McCloskey's (1995) (CLM, henceforth) copy analysis of English sluicing. Under this analysis, the wh-phrase is base-generated in SpecCP with an empty IP in its complement, and a discourse-available IP is reconstructed into it. Hoji & Li (1994) and Fukaya & Hoji (1999a, b), building on Hoji 1990: chapter 5, claimed that sluicing in Japanese is a subcase of stripping, as illustrated in (3).

(3) (= Fukaya & Hoji 1999a: (17a))

     -DAT also COP  -DAT COP
     'To John, too.' 'To John.'

Stripping, as discussed in Hoji 1990 (and subsequently discussed in NWY, Shimoyama 1995, Kizu 1997, and Kuwabara 1997 in regard to sluicing), seems to share some properties with the cleft construction in Japanese.

The main goal of this thesis is to argue for the position, advocated in Hoji & Li 1994 and Fukaya & Hoji 1999a, b, that sluicing and stripping are manifestations of the same syntactic phenomenon in Japanese, i.e., that their derivations involve the same set of formal operations. These works based their claim upon the elementary observations about Japanese in (4).

(4) a. Stripping can be embedded.

    b. The copula is basically optional.

    c. A wh-phrase can occur in-situ.
The correspondence between stripping and sluicing according to these works is illustrated in (5).

(5) (= Fukaya & Hoji 1999a: (17))

   -DAT also COP -DAT COP
   'To John, too.' 'To John.'

b. Embedding: John-ni da to omotta
   -DAT COP that thought
   '(lit.) I thought that it was to John.'

c. Matrix Question: dare-ni da to omotteiru no?
   who-DAT COP C think
   'To whom do you think it is?'

d. Embedded Question: dare-ni da ka sitteiru
   who-DAT COP Q know
   'I know to whom it is.'

e. Deleting the copula (= Sluicing):
   dare-ni ka sitteiru
   who-DAT Q know
   'I know to whom.'

Stripping as in (5a) can be embedded as in (5b). Note that the copula da appears in both cases. It is possible to have a wh-phrase instead of the non-wh NP as in (5c-d), as long as a Q-morpheme appears in a position from which it c-commands the
wh-phrase. (5c) is a case where a Q-morpheme appears in the matrix clause, and (5d) is a case where it appears in the embedded clause. The copula can be dropped in Japanese independently of the stripping/sluicing contexts, as indicated in (6).

(6)  a. John-wa gengogakusya da

      -TOP linguist       COP

   'John is a linguist.'

   b. John-wa gengogakusya

      -TOP linguist

   'John is a linguist.'

The availability of (5e), the 'copula drop' version of (5d), is thus as expected, and what has been called sluicing in Japanese is in fact a form like (5e).

This thesis attempts to provide further empirical evidence for the position put forth by Hoji & Li (1994) and adopted by Fukaya & Hoji (1999a, b) by investigating significantly more involved empirical materials pertaining to island sensitivity and availability of the sloppy identity reading than those works did. I will demonstrate that sluicing and stripping exhibit the same set of properties regarding these two aspects (see chapters 2 and 3 for island-sensitivity discussion and chapters 4 and 5 for sloppy-reading discussion). I will then argue that the alternative analyses that analyze sluicing as analogous to wh-questions in English (the wh-movement and the non-movement wh analyses) cannot capture the clear parallelism between sluicing and stripping (see sections 6.2.1 and 6.2.2. of chapter 6). I will also argue that stripping and, as a result, sluicing cannot be reduced to the cleft construction, contrary to what is
claimed in the other alternative analyses (the copula and the reduced cleft analyses) (see sections 6.2.3. and 6.2.4 of chapter 6).

1.2. Case-marked vs. non-case-marked

From a broader perspective, this thesis can also be regarded as part of a larger project to investigate phenomena quite pervasive in Japanese syntax, i.e., the contrast between the case-marked and the non-case-marked versions of various constructions. It was noted in the 80's and the 90's that the presence and the absence of the case-marking result in a difference in acceptability in various constructions in Japanese.

Saito (1985: ch. 4), for example, observed that the case marked topic construction is less acceptable than its non-case-marked version in an island context.

(7) (based on Saito 1985: ch. 4 (72b, d))

Pekin(?-ni)-wa John-ga [NP [IP ec itta koto-ga aru] hito]-o mituketa rasii
Peking(-DAT)-TOP John-NOM went fact-NOM have person-ACC
found seem
(lit.) 'As for (to) Peking, John found a person who has been ec.'

---

6 In the discussion to follow, I will occasionally abbreviate "case-marked" to "cm" and "non-case-marked" to "non-cm."
7 The judgments are mine. Saito (1985) marks the case-marked version in (7) with "*" and the non-case-marked version with "??".
When the NP in the topic position is related to a position within a syntactic island (a complex NP in this case), case-marking of the topic NP results in a degraded status of the sentence.

Hoji (1987) extended Saito's (1985) observation to the Japanese cleft constructions and argued that the case-marked cleft exhibits island effects, while the non-case-marked cleft does not.

(8) (based on Hoji & Ueyama 2003: (8a))

\[
\begin{align*}
[&\text{John-ga} \ [a\text{-no ban ec houkasita otoko]-o otteiru no]-wa} \\
&\text{John-NOM that-GEN night set:fire man-ACC looking:for COMP-TOP} \\
&[\text{ko-no gekizyoo(*-ni)] da} \\
&\text{this-GEN theater(-DAT) COP}
\end{align*}
\]

'It is (to) this theater that John is looking for the person who set fire ec that night.'

The NP in the focus position in (8), i.e., \([\text{ko-no gekizyoo(*-ni)] this theater}\) 'this theater', is related to a position within a syntactic island (a complex NP in this case). While the non-case-marked version is acceptable, its case-marked version is not.

Hoji (1990: ch. 5) further extended Saito's (1985) observation to Japanese stripping and claimed that case-marked stripping exhibits island effects while non-case-marked stripping does not.

(9) (Hoji 1990: ch. 5 (114) & (116))

\[
\begin{align*}
A: \ &[[\text{itariya ryouori-o tukuru hito]-ga yoku kono mise-ni kuru}] \\
&\text{Italian cuisine-ACC make person-NOM often this shop-to come}
\end{align*}
\]
'Those who make **Italian cuisine** often come to this shop.'

B: [huransu ryoori](=-o)-mo da

French cuisine(-ACC)-also COP

'French cuisine as well.'

[Itariya ryoori]-o 'Italian cuisine', the element in A’s utterance that corresponds to [huransu ryoori](=-o) 'French cuisine' in B’s utterance, is situated within a relative clause.8

Further extending Saito’s (1985) observation, Takahashi (1994), Fukaya (1998), and Fukaya & Hoji (1999a, b) claimed that case-marked sluicing exhibits island effects while its non-case-marked counterpart does not.

(10) (based on Takahashi’s (39))

Mary-ga [NP [IP John-ni nanika-o ageta] onna]-ni atta sooda

-NOM -DAT something-ACC gave woman-DAT met I:heard

'I heard Mary met a woman who had given something to John.'

boku-wa [CP nani(?*-o) ka] siritai naa.

I-TOP what(-ACC) Q know:want

'I want to know what.'

---

8 Mukai (2003) looks into what she calls "verbless conjunction," which was analyzed as Right Node Raising by Saito (1987) and as Gapping by Abe & Hoshi (1997). She claims contra Abe & Hoshi that island effects are not observed in this construction and proposes the operation String Deletion, which targets a non-constituent. Emi Mukai (p.c., March 2007) brought to my attention that Koizumi (2000: appendix A) had already hinted at a similar possibility.
Note that *nanika-o* 'something', the element in the first conjunct that corresponds to the wh-phrase in the second, resides within a relative clause.

The contrast between the case-marked and the non-case-marked versions has been observed in a domain other than island sensitivity. Hoji (1990: ch. 5) observed that case-marked stripping requires a linguistic antecedent while its non-case-marked counterpart does not.

(11) (based on Hoji 1990: ch.5 (172) & (174))

[Taroo and Yoko are observing Mr. Smith speak fluent Japanese on the screen.]

Taroo: Tyuugokugo(-o)-mo desu (yo)

Chinese-ACC-also COP

'Chinese, too.' (intended as "Mr. Smith speaks Chinese very well, too.")

Fukaya (1998) and Fukaya & Hoji (1999a, b) further observed that case-marked sluicing requires a linguistic antecedent, while its non-case-marked counterpart does not.

(12) (= Fukaya & Hoji 1999b: (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")
When we turn to the sloppy reading, however, the case-marked vs. non-case-marked distinction seems to disappear. As observed in Takahashi 1994, case-marked and non-case-marked sluicing yield both the strict and the sloppy readings. The case-marked and the non-case-marked versions of (13B), for example, give rise to the strict reading in (14a) and the sloppy reading in (14b).

(13)  (based on Takahashi's (12) and his comment in his footnote 1)

A: UConn-ga [soko-no basukettobooru tiimu-ga dare-o]
   -NOM that:place-GEN basketball team-NOM who-ACC
   sukautosita ka] happyoosita
   scouted Q announced
   'UConn announced who its basketball team scouted.'

B: Duke-mo [dare(-o) ka] happyoosita.
   -too who-ACC Q announced
   'Duke also announced who.'

(14)  a. Duke announced who UConn's basketball team scouted.


Likewise, both case-marked and non-case-marked stripping yield the sloppy reading, as observed in Hoji 1990: ch. 5 and further discussed in Fukaya & Hoji 1999a, b. Both the case-marked and the non-case-marked versions of (15B), for instance, yield the sloppy reading in (16b) as well as the strict reading in (16a).
A: John-wa Toyota-\text{i}-ni [\text{NP sokoi-}\text{-ni} \text{hairitagatteita hito}-\text{o} \\
\text{John-top Toyota-DAT there-DAT wanted to join person-ACC} \\
\text{syookaisita} \\
\text{introduced} \\
'John introduced to Toyota_{i} (the/a) person(s) who wanted to join it\text{it}{.}\text{'}

B: Nissan(-ni)-mo \text{da} \\
Nissan(-\text{DAT})-also \text{COP} \\
'(To) Nissan, too.'

(16) a. John introduced to Nissan (the/a) person(s) who wanted to join Toyota. 

b. John introduced to Nissan (the/a) person(s) who wanted to join Nissan.

If we assume that an operation that ensures an LF identity between the antecedent and the ellipsis sites is involved in the derivation of the case-marked versions of sluicing and stripping while it need not be in that of their non-case-marked counterparts, we can account for the distinction between the case-marked and the non-case-marked versions regarding the linguistic antecedent requirements. If we assume that the derivation with such an operation involves movement which induces island effects, the observations in (9) and (10) are as expected. However, the distinction between the case-marked and the non-case-marked versions of Japanese sluicing and stripping regarding the island effects is not as straightforward. For example, there are many speakers who accept examples like (10) even with the case-marker, contrary to the claims in the previous works.
In regard to the availability of the sloppy reading, given the fact that the case-marker can optionally drop in Japanese, what is possible for the case-marked versions is expected to be also possible, in principle, in its non-case-marked counterparts because the non-case-marked versions can also be derived in the same way as their case-marked versions. Hence, the availability of the sloppy reading with or without the case marker, as observed in (13) and (15), is as expected.

Suppose, as assumed above, that the case-marked versions necessarily involve an operation that ensures an LF identity between the antecedent and the ellipsis sites (surface anaphora in the sense of Hankamer & Sag 1976) while the non-case-marked versions do not necessarily involve such an operation. Suppose further that the sloppy identity reading is based on the same formal property that underlies bound variable anaphora (BVA), as argued in Lasnik 1976: appendix and Reinhart 1983: ch. 7. It then follows that the sloppy reading in case-marked versions becomes unavailable if the dependent term is replaced by an NP that cannot enter BVA. The sloppy reading in non-case-marked versions, on the other hand, may continue to be available, given that they need not involve surface anaphora as noted above. The negative prediction about the availability of the sloppy reading in case-marked versions, however, does not seem to be borne out.9

To illustrate the point, let us introduce the distinction between an a-word and a so-word in Japanese. An a-word is known to be unable to enter BVA, in sharp

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9 Regarding the non-case-marked sluicing, the sloppy reading also remains to be available.
contrast with a *so*-word, as discussed in Hoji 1990b, 1991, Ueyama 1998, Hoji et al. 1999, and subsequent works. This is illustrated in (17). While (17a) is acceptable with the intended BVA reading, (17b) is not.

(17) (based on Ueyama 1998: ch.3 (14))

a. Toyota-sae-ga [so-ko-no ko-gaisya]-o suisensita.
   Toyota-even-NOM that-place-GEN child-company-ACC recommended
   'Even Toyota recommended [its subsidiary].'
   EVEN x (x=Toyota)( x recommended x's subsidiary)

   Toyota-even-NOM that-place-GEN child-company-ACC recommended
   'Even Toyota recommended [its subsidiary].'
   EVENx(x=Toyota)( x recommended x's subsidiary)

Substituting an *a*-word for the *so*-word in (13) and (15), however, does not make the sloppy reading impossible in either case-marked or non-case-marked versions. These observations appear to cast some doubt on the relevance of the case-marked vs. non-case-marked distinction in the case of sluicing and stripping in Japanese.

This thesis will probe into new sets of empirical materials with respect to island sensitivity and the availability of the sloppy reading that have not been brought to light in the previous studies. It will be shown that island effects are detected only in a subset of the case-marked sluicing and stripping instances and that the case-marked vs. non-case-marked distinction will emerge clearly in those cases. It will also be shown that the genuine sloppy reading, in the sense of Hoji 1998a, emerges only in a subset of
the case-marked sluicing and stripping instances and that the contrast between the case-marked and the non-case-marked versions emerges only in those cases.

1.3. Assumptions

1.3.1. Overall picture

I assume the following organization of Grammar, following Ueyama (1998: ch. 1), who in turn follows the general architecture of grammar adopted in the Minimalist Program outlined in Chomsky 1995.

(18) (= Ueyama 1998: Ch.1 (19))

Numeration specifies the input of the generative procedure. Following Chomsky (1995:225), I take it to be "a set of pairs (LI, \(i\)), where LI is an item of the lexicon and \(i\) is its index, understood to be the number of times that LI is selected." Then the operation Select "selects a lexical item LI from the numeration, reducing its index by 1, and introduces it into the derivation" (Chomsky 1995: 226) as a syntactic object. At the LF interface, the lexical items introduced into the derivation must form a single syntactic object in order to be properly interpreted. The operation Merge takes two syntactic objects to form a single syntactic object and selects one of the labels of the
objects that are merged as the label of the newly created syntactic object. The syntactic object whose label is chosen by Merge is the head of the combined syntactic object and the new object is a projection of that object. Another type of concatenation is adjunction, where the newly created syntactic object is a two-segment category and is given a label distinct from either of the labels of the merged objects.10

While the operations Select and Merge are assumed to be "costless" (Chomsky 1995: 226) and can be freely applied, the operation Move is allowed only as the Last Resort.

(19) Last Resort (Chomsky 1995:280 (51))

Move F raises F to target K only if F enters into a checking relation with a sublabel of K.11

Thus, Move is allowed only if a feature needs to be checked. Move can be assumed to be a combination of two operations Copy and Merge in the copy theory of movement. Move creates a copy of the target of Move and this newly created copy is Merged. The operation Spell-Out "strips away from [the structure] Σ those elements relevant only to [a PF representation], leaving the residue Σ_L, which is mapped to [an LF representation] by operations of the kind used to form Σ. Σ itself is then mapped to [a PF representation] by operations unlike those of the [Numeration-to-LF-representation] computation" (Chomsky 1995: 229). I also assume that an LF

10 Chomsky (1995: 248) suggests that adjunction of α to K has an ordered pair <H(K), H(K)> as its label, where H(K) is "the head (=label) of the projected element K."
11 A sublabel of K is "a feature of the zero-level projection of the head H(K) of K" (Chomsky 1995:268).
representation is mapped to a semantic representation (SR), which is a standard logical notation in line with Heim & Kratzer 1998.

In addition to these widely accepted assumptions in generative grammar, I assume the operation in (20), which is a generalized version of Quantifier Raising, and the one in (21). I assume that both of these operations are not to be driven by features, following Ueyama 1998: ch.1. I also assume that these two types of operations are sensitive to syntactic islands.\footnote{Ueyama (1998) assumes that, while PF Movement is subject to the subadjacency condition (cf. section 1.3.4.1 and section A.4), Quantifier Raising, which Constituent Raising is assumed here to be a generalized version of, is clause-bounded. (Cf. section 2.5.2, especially footnote 42. Ueyama 1997 also contains relevant discussion.) Regarding locality effects in Constituent Raising, I adopt Reinhart's (1991) position that it is subject to the subadjacency condition. Whether Constituent Raising is clause-bounded or subject to the subadjacency condition does not affect our discussion on locality effects in chapters 2 and 3 because the analysis to be proposed there is compatible with either of the possibilities.}

(20) (adapted from Ueyama's (1998: ch. 1(21)) description of Quantifier Raising)

Constituent Raising:

a. CR applies to a nominal phrase.

b. CR adjoins the nominal phrase to the minimal complete functional complex containing it.\footnote{Complete functional complex (CFC) is "a projection containing all grammatical functions compatible with its head" (Chomsky 1995:102). For our discussion, it can be regarded as equivalent to IP/TP.}

(21) (adapted from Ueyama 1998: ch. 1 (23))

PF movement:

Adjoin $\alpha$ to some constituent
1.3.2. Agreement in Japanese

Fukui (1986/1995, 1987, 1988, 1989) claims that there are no functional categories D, I, C in Japanese,\(^\text{14}\) based on the facts listed in (22).\(^\text{15}\)

(22) a. the lack of obligatory wh-movement
b. the lack of the expletive
c. the presence of the multi-subject construction
d. free word order
e. the lack of subject-aux inversion

Let us consider (22a) and (22b), which are of direct relevance to our discussion. First, compare (23a)/(24a) and (23b)/(24b).

(23) a. What did John bought?
   b. John-wa nani-o katta no?
      -TOP what-ACC bought Q

(24) a. I don't know [what John bought].
      I-TOP -NOM what-ACC bought Q know:not

In English, the wh-element has to move from the object position to the sentence-initial position. In Japanese, on the other hand, the wh-element can remain in the object

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\(^{14}\) Fukui (1986/1995:131) claims that the functional category I in Japanese is a "very defective I," but since he maintains that Japanese lacks I in his later works, I present this more current view of his.

\(^{15}\) See Kuroda 1988 for a different view of agreement in Japanese. He claims that agreement is optional in Japanese while it is obligatory in English.
position. He attributes the fact in English to the C head having a [+wh] feature and to the agreement principle that requires that the grammatical agreement relation be satisfied at Surface Structure. In order to satisfy the principle, the wh-phrase has to move to the SpecCP and agreement takes place there.

\[(25)\]

\[
\begin{array}{c}
\text{what} \\
\text{C'} \\
\text{\textless [+wh]} \\
\text{C''} \\
\text{I''}
\end{array}
\]

According to his theory, Japanese lacks C, and thus agreement does not take place. Hence, the wh-phrase can stay in the object position in Japanese.

Regarding (22b), compare (26a)/(27a) and (26b)/(27b).

(26) a. It seems that John is competent.


- TOP competent seem be

\[16\] Note that the wh-element can also appear before the subject/topic as in (i). See section 1.3.3 below for an account of how this word order can arise in Japanese which is assumed in this thesis.

(i) a. nani-o John-wa katta no?
   what-ACC -TOP bought Q
   'What did John buy?'

   I-TOP what-ACC -NOM bought Q know:not
   'I don't know what John bought.'
(27) a. There is a book on the table.
   b. teeburu-no ue-ni hon-ga aru

   table-GEN top-DAT book-NOM exist

In English, the expletive *it* has to appear in the subject position of *seem*, as in (26a), and the expletive *there* has to appear in the subject position in existential sentences, as in (27a). Fukui ascribes these facts to the I-head having an agreement feature. An expletive with no semantic role has to appear in the subject position just to satisfy the agreement principle that requires that the grammatical agreement relation be satisfied at SS.

(28)

```
I''
  
SPEC  I'
    it
  <AGR>
   
I
  V''
```

In Japanese, according to his theory, there is no I, and thus, there is no element that requires agreement. Hence, the expletive is not inserted in Japanese.

Whether we subscribe to Fukui's view that there are no functional categories in Japanese or to a more conservative view that functional categories are very defective in Japanese, the facts are clear--Japanese lacks obligatory movement of a wh-phrase and insertion of the expletive. Basically following Fukui, I attribute these facts to the lack of agreement features in Japanese, and hence assume that there is no feature-driven movement in this language. This means that in Japanese we have only CR and PF movement, which I assume not to be driven by features and hence optional.
1.3.3. Scrambling in Japanese

1.3.3.1. Summary of Ueyama's (1998, 2003) theory

In this subsection, I will summarize Ueyama's (1998, 2003) theory of the so-called scrambling construction, i.e., sentences with the O(bject)-S(ubject) order, because the following chapters assume it and in fact makes crucial use of it. Ueyama claims (29). DL denotes a dislocated NP. A Deep DL, which corresponds to an A-scrambled NP in more widely used terminology, is a dislocated NP that resides in the sentence-initial position at both PF and LF, as indicated in (30). A Surface DL, which corresponds to an A'-scrambled NP, resides in the sentence-initial position at PF, but it resides in the position within the θ-domain of the verb at LF, as indicated in (31).

(29) (= Ueyama 1998: ch. 2 (10), slightly modified)

Claims:

a. An OS-type construction involves either a Deep DL (as in (30)) or a Surface DL (as in (31)).

b. There are syntactic environments in which the DL can be a Surface DL but not a Deep DL. (Cf. (32).)

(30) (= Ueyama 1998: Ch.2 (4))

Deep OS-type:

PF: NP-ACC/DAT (=DL) ... NP-NOM ... V
LF: NP-ACC/DAT (=DL) ... NP-NOM ... V
(31) (= Ueyama 1998: Ch.2 (5))

Surface OS-type:

PF: NP-ACC/DAT (=DL) ... NP-NOM ... V

LF: NP-NOM ... NP-ACC/DAT (=DL) ... V

(32) (= Ueyama 1998: Ch.2 (89), slightly modified)

a. The DL in the long distance OS-type construction is necessarily a Surface DL.

b. There is at most one Deep DL in a clause. In the case of the multiple OS-type construction, it is harder for the second DL to be a Deep DL than the first DL.

c. A DL within a clause expressing an *eventuality* is necessarily a Surface DL.

She thus claims that sentences that have the surface order *NP-ACC/DAT ... NP-NOM ... V* are structurally ambiguous between (30) and (31) except in the syntactic environments specified in (32), under which the relevant DL is unambiguously Surface DL.

Deep OS-type in (30) has the object-subject order at PF and at LF. She claims that the DL in this case resides in the sentence-initial A-position. The DL resides in that position throughout the derivation. The association between that position and the position within the θ-domain of the verb is ensured by empty operator movement, as
indicated in (33), and later by a $\lambda$-predicate to which mapping rules map the IP which the operator is adjoined to. This movement is assumed to be clause-bounded.\textsuperscript{17}

(33) (= Ueyama 1998: Ch.2 (92))

Deep OS-type:

\begin{align*}
\text{PF:} & \quad \text{NP-DAT/ACC} (=\text{DL}) \quad \ldots \quad \text{NP-NOM} \quad \ldots \quad \text{ec}_i \quad \ldots \\
\text{LF:} & \quad \text{NP-DAT/ACC} (=\text{DL}) \quad \text{Op}_i \quad \text{NP-NOM} \quad \ldots \quad \text{t}_i \quad \ldots
\end{align*}

This sentence-initial A-position is analogous to the subject position in the tough construction in English. (34a) and (34b) are instances of the tough construction, whose schematic representations are given in (35a) and (35b), respectively. Note that in (35), BVA(NP\textsubscript{1}, his\textsubscript{1}) is possible.

(34) (= Hoji 2006: (7))

a. \textit{even the most obedient tiger} is difficult for \textit{his} trainer to control \textit{ec} (when so many people are around)

b. \textit{at least one male student} was fairly easy for \textit{his} teacher to praise \textit{ec} in public

(35) (= Hoji 2006: (8))

a. NP\textsubscript{1} be adjective [\textsubscript{CP} OP\textsubscript{1} [C' for [IP his\textsubscript{1} trainer [I' to [control \textsubscript{t}_1 ] ] ] ] ] ]

b. NP\textsubscript{1} be adjective [\textsubscript{CP} OP\textsubscript{1} [C' for [IP his\textsubscript{1} teacher [I' to [praise \textsubscript{t}_1 \text{ in public}]]] ] ]]

\textsuperscript{17} Ueyama leaves open the question of at what point of derivation the operator movement takes place because her discussion does not hinge on the issue. (See Ueyama 1998: ch. 2: fn.43.)
(31), on the other hand, has the \textit{NP-ACC/DAT \ldots NP-NOM \ldots V} order at PF and the \textit{NP-NOM \ldots NP-ACC/DAT \ldots V} order at LF. This can be achieved by PF movement of the DL, as indicated by the PF and LF representation schematized in (36).

(36) (= Ueyama 1998: Ch.2 (92))

Surface OS-type:

\begin{align*}
\text{PF:} & \quad \text{NP}_j \text{-DAT/ACC} \quad \text{NP-NOM} \quad \ldots \quad \text{t}_i \quad \ldots \\
\text{LF:} & \quad \text{NP-NOM} \quad \text{NP-DAT/ACC} \quad \ldots 
\end{align*}

If a given surface form with the object-subject order corresponds to the structural description schematized in (36), it behaves on a par with its counterpart with the subject-object order in terms of LF properties, hence exhibiting so-called total reconstruction effects.

1.3.3.2. Illustrations of the properties of the Deep OS-type and the Surface OS-type

\textbf{Surface OS-type}

Deep OS-type in (30) and Surface OS-type in (31) are considered to exhibit the properties in (37) and (38), respectively.

(37) (= Ueyama 1998: Ch.2 (58), slightly modified)

\begin{itemize}
\item a. Wide scope reading of DL with respect to the subject
\item b. Absence of WCO effects
\end{itemize}

(38) (based on Ueyama 1998: Ch.2 (59))

\begin{itemize}
\item a. Narrow scope reading of DL with respect to the subject
b. Reconstruction effects

In this subsection, we illustrate these properties. Let us first consider (37a) and (38a). (39) is a short-distance OS-type, which is considered to be ambiguous between the Deep OS-type and the Surface OS-type unless it falls under the environments specified in (32). ¹⁸

(39) (based on Ueyama 1998: Ch.2 (49))

OS-type construction:

a. [10 izyoo-no kaisya-ni] [30%-no ginkoo-ga] ec_i huseina

10 or:more-GEN company-DAT 30%-GEN bank-NOM illegal

kasituke-o syooninsiteiru

loan-ACC approve

'[To ten or more companies], [30% of the banks] have approved illegal loans ec_i.]

(i) QP-DAT > QP-NOM

TEN-OR-MORE y (y = company) [30% x (x = bank) [ x has approved illegal loans to y ]]

'(lit.) There are ten or more companies such that 30% of the banks have approved illegal loans to it.'

¹⁸ If the 0-position corresponding to the DL is overtly realized, the construction is necessarily an instance of Deep OS-type, as discussed in Ueyama 1998 and Hoji & Ueyama 2003, and that is another way to 'disambiguate' the OS construction. But I will leave that case aside here.
(ii) QP-NOM > QP-DAT

\[30\%_x (x = \text{bank})[\text{TEN-OR-MORE}_y(y = \text{company})[ x \text{ has approved illegal loans to } y ]]]\]

'(lit.) 30% of the banks are such that it has approved illegal loans to ten or more companies.'

If it is an instance of the Deep OS-type, the DL is interpreted at its surface position, and thus it is expected to yield the wide scope reading of the DL with respect to the subject. If it is an instance of the Surface OS-type, on the other hand, the DL is interpreted at its original position within the \(\theta\)-domain of the verb, and the narrow scope reading of the DL with respect to the subject is expected to obtain. Hence, (39a) is expected to allow two distinct scope readings. As indicated in (39-i) and (39-ii), such indeed is the case.

Let us turn to (37b). The weak crossover effects can be attributed informally to a condition stated as in (40).

(40) (=Ueyama 1998: Ch.2 (13))

A dependent term in BVA must be c-commanded by the (QR-) trace of a QP at LF.

Since short-distance OS-type can be an instance of Deep OS-type, it is expected not to exhibit the WCO effects. Consider (41).
(41) (= Ueyama 1998: ch. 2 (18))

Absence of WCO effects in the OS-type construction:

a. ?Dare-o [so-itu-no hahaoya]-ga ec_{i} aisiteru no

who-ACC that-guy-GEN mother-NOM love COMP

'Who, his mother loves ec_{i}'

(Saito 1992:73 (10b), due to Hajime Hoji, Hiroaki Tada, and Yoshimura 1989)

b. Toyota-sae-o [so-ko-o tekitaisiteiru kaisya]-ga ec_{i}

Toyota-even-ACC that-place-ACC be:hostile company-NOM

uttaeta.

'sued

'[Even Toyota], [the company which is hostile to it] sued ec_{i}.'

As expected, the examples in (41) do not induce the WCO effects. The acceptability of the examples with the intended readings indicates that the trace of the DL does not reside in the position within the $\theta$-domain of the verb indicated by $ec$, because otherwise, the dependent term is not c-commanded by the trace and the examples would be expected to exhibit the WCO effects.

Now let us turn to (38b). The short-distance OS-type can be an instance of the Surface OS-type. Thus, (42), an instance of the short-distance OS-type, is expected to exhibit reconstruction effects.
(42) (= Ueyama 1998: Ch.2 (23))

a. [ ... NP ... ]-ACC/DAT_i ... QP-NOM ... t_i ... V

b. [So-ko-o tekitaisiteiru kaisya]-o Toyota-sae-ga t_i
  that-place-ACC be:hostile company-ACC Toyota-even-NOM
uttaeta

'sued

'[The company which is hostile to it], even Toyota sued t_i.'

The fact that the BVA reading is readily available in (42) indicates that the DL is interpreted at the trace position, which is c-commanded by the QP. (42) thus exhibits reconstruction effects.

Since the long-distance OS-type is necessarily an instance of the Surface OS-type, as in (32a), reconstruction effects are also expected. Consider (43).

(43) (= Ueyama 1998: Ch.2 (68))

a. QP1-DAT (=DL) QP2-NOM [CP NP-NOM ... V1 COMP] V2

b. [QP1 55%-no ginkoo]-ni [QP2 Yaohan-sae]-ga [CP seizi-
  55%-GEN bank-DAT Yaohan-even-NOM political
dantai X-ga supai-o okurikonda to] kimetuketeiru.
party X-NOM spy-ACC dispatched COMP conclude

'[QP2 Even Yaohan] concludes [CP that political party X had dispatched spies
to [QP1 55% of the banks]].'
c. \( QP2 > QP1 \)

\[ \text{EVEN}_y(y = \text{Yaohan})[y \text{ concludes that } 55\%x(x = \text{bank})[\text{political party X had dispatched spies to } x]] \]

d. \( *QP1 > QP2 \)

\[ 55\%x(x = \text{bank})[\text{EVEN}_y(y = \text{Yaohan})[y \text{ concludes that political party X had dispatched spies to } x]] \]

The fact that the reading in (43c) is available indicates reconstruction effects because the DL must be interpreted at a position lower than the matrix subject in order to yield that reading. Note that, since (43a/b) is necessarily an instance of the Surface OS-type, wide scope reading of the DL with respect to the subject is predicted to be blocked. The unavailability of the reading in (43d) bears out the prediction.

Since Ueyama claims (32b), repeated here, the second QP in the multiple OS-type construction is expected to exhibit reconstruction effects.

(32) b. There is at most one Deep DL in a clause. In the case of the multiple OS-type construction, it is harder for the second DL to be a Deep DL than the first DL.

Consider (44), where there are two DLs.\(^{19}\)

\[^{19}\text{As the background, note that the following scope relations hold.}\
\]

(i) a. Surface order: \( QP1\text{-NOM } QP2\text{-DAT } QP3\text{-ACC } V \) (the unmarked order)
Scope relation: \( QP1\text{>QP2}; QP1\text{>QP3} \) (no scope ambiguity)

b. Surface order: \( QP1\text{-ACC } QP2\text{-NOM } QP3\text{-DAT} \)
Scope relation: \( QP1\text{>QP2} \) (one of the possible readings)
(44) (= Ueyama 1998: Ch.2 (77))

a. QP1-ACC (=DL1) QP2-DAT (=DL2) QP3-NOM V

b. \([\text{QP1 Yaohan-sae}-o \text{QP2 kanarinokazu-no ginkoo]-ni} \text{QP3 hutatu Yaohan-even-ACC quite:many-GEN bank-DAT two izyoo-no seizi-dantai]-ga suisensita.}\)

or: more-GEN political-party-NOM recommended

'[\text{QP3 Two or more political parties] recommended [QP1 even Yaohan] to [QP2 quite many of the banks].']

c. QP3 > QP1; QP3 > QP2

TWO-OR-MORE\(z (z = \text{political party}) \left[\text{QUITE-MANY}_y(y = \text{bank}) \left[\text{EVEN}_x(x = \text{Yaohan})[z \text{recommended } x \text{to } y]\right]\right]\]

d. QP1 > QP3; QP3 > QP2

EVEN\(x(x = \text{Yaohan})[\text{TWO-OR-MORE}_z(z = \text{political party}) \left[\text{QUITE-MANY}_y(y = \text{bank}) \left[z \text{recommended } x \text{to } y]\right]\right]\]

e. ??/?*QP2 > QP3; QP3 > QP1

\(\text{QUITE-MANY}_y(y = \text{bank}) \left[\text{TWO-OR-MORE}_z(z = \text{political party}) \left[\text{EVEN}_x(x = \text{Yaohan})[z \text{recommended } x \text{to } y]\right]\right]\]

f. *QP1 > QP3; QP2 > QP3

EVEN\(x(x = \text{Yaohan})[\text{QUITE-MANY}_y(y = \text{bank}) \left[\text{TWO-OR-MORE}_z(z = \text{political party}) \left[z \text{recommended } x \text{to } y]\right]\right]\]

As indicated in (44c, d), QP2 can take narrow scope with respect to QP3. This indicates that QP2 exhibits reconstruction effects. Note also that it is concluded from
(44e) and (44f) that QP2 cannot take scope at its surface position, whether QP1 takes scope at its surface position or at its original position within the θ-domain of the verb. These facts are in accordance with Ueyama's (32b).

Ueyama also claims that a DL within a clause expressing an eventuality like (45) is necessarily a Surface DL.

(45) (= Ueyama 1998: Ch.2 (82))

\[
\text{NP1-DAT} \ [\text{CP QP2-DAT (=DL) QP3-NOM ... V tokoro]-NOM mieta}
\]

Thus, the DL in this type of clause is expected to exhibit reconstruction effects. Now consider (46).

(46) (= Ueyama 1998: Ch.2 (86))

a. Ko-no gakusei-ni-wa [\text{CP [QP2 kanarinkazu-no seizika]-ni}
   this-GEN student-DAT-TOP quite:many-GEN politician-DAT
   [QP3 hutari izyoo-no hito]-ga tirasi-o wasateiru tokoro]-ga
   two or:more-GEN person-NOM flier-ACC hand COMP -NOM
   mieta rasii.

   could:see they:say

   'They say that this student could see [CP [QP3 two or more people] handing a flier to [QP2 quite many of the politicians]].'

b. QP3 > QP2

   they say that this student could see [TWO-OR-MOREz (z = person)
   [QUITE-MANYy](y = politician) [ z handing a flier to y ]]]
c.  *QP2 > QP3

*they say that this student could see [QUITE-MANY\(y\)\((y = \text{politician})\)\]

[TWO-OR-MORE\(z\) \((z = \text{person})\) \([z \text{ handing a flier to } y])\]

Ueyama claims that, since the DL in this type of clause can only be a Surface DL, it is interpreted at its original position within the θ-domain of the verb, rather than at its surface position. Thus, the wide scope reading of the DL over the subject is not available.\(^{20}\)

1.4. Overview of the dissertation

Chapter 2 discusses island effects in Japanese sluicing. I will first investigate three types of case-marked sluicing, classified according to the type of the element in the first conjunct that corresponds to the wh-phrase in sluicing (henceforth, the correlate\(^{21}\)): (a) sluicing with an indefinite correlate, (b) sluicing with a definite correlate, and (c) sluicing with a wh-correlate, as exemplified in (47a-c), respectively. The correlate is underlined in each of the examples.

\[(47) \quad \text{a. John-wa   } \underline{\text{dareka-o }} \text{suisensita   ga,  boku-wa} \]

\[-\text{TOP } \text{someone-ACC } \text{recommended but } \text{I-TOP}\]

\(^{20}\) Although I agree with her judgments on multiple DL cases, I do not seem to get the relevant judgments in the case of eventuality clause cases, i.e., the reading in (46c) seems to be available for me. This judgmental fluctuation, however, does not affect the core of her proposal.

\(^{21}\) I follow Merchant's (2001) terminology.
I will then demonstrate that island effects are detected in case-marked sluicing with a
definite or wh-correlate like those schematically represented in (48), while they do not
seem to emerge in other cases.

(48) a. I know [CP ... [ISLAND ... Toyota ...] ... ],
    but I don't know [which other auto company]-CM.

b. I know [IP ... [ISLAND ... [which representative of the Dem. Party] ... ] ... ],
    but I don't know [which representative of the Repub. Party]-CM.
Note that the wh-phrase in sluicing (the remnant, henceforth\(^{22}\)) is modified by other in (48a) and that the correlate and the remnant are made contrastive by being modified by different prepositional phrases in (48b). The existence of the island effects will be demonstrated by scrutinizing the possible interpretations of each type of case-marked sluicing. I will claim that the effects are detected only if what I call the local reading and the non-local reading are distinguishable. A local reading is a reading we get if an IP within an island is reconstructed, and a non-local reading is a reading we would get if an IP over an island were reconstructed.\(^{23}\) It will be shown that in cases where these are distinguishable, the non-local reading is not available, which I claim to be an indication of the island effect. I will then propose that the island effects arise because the correlate has to move across an island at LF in order to obtain an IP that is reconstructed in the ellipsis site.

Having established that some types of case-marked sluicing are sensitive to islands, I will then turn to their non-case-marked counterparts and show that non-cm sluicing is not sensitive to syntactic islands, even in cases where its case-marked counterpart exhibits island effects. I will then claim that this is accounted for by postulating a copula structure for non-case-marked sluicing, which does not require a reconstruction of a structure from the first conjunct.

---

\(^{22}\) Pesetsky (1982) first introduced the term "remnant" in his discussion of Gapping. I will use this term in this thesis for lack of a better alternative, but note that I am not committed to the view that sluicing involves deletion as the term 'remnant' might imply. I will, on the contrary, assume that copying, rather than deletion, is involved in Japanese sluicing. See the discussion in chapter 2.

\(^{23}\) This account has been inspired by Merchant's (2001, ch. 5) analysis of the island amelioration effects in English sluicing with respect to what he calls propositional islands.
In chapter 3, I will first investigate the properties of three types of cm fragment ellipsis in Japanese: cm stripping, cm fragment answers, and cm reduced non-wh-interrogatives (the last two can in fact be subsumed under the first). Island effects are observed in reduced non-wh-interrogatives and a subcase of case-marked stripping with also, while they are not observed in cm fragment answers or cm stripping without also. It will be shown that island effects are observed in cases where the local and the non-local resolutions would give rise to distinct readings, just as in the case of cm sluicing discussed in chapter 2. I will then show that the account for Japanese sluicing adopted in chapter 2 can also capture the Japanese fragment ellipsis facts. I will also examine non-cm counterparts and demonstrate that they do not exhibit island effects even in cases where their cm counterparts do, again as in the case of sluicing. Finally, I will examine Merchant's (2003) theory of fragment ellipsis, along with his theory of sluicing, in light of the sluicing and fragment ellipsis data in Japanese, and demonstrate that the local resolution strategy, where an IP within an island is reconstructed, must be postulated in his system as well in order to account for those facts. This, I will claim, results in redundancy in the system.

In chapter 4, I will investigate the availability of the sloppy reading in sluicing. I will first look into cm sluicing with the configuration in (49), where the correlate is the intended antecedent of the dependent term in the first conjunct.

(49) I remember that [ …correlate_{2}… [... dependent term_{2} ...]…],

but I don't remember [wh-phrase].

A typical example is contrast sluicing as in (50).
'(50) I remember that Toyota is investigating a parts supplier which has been doing business with soko (that place/it), but I don't remember which other automobile company.'

Drawing on Ueyama's (1998) theory of dependency, to be summarized in chapter 4, I will propose the hypothesis in (51).

(51) The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (Co-I-indexation-based sloppy reading)

(52) is a summary of what is predicted to be unavailable and what is expected to be available under this hypothesis with respect to the sloppy reading. The columns under "1st conjunct" indicate the structural relations between the antecedent and the dependent term, the lexical property of the dependent term, and the possibility of the
establishment of FD and co-I-indexation (in Ueyama's (1998) term) in the first conjunct. The columns under "2nd conjunct" indicate the structural relation between the antecedent and the dependent term and the possibility of the establishment of FD and co-I-indexation in the second conjunct. The last column indicates the availability of the sloppy reading under the specified conditions as predicted and expected under the hypothesis in (51). I will demonstrate that all the positive expectations and negative predictions are confirmed.

Table 1: Positive expectations and negative predictions regarding the availability of the sloppy reading in cm contrast sluicing

<table>
<thead>
<tr>
<th>(52)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A preceeds B at PF</td>
<td>B</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small SO-</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>large SO-</td>
</tr>
<tr>
<td>c.</td>
<td>yes</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>small SO-</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>yes</td>
<td>large SO-</td>
</tr>
<tr>
<td>f.</td>
<td>no</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>g.</td>
<td>yes</td>
<td>yes</td>
<td>small SO-</td>
</tr>
<tr>
<td>h.</td>
<td>yes</td>
<td>yes</td>
<td>large SO-</td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>yes</td>
<td>small SO-</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>yes</td>
<td>large SO-</td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>yes</td>
<td>a-</td>
</tr>
</tbody>
</table>

I will then turn to non-cm sluicing and demonstrate that the sloppy reading is available even in cases where its cm counterparts do not give rise to it; i.e., the sloppy reading is available even under the structural and lexical conditions specified in (52c, d, f, i, l) in the chart.
I will then examine the availability of the sloppy reading in the configuration in (53), a typical example of which is given in (54), and claim that the peculiarities they show in the availability of the sloppy reading (i.e., its availability even with an *a*-word as the dependent term) can be accounted for by postulating a distinct representation that in effect makes this type of sluicing equivalent to the null argument construction as in (55).

(53) \[
[\text{NP}_2 \ [\text{... dependent term}_2 \ \text{...correlate...}] \ V ]
\]
\[
[\text{NP}_3 \ [\text{wh-phrase}] \ V ]
\]
<remnant>

(54) A: UConn-ga [soko-no basukettobooru tiimu-ga dare-o

-NOM that:place-GEN basketball team-NOM who-ACC

sukautosita ka] happyoosita

scouted Q announced

'UConn announced who its basketball team scouted.'


-too who-ACC Q announced

'Duke also announced who.'

(Takahashi 1994: (12))

(55) Duke-mo [pro dare-o sukautosita ka] happyoosita

-also who-ACC scouted Q announced

'(lit.) Duke also announced who *pro* had scouted.'

In chapter 5, I will turn to stripping in Japanese and show the points in (56).
a. The hypothesis in (51) captures the distribution of the sloppy reading in cm stripping, as summarized in (52), as well.

b. The non-cm stripping gives rise to the sloppy reading even in cases where its cm counterparts do not yield it, just as in the case of contrast sluicing.

c. The analysis of the cm and non-cm sluicing in Japanese adopted in chapter 2 can capture the facts regarding the sloppy reading in Japanese stripping as well.

I will then examine stripping cases that have the configuration in (53) and demonstrate that the same distributional patterns of the sloppy reading emerge as in the case of its sluicing counterparts.

Thus, in chapter 2 through chapter 5 I argue for the claim originally made in Hoji & Li 1994 and adopted in Fukaya and Hoji 1999a, b that sluicing and stripping are two different manifestations of the same syntactic phenomenon in Japanese.

Chapter 6 will critically review four major analyses of Japanese sluicing briefly mentioned in section 1.1 above and argue that none of them can account for the range of empirical data presented in chapters 2 and 4. It will also discuss some implications of our account for the analysis of sluicing and fragments in English and demonstrate that English sluicing also exhibits sensitivity to the complex NP island, contrary to what is claimed in Merchant to appear and Fox & Lasnik 2003. Chapter 7 will summarize the thesis and concludes with brief remarks on some issues to be addressed in future research.
Chapter 2
Island Sensitivity in Sluicing in Japanese

2.1. Introduction

Ross (1969) was the first to bring to light the construction that he called sluicing as in the second conjunct in (1b).¹

(1) a. Somebody just left--guess who just left.
   
   b. Somebody just left--guess who.

(Ross 1969: 252)

In the following discussion, I will refer to the wh-phrase in sluicing as the \textit{remnant} and to the element in the first conjunct that corresponds to the remnant as the \textit{correlate}, following the terminology introduced in chapter 1. In (1b), for example, \textit{somebody} is the correlate, and \textit{who} is the remnant.

Ross observed that the island effects in sluicing are weaker than those observed in non-elliptical cases where wh-phrase moves out of syntactic islands, as in (2)-(5) (Ross 1969: 276-277).

¹ Ross had only embedded questions. Lasnik (2002) includes matrix questions as an instance of sluicing.
(2) [Complex NP Constraint (relative clause)]
   a. *She kissed a man who bit one of my friends, but Tom doesn't realize which one of his friends she kissed a man who bit.
   b. ?She kissed a man who bit one of my friends, but Tom doesn't realize which one of his friends.

(Ross 1969: (72a-b))

(3) [Complex NP Constraint (complement clause)]
   a. *I believe the claim that he bit someone, but they don't know who I believe the claim that he bit.
   b. ??I believe the claim that he bit someone, but they don't know who.

(Ross 1969: (72c-d))

(4) [Sentential Subject Constraint]
   a. *That he'll hire someone is possible, but I won't divulge who that he'll hire is possible.
   b. ??That he'll hire someone is possible, but I won't divulge who.

(Ross 1969: (73b))

(5) [Coordinate Structure Constraint]
   a. *Irv and someone were dancing together, but I don't know who Irv and were dancing together.
   b. ??Irv and someone were dancing together, but I don't know who.

(Ross 1969: (71))
Observing these facts, Ross gives the informal statement regarding island effects in sluicing in (6).

(6) If a node is moved out of its island, an ungrammatical sentence will result. If the island forming node does not appear in surface structure, violations of lesser severity will (in general) ensue. (Ross 1969: (75))

Although Ross maintained that island effects are still observed in sluicing, it has been the general consensus in the literature that island effects are not observed in sluicing (See Chomsky 1972, Levin 1982, Chung et al. 1995, and Merchant 2001, to appear, Fox & Lasnik 2003, among others). (7) and (8) are taken from Merchant to appear.

(7) [Complex NP Constraint (relative clause)]
   a. *They want to hire someone who speaks a Balkan language, but I don't remember which Balkan language they want to hire [someone who speaks _].
   b. They want to hire someone who speaks a Balkan language, but I don't remember which [Balkan language, TF].

   (Merchant 2001: Ch.3 (5))

(8) [Adjunct Clause Constraint]
   a. *Ben will be mad if Abby talks to one of the teachers, but she couldn't remember which one Ben will be mad [if Abby talks to _].
b. Ben will be mad if Abby talks to one of the teachers, but she couldn't remember which.

(Merchant to appear: (13a))

Schematically, if the structure in (9) obtains in the first conjunct and sluicing is accepted, it has been taken to be the evidence that there are no island effects.

(9) ... [ISLAND ... correlate ... ] ...

Many researchers have then followed Ross 1969 and maintain that the remnant has undergone regular wh-movement.

The issue of why island effects are nullified in sluicing has been one of the central topics in the recent literature on sluicing. Chung, et al. (1995) (CLM, henceforth) propose an analysis where there is no movement involved in the derivation of sluicing; Merchant (2001) pursues an account in which only non-island-violating local movement is involved in the derivation of sluicing in island contexts; Merchant (to appear) and Fox & Lasnik (2003) (F&L, hereafter) propose that syntactic islands are PF phenomena and that deletion of the violating structure ameliorates the island violation.

In this chapter, I will first examine case-marked sluicing (cm sluicing) in Japanese, in which the remnant is marked with a case-marker or a postposition, and demonstrate that it is sensitive to the relative clause and the adjunct islands, although it appears to be insensitive to these islands. I will then show that the copy theory of ellipsis resolution proposed in Fukaya & Hoji 1999 (henceforth, F&H) combined with Merchant's (2001: Ch.5) E-type pronoun strategy can account for what appears
to be peculiar behaviors of Japanese sluicing. Finally, I will examine another type of sluicing in Japanese, where the remnant is not marked with a case-marker or a postposition (non-cm sluicing), and show that it is not sensitive to syntactic islands even in cases where its cm counterpart exhibits island effects. I will then argue that non-cm sluicing can have a radically distinct representation from its cm counterpart.

2.2. Island sensitivity in Japanese sluicing

In this section I will show that Japanese sluicing respects syntactic islands, although in some cases it appears to be insensitive to them. I will examine two types of islands for that purpose: the relative clause island and the adjunct island. Before getting into discussion on island effects, let us first give an overview of sluicing in Japanese with respect to what types of elements are allowed as the correlate.

2.2.1. Japanese sluicing

Inoue (1976, 1978) first observed that Japanese has a construction similar to English sluicing as in (10). (10a) is a simplex sentence example, and (10b) is an embedded sentence example.

(10) a. John-wa dareka-o suisensita ga, boku-wa
    -TOP someone-ACC recommended but I-TOP
    [dare-o ka] siranai.
    who-ACC Q know:not

2 Merchant (2001) refers to these types of islands that involve a proposition as "propositional islands."
'John recommended someone, but I don't know who <John recommended>.'

b. John-wa Mary-ga dareka-o suisensita to itteita ga,
   top   nom someone-acc recommended that said but
boku-wa dare-o ka oboeteinai
i-top   who-acc q remember:not
'John said that Mary recommended someone, but I don't remember who
<John said that Mary recommended>.'

(Inoue 1978: 56)

Not only an indefinite but also a definite can be the correlate in Japanese sluicing, as in the case of what Merchant (2001: 36) calls contrast sluicing.\(^4\) (11a) is an example where a simplex sentence is missing, and (11b) is an example where a complex sentence appears to be missing (the underline indicates that the phrase is the correlate).

(11) a. Boku-wa [USC-ga Susan-o suisensita no]-o sitteiru ga,
   top   nom   acc recommended that-acc know but
   Bill-wa dare-o ka siranai.
   top who-acc q know:not

---

3 The portion within angled brackets in the translation indicates an intended interpretation of the ellipsis.
4 See chapter 6 for discussion of contrast sluicing in English. Note also that the following examples with nonindefinite correlates are acceptable in English (Ken Safir, p.c., March 1998).
(i) a. Since Jill said Joe had invited SUE, we didn't have to ask who.  (Based on CLM 1995: 253)
   b. Because we saw Joe hand it to Max, we didn't have to ask to whom.
'I know that USC recommended Susan, but Bill doesn't know who <USC recommended _>.'


said that-ACC know but -TOP who-ACC Q know:not

'I know that John said that USC recommended Susan, but Bill doesn't know who <John said that USC recommended>.'

In addition to indefinite and definite NPs, in-situ wh-phrases can be the correlate in Japanese sluicing as in (12). (12a) is a case where a simplex sentence is missing, and (12b) is a case where a complex sentence appears to be missing.

(12) a. Boku-wa [USC-ga dare-o suisen sita ka] sitteiru ga,

I- TOP -NOM who-ACC recommended Q know but

Bill-wa dare-o ka siranai.

-TOP who-ACC Q know:not

'I know who USC recommended, but Bill doesn't know who <USC recommended>.'


know but -TOP who-ACC Q know:not
'I know who John said that USC recommended, but Bill doesn't know who <John said that USC recommended>.'

In summary, various types of NPs can appear as a correlate in Japanese sluicing; we have seen that (i) an indefinite, (ii) a definite, and (iii) an in-situ wh-phrase can be a correlate. Correlates of the types (ii) and (iii) will play crucial roles in the following discussion for the reason that only with those types can we demonstrate the presence of island effects.

### 2.2.2. The relative clause island

With this much background, let us turn to cases involving syntactic islands. Let us begin with the relative clause island. Before getting into discussion on sluicing, however, I will first show that relative clauses are indeed syntactic islands in Japanese. Consider (13).

(13) a. *[soko₃-no kogaisya]-ni

that:place-GEN subsidiary-to

[[kanari-no kazu]-no nikkei kigyoo]₃-ga

a:large:number-GEN Japanese company-NOM

[ _ kekkan buhin-o noonyuu siteita meekaa]-o uttaeta.

defective parts-ACC was:supplying maker -ACC sued

'(lit.) To its₃ subsidiary, [a large number of Japanese companies]₃ sued a manufacturer that had been supplying defective parts _.'

b. *[soko₃-no kogaisya]-ni-wa

that:place-GEN subsidiary-to-TOP
(lit.) As for [to its3 subsidiary], [a large number of Japanese companies]3 sued a manufacturer that had been supplying defective parts _.

'(lit.) It is to its3 subsidiary that [a large number of Japanese companies]3 sued a manufacturer which had been supplying defective parts_.'

(13a), (13b), and (13c) are examples of scrambling, the topic construction, and the cleft construction, respectively. I use cases involving bound variable anaphora to make sure that the dislocated element is related by means of movement to the position marked by an underscore that is within the relative clause.5 The intended reading here is roughly that for each of the large number of Japanese companies x, x

5 Mukai 2005 and Ueyama 2001 contain more discussion on island effects in Japanese. Mukai demonstrates that without invoking reconstruction effects, as I did in the main text, island effects tend not to show up very clearly, contrary to what the discussion in the past literature leads one to expect (cf. Saito 1985 and Hoji 1990). Ueyama surveys subjacency effects in various constructions in Japanese.
sued a manufacturer which had been supplying defective parts to x's subsidiary. In none of these examples would this covariant reading be available. This contrasts with the availability of such a reading in (14).

(14) \[([\text{kanari-no kazu]-no nikkei kigyoo}_3\text{-ga } ([\text{soko}_3\text{-no kogaisya]-ni a:large:number-GEN Japanese company-NOM that:place-GEN subsidiary-to [kekkan buhin]-o noonyuu siteita meekaa]-o uttaeta.}

defective parts-ACC was:supplying maker -ACC sued

'(lit.) [A large number of Japanese companies]$_3$ sued a manufacturer that had been supplying defective parts to its$_3$ subsidiary.'

These facts show that the dislocated element cannot be related to the underscored position in (13), and this indicates that a relative clause is indeed a syntactic island in Japanese.

Now let us return to sluicing. If we follow the criterion for island insensitivity in sluicing mentioned in Section 2.1, i.e., whether sluicing is possible when the first conjunct is in the structure in (9), repeated here, sluicing in Japanese does not seem to exhibit island effects.

(9) ... [ISLAND ... correlate ... ] ...

Consider (15).

(15) keisatu-wa [$\alpha$ [pro$_2$ Los Angeles-de [aru yuume zin]-ni mayaku-o utta] police-TOP -at a celebrity -to drug-ACC sold

otoko$_2$-o taihosita rasii ga, boku-wa [dare-ni ka] siranai.

man -ACC arrested seem but I-TOP who-to Q know:not
'(I heard) the police arrested a man who had sold drugs to a celebrity in LA, but I don't know to whom.'

In (15), whose structure is partially given in (16), the correlate is located within a relative clause island, but sluicing is possible, which indicates that Japanese sluicing with an indefinite correlate does not exhibit island effects.6

(16) 1st conjunct:

```
IP
   the police  I'
      VP  I
         Complex NP  arrested

... correlate ...
```

In sluicing with a definite correlate, island effects do not seem to be observed, either, as you can see in (17) and (18), whose first conjunct has the same schematic structure as in (16).7

(17) [keisatsu-wa [ISLAND [pro2 [Tanaka giin]-ni wairo-o okutta]

     police-TOP                    Rep. Tanaka-to  bribe-ACC gave

---

6 Takahashi (1994) and F& H argue that examples like (15) are unacceptable. I suggest that the judgments reported therein arose because we attempted to obtain the non-local reading through the non-local resolution in my terminology. See the discussion in section 2.4. As I will claim there, the non-local reading can also arise from the local resolution, and I would like to suggest that this is why many native speakers in fact accept such examples, contrary to what Takahashi (1994) and F&H report.

7 The example in (18) was inspired by Merchant to appear: (52), which I will discuss later.
otoko\textsubscript{2}]-o taihosita ga, Bill-wa [dono giin-ni ka] siranakatta rasii.

The police arrested the man who gave a bribe to Representative Tanaka, but it seems that Bill didn't know to which Representative.'

(I8) boku-wa keisatu-ga \[[\text{ISLAND} \pro_{2} [Tanaka giin]-ni wairo-o okutta]\]

'I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know to which other Representative.'

Sluicing with a wh-phrase correlate does not seem to exhibit island effects, either, as is observed in (19) and (20). (21) is the schematic structure of (19) and (20).

(I9) boku-wa \[[\text{ISLAND} \text{sensoyu} \pro_{2} [dono giin]-o]

'I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know to which other Representative.'
'(lit.) I know which congressman the newspaper that criticized him last week has been boycotted, but it seems that Bill doesn't know which congressman.'

(20) boku-wa [[ISLAND [sensyuu pro2 [minsyutoo-no dono giin]-o I-TOP last:week Dem. Party-GEN which congressman-ACC Hihansita] sinbunsya ga boikotto sareteiru ka] sitteiru ga, criticized newspaper-NOM is:being:boycotted Q know but
[[kyoowatoo-no dono giin]-o ka](-wa) siranai.

Repub. Party-GEN which congressman-ACC Q (-TOP) know: not

'(lit.) I know which congressman of the Democratic Party the newspaper that criticized him last week has been boycotted, but I don't know [which congressman of the Republican Party].'

(21) 1st conjunct:

```
IP
  I CP know
    ...
    IP Q
      ... Complex NP ...
        I'
          ...
            correlate ...
              VP I
                is being boycotted
```

Note that (15), (17) and (19) appear to give rise to the readings in (22a), (22b), and (22c), respectively.
(22) a. I don't know who is such that the police arrested the man who sold drugs to him.

b. Bill didn't know which Representative is such that the police arrested the man who gave a bribe to him.

c. Bill doesn't know which congressman is such that the newspaper which criticized him last week has been boycotted.

If we take a closer look at the readings available in the examples in (18) and (20), however, a different picture emerges. The reading available in (18), where the remnant is attached with *hoka-no* 'else/other', is given in (23) (let us call it the *non-covariant reading*). This reading corresponds to the non-elliptical sentence in (24).

(23) I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative he (=the man who the police arrested) gave a bribe to.

[The "same briber for different politicians" reading (the *non-covariant reading")]

(24) boku-wa keisatu-ga [ISLAND [pro$_3$ [Tanaka giin]-ni wairo-o okutta] I- TOP police-NOM Rep. Tanaka-to bribe-ACC gave otoko$_3$]-o taihosita no-wa sitteiru ga, [[sono hito]$_3$-ga man -ACC arrested that-TOP know but that person-NOM [hoka-no dono giin]-ni wairo-o okutta ka]-wa siranai. other-GEN which Rep.-to bribe-ACC gave Q -TOP know: not
'I know that the police arrested [the man who gave a bribe to Representative Tanaka], but I don't know which other Representative he gave a bribe to.'

[The "same briber for different politicians" reading (the non-covariant reading)]

What is puzzling is that the reading available in the non-elliptical counterpart of (18) given in (25), is missing in (18).

(18)  boku-wa keisatu-ga  [ISLAND [pro] [Tanaka giin]-ni wairo-o okutta]
     I- TOP    police-NOM    Rep. Tanaka-to bribe-ACC gave
     otoko-o taihosita no-wa sitteiru ga,
     man-ACC arrested that-TOP know but
     [hoka-no dono giin]-ni ka-wa siranai.
     other-GEN which Rep.-to Q -TOP know:not

'I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know to which other Representative.'

(25)  boku-wa keisatu-ga [ISLAND [pro] [Tanaka giin]-ni wairo-o okutta]
     I- TOP    police-NOM    Rep. Tanaka-to bribe-ACC gave
     otoko-o taihosita no-wa sitteiru ga,
     man-ACC arrested that-TOP know but
     [ISLAND [pro] [hoka-no dono giin]-ni
     other-GEN which Rep.-to
wairo-o okutta] otoko]-o taihosita ka]-wa siranai.
bribe-ACC gave man -ACC arrested Q -TOP know:not

'I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative the police arrested the man who gave a bribe to him.'

(25) gives rise to the reading in (26) (let us call it the covariant reading) while (18) does not.

(26) I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative is such that the police arrested the man who gave a bribe to him.

[The "different bribers for different politicians" reading (the covariant reading)]

On this reading, "the man who gave a bribe to another Representative (the identity of whom the speaker does not know)" denotes an individual distinct from "the man who gave a bribe to Representative Tanaka." Thus, more than one briber is involved, as in the English example with a resumptive pronoun in (27).

(27) I don't know which other Representative the police arrested the man who gave a bribe to him.

The following examples also exhibit the same pattern as (18): sluicing lacks a reading that its non-elliptical counterpart has. (28a) and (28b) lack the readings in
(30a) and (30b), respectively. The schematic representations of (28a) and (28b) are given in (29a) and (29b), respectively.

(28) a. boku-wa [Abby-ga [[pro\textsubscript{2} girisyago-o hanasu] hito\textsubscript{2}]-o
  I-TOP -NOM Greek-ACC speak person-ACC
  yatoitagatteiru no]-wa sitteiru ga, [hoka-no dono gengo]-o ka
  want:to:hire that-TOP know but other-GEN which language-ACC Q
  siranai.
  know:not

'I know Abby wants to hire someone who speaks Greek, but I don't know which other language.'

b. boku-wa [razio-ga [[Ringo-ga pro\textsubscript{2} tukutta] kyoku\textsubscript{2}]-o
  I-TOP radio-NOM -NOM made song-ACC
  nagasita no]-wa sitteiru ga, [hoka-no dare]-ga ka siranai.
  played that-TOP know but other-GEN who-NOM Q know:not

'I know the radio played a song that Ringo wrote, but I don't know who else.'

\footnote{The examples in (28) are based on Merchant (to appear: (52)).}
(29) a. 1st conjunct:

```
IP
   I CP know
   ... IP Q
   Abby I'
   VP I
   [Complex NP] wants to hire
   ... correlate ...
```

b. 1st conjunct:

```
IP
   I CP know
   ... IP Q
   the radio I'
   VP I
   [Complex NP] played
   ... correlate ...
```

(30) a. I don't know which other language is such that Abby wants to hire someone who speaks it.

[The "different people speak different languages" reading (the covariant reading)]
b. I don't know who else is such that the radio played a song that he wrote.

[The "different songs by different musicians" reading (the covariant reading)]

By contrast, the intended readings are readily available in their non-elliptical counterparts in (31).

(31) a. boku-wa [Abby-ga [[pro₂ girisyago-o hanasu] hito₂]-o
I-TOP -NOM Greek-ACC speak person -ACC
yatoitagatteiru no]-wa sitteiru ga, [(Abby-ga) [[pro₄ hoka-no
want:to:hire that-TOP know but -NOM other-GEN
dono gengo]-o hanasu] hito₄]-o yatoitagatteiru ka] siranai.
which language-ACC speak person-ACC want:to:hire Q know:not
'I know Abby wants to hire someone who speaks Greek, but I don't know which other language Abby wants to hire someone who speaks it.'

b. boku-wa [razio-ga [[Ringo-ga pro₂ tukutta] kyoku₂]-o nagasita no]-wa
I-TOP radio-NOM -NOM made song-ACC played that-TOP
sitteiru ga, [(razio-ga) [[hoka-no dare]-ga pro₄ tukutta] kyoku₄]-o
know but radio-NOM other-GEN who-NOM made song-ACC
nagasita ka] siranai.
played Q know:not
'I know the radio played a song that Ringo wrote, but I don't know who else is such that the radio played a song that he wrote.'
Now let us turn to sluicing with a wh-remnant in (20) with the schematic structure in (21), both repeated here.

(20)  boku-wa [[ISLAND sensyuu [pro$_2$ [minsyutoo-no dono giin]-o]
l-TOP last:week Dem. Party-GEN which congressman-ACC
hihansita] sinbunsyaa]-ga boikotto sareteiru ka] sitteiru ga,
criticized newspaper-NOM is:being:boycotted Q know but
[[kyoowatoo-no dono giin]-o ka](-wa) siranai.

Repub. Party-GEN which congressman-ACC Q (-TOP) know:not
'I know which congressman of the Democratic Party is such that the newspaper which criticized him last week has been boycotted, but I don't know [which congressman of the Republican Party].'

(21)  1$_{st}$ conjunct:

The reading available in (20) is given in (32).

(32)  I know which congressman of the Democratic Party is such that the newspaper which criticized him last week has been boycotted, but I don't
know which congressman of the Republican Party it (=the paper that has been boycotted) criticized last week. [the "same newspaper for different congressmen" reading (the non-covariant reading)]

This is the reading that is available in the non-elliptical sentence in (33).

(33)  boku-wa [[ISLAND [sensyuu pro2 [minsyutto-no dono giin]-o
I-TOP last:week Dem. Party-GEN which congressman-ACC
Hihansita] sinbunysya2]-ga boikotto sareteiru ka] sitteiru ga,
criticized newspaper-NOM is:being:boycotted Q know but
[sono sinbunysya2-ga sensyuu [kyoowatoo-no
that newspaper-NOM last:week Repub. Party-GEN
dono giin]-o hihansita ka] (-wa) siranai.
which congressman-ACC criticized Q (-TOP) know:not
'I know which congressman of the Democratic Party is such that the newspaper which criticized him last week has been boycotted, but I don't know which congressman of the Republican Party that newspaper criticized last week.'

Note that there is only one newspaper involved in this case.

What is puzzling again is that the sluicing sentence lacks the reading available in its non-elliptical counterpart, given in (34).

(34)  boku-wa [[ISLAND [sensyuu pro2 [minsyutto-no dono giin]-o
I-TOP last:week Dem. Party-GEN which congressman-ACC
I know which congressman of the Democratic Party is such that the newspaper that criticized him last week has been boycotted, but I don't know which congressman of the Republican Party is such that the newspaper that criticized him last week has been boycotted.

(34) yields the reading in (35), but its sluicing version lacks it.

(35)  I know which congressman of the Democratic Party is such that the newspaper that criticized him last week has been boycotted, but I don't know which congressman of the Republican Party is such that the newspaper that criticized him last week has been boycotted. [the "different newspapers for different congressmen" reading (the covariant reading)]

In summary, we have seen in this subsection that sluicing lacks the covariant reading that its non-elliptical counterpart gives rise to in relative clause island contexts, although it can yield the non-covariant reading.

2.2.3. The adjunct island

Now let us turn to the second type of island, i.e., the adjunct island. I will first show that adjuncts are indeed syntactic islands in Japanese. Consider (36).
(36) a. *[soko3-no koohoo]-ni

that:place-GEN publicist-DAT

[[kanari-no kazu]-no kigyoo]3-ga [syuukansi-ga _

a:large:number-GEN company-NOM weekly:杂志-NOM

syuzai-no irai-o sitekita tyokugo]-ni

interview-GEN request-ACC did right after-at

[media konsarutanto]-ni soodan siteiru

media consultant-DAT consult have:done

'(lit.) Its3 publicist, [a large number of companies]3 consulted a media consultant right after a weekly magazine asked _ for an interview.'

b. *[soko3-no koohoo]-ni-wa

that:place-GEN publicist-DAT-TOP

[[kanari-no kazu]-no kigyoo]3-ga [syuukansi-ga _

a:large:number-GEN company-NOM weekly:杂志-NOM

syuzai-no irai-o sitekita tyokugo]-ni

interview-GEN request-ACC did right after-at

[media konsarutanto]-ni soodan siteiru

media consultant-DAT consult have:done

'(lit.) As for its3 publicist, [a large number of companies]3 consulted a media consultant right after a weekly magazine asked _ for an interview.'

c. *[[kanari-no kazu]-no kigyoo]3-ga [syuukansi-ga _

a:large:number-GEN company-NOM weekly:杂志-NOM
(36a), (36b), and (36c) are examples of scrambling, the topic construction, and the cleft construction, respectively. As in the case of the relative clause island, I use cases involving bound variable anaphora to make sure that the dislocated element is related to the position marked by an underscore that is within the adjunct. The intended reading here is roughly that for each of the large number of companies x, x consulted a media consultant right after a weekly magazine asked x's publicist for an interview. In none of these examples would this covariant reading be available. This contrasts with the availability of such a reading in (37).

(37)  
[[kanari-no kazu]-no kigyoo]3-ga

  a:large:number-GEN company-NOM

[syuukansi-ga [soko3-no koohoo]-ni

weekly:magazine-NOM that:place-GEN publicist-DAT

syuzai-no irai-o sitekita tyokugo]-ni

interview-GEN request-ACC did right after-at
'(lit.) [A large number of companies] consulted a media consultant right after a weekly magazine asked its publicist for an interview.'

If we follow the criterion for island insensitivity in sluicing mentioned in section 2.1, i.e., whether sluicing is possible when the first conjunct is in the structure in (9), repeated here, sluicing in Japanese does not appear to exhibit adjunct island effects.

(9) ... [ISLAND ... correlate ... ] ...

In (38), whose partial structure is given in (39), the correlate is situated within an adjunct, but sluicing is acceptable, indicating that there are no adjunct island effects.

(38) Taro-wa [[aru sensei]-to kooron sita tyokugo]-ni [kootyoo situ]-ni
    Taro-TOP a tacher-with quarrel did right:after-at principal's:office-to
    monku-o ii-ni itta rasii ga, boku-wa [dono sensei]-to ka
    complaint-ACC say:to went seem but I-TOP which teacher-with Q
    siranai.
    know:not

'Taro went to the principal's office to complain right after he had a quarrel with a teacher, but I don't know with which one/teacher.'
By the same criterion, sluicing with a definite correlate does not seem to exhibit adjunct island effects, either, as can be seen in (40), which has a structure analogous to (39).

(40)  (boku-wa [ ) Taroo-ga [[Tanaka sensei]-to kooron sita tyokugo]-ni
        I-TOP     Taro-NOM Mr. Tanaka-with quarrel did right:after-at
              [kootyoo situ]-ni monku-o ii-ni itta (no]-o sitteiru) ga,
         principal's:office-to complaint-ACC say:to went that-ACC know but
        Yamada-wa [dono sensei]-to ka siranai.

        Yamada-TOP which teacher-with Q know:not

        '(I know that) Taro went to the principal's office to complain right after he
        had a quarrel with Mr. Tanaka, but Yamada doesn't know with which
        one/teacher.'

(38) and (40) appear to give rise to the readings in (41a) and (41b), respectively.
(41)  a. Taro went to the principal's office to complain right after he had a quarrel with a teacher, but I don't know which teacher is such that Taro went to the principal's office to complain right after Taro had a quarrel with him.

b. (I know that) Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but Yamada doesn't know which teacher is such that Taro went to the principal's office to complain right after Taro had a quarrel with him.

Now consider the cases where the remnant is modified by *hoka-no* 'else', as in (42), which has the structure in (43).

(42)  boku-wa [Taroo-ga [[Tanaka sensei]-to kooron sita tyokugo]-ni

I- TOP Taro-NOM Mr. Tanaka-with quarrel did right:after-at
[kootyoo situ]-ni monku-o ii-ni itta no]-wa sitteiru ga,
principal's:office-to complaint-ACC say:to went that-TOP know but
[hoka-no dono sensei]-to ka siranai.
other-GEN which teacher-with Q know:not
'I know that Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but I don't know with which other teacher/who else.'
The reading available in (42) is given in (44) (let us call it the *single-event reading*).

(44) I know that Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but I don't know with which other teacher Taro had a quarrel then. [the single-event reading]

This is the reading that is available in the non-elliptical sentence in (45).

(45) boku-wa [Taroo-ga [[Tanaka sensei]-to kooron sita tyokugo]-ni l-TOP Taro-NOM Mr. Tanaka-with quarrel did right:after-at [kootyoo situ]-ni monku-o ii-ni itta no]-wa sitteiru ga, principal’s:office-to complaint-ACC say:to went that-TOP know but [Taroo-ga [hoka-no dono sensei]-to kooron sita ka] siranai. Taro-NOM other-GEN which teacher-with quarrel did Q know:not 'I know that Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but I don't know which other teacher he had a quarrel with.'
On this reading, Taro went to the principal's office once right after he had a quarrel with Mr. Tanaka and some other teacher, but the speaker does not know who the second teacher is.

In the non-elliptical counterpart of (42), given in (46), the reading is available on which there occurred two distinct events where Taro went to the principal's office to complain. In one of the events he did so right after he had a quarrel with Mr. Tanaka, and in the other he did so right after he had a quarrel with another teacher, but the speaker does not know the identity of the second teacher. This reading given in (47) (let us call it the *multiple-event reading*) is not available in (42).

(46)  
\[
\text{boku-wa [Taroo-ga [[Tanaka sensei]-to kooron sita tyokugo]-ni l-TOP Taro-NOM Mr. Tanaka-with quarrel did right:after-at}
\]
[kootyoo situ]-ni monku-o ii-ni itta no]-wa sitteiru ga,
principal's:office-to complaint-ACC say:to went that-TOP know but
[[[ec [hoka-no dono sensei]-to kooron sita tyokugo]-ni other-GEN which teacher-with quarrel did right:after-at
[kootyoo situ]-ni monku-o ii-ni itta no] ka siranai.
principal's:office-to complaint-ACC say:to went that Q know:not
'I know that Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but I don't know [which other teacher]_2 Taro_3 went to the principal's office to complain right after he_3 had a quarrel with him_2.'
I know that Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but I don't know which other teacher is such that Taro went to the principal's office to complain right after Taro had a quarrel with him. [the multiple-event reading]

Let us now turn to sluicing with a wh-phrase correlate. Consider (48) with the structure in (49).

(48) boku-wa [Taroo-ga [[Zimintoo-no dare]-to kooron sita tyokugo]-ni I- TOP Taro-NOM LDP-GEN who -with quarrel did right:after-at [syuugiin gityoo]-ni soodan-ni itta ka sitteiru ga, Lower:House chair-to consult-to went Q know but [Minsyuttoo-no dare]-to ka siranai. DP-GEN who -with Q know:not

'I know [who in the Liberal Democratic Party] Taro went to the chair of the Lower House to consult right after he had a quarrel with him, but I don't know with whom in the Democratic Party.'
(49) 1\textsuperscript{st} conjunct:

\[
\begin{array}{c}
\text{I know CP} \\
\text{IP} \\
\text{Taro} \\
\text{I'} \\
\text{VP} \\
\text{I} \\
\text{Adjunct} \\
\text{VP} \\
\ldots\text{correlate}\ldots \\
\ldots\text{went} \\
\end{array}
\]

This sentence yields the reading in (50a), but not the one in (50b).

(50) a. I know who in the Liberal Democratic Party is such that Taro went to the chair of the Lower House to consult right after Taro had a quarrel with him, but I don't know who in the Democratic Party Taro had a quarrel with then. [the single-event reading]

b. I know who in the Liberal Democratic Party is such that Taro went to the chair of the Lower House to consult right after Taro had a quarrel with him, but I don't know who in the Democratic Party is such that Taro went to the chair of the Lower House to complain right after Taro had a quarrel with him. [the multiple-event reading]

In its non-elliptical counterpart in (51), on the other hand, the reading in (50b) is readily available.

(51) boku-wa [Taro-o ga [[Zimintoo-no dare]-to kooron sita tyokugo]-ni I-TOP Taro-NOM LDP-GEN who -with quarrel did right:after-at
'I know [who in the Liberal Democratic Party] Taro went to the chair of the Lower House to consult right after he had a quarrel with him, but I don't know [who in the Democratic Party] Taro went to the chair of the Lower House to consult right after he had a quarrel with him.'

In summary, sluicing examples with a definite or wh-correlate examined in this section lack the multiple-event reading that their non-elliptical counterparts give rise to.

2.2.4. Summary

In this section, we have examined Japanese sluicing in island contexts (the relative clause and the adjunct islands) and have discovered that there are restrictions on the availability of readings in the definite-correlate sluicing with the remnant modified by *hoka-no* 'else/other' and also in the wh-phrase-correlate sluicing where the correlate and the remnant are made contrastive by being modified by different phrases. The findings in this section are summarized in (52).
Table 2: Summary of the readings available in Japanese cm sluicing

<table>
<thead>
<tr>
<th>Type of the island</th>
<th>Available reading</th>
<th>Missing reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative clause island</td>
<td>non-covariant</td>
<td>covariant</td>
</tr>
<tr>
<td>adjunct island</td>
<td>single-event</td>
<td>multiple-event</td>
</tr>
</tbody>
</table>

Now three questions arise regarding the availability of these readings.

(53) Question 1: How can the non-elliptical version yield the covariant and the multiple-event readings (i.e., non-local readings)?

Question 2: Why does the sluicing version lack the covariant and the multiple-event readings (non-local readings)?

Question 3: How can the sluicing version yield the non-covariant and the single-event readings (i.e., local readings)?

In section 2.4, we will address the questions in (53), but before that, I will give an overview of the theory of ellipsis resolution adopted in this thesis.

### 2.3. Ellipsis resolution in Japanese sluicing

Given the assumption that there is no feature-driven movement in Japanese, as discussed in chapter 1, nothing moves before Spell-Out in this language. It then follows that ellipsis must be resolved by copying the relevant phrase from the discourse-available antecedent after Spell-Out. To see this point, let us examine the derivation of a simple sluicing case as in (10a), repeated below.

---

9 In the following discussion, I will use as cover terms local reading for the non-covariant and single-event readings and non-local reading for the covariant and the multiple-event readings when it is not necessary to make the relevant distinctions.
(10) a. John-wa dareka-o suisensita ga, boku-wa

\[-\text{TOP someone-ACC recommended but I-TOP}\]

[dare-o ka] siranai.

who-ACC Q know:not

'John recommended someone, but I don't know who <John recommended>.'

Let us assume a deletion theory of ellipsis resolution for the sake of discussion. The second conjunct would start out with a full-fledged structure as in (54b).

(54) a. 1\textsuperscript{st} conjunct:

\[
\begin{array}{c}
\text{IP} \\
\text{John} \quad I' \\
\text{VP} \quad I \\
\text{NP} \quad V \\
\quad | \quad | \\
\quad \text{someone} \quad \text{recommended}
\end{array}
\]

b. 2\textsuperscript{nd} conjunct:

\[
\begin{array}{c}
\text{I CP not:know} \\
\text{IP} \quad C \\
\text{John} \quad I' \quad Q \\
\text{VP} \quad I \\
\text{NP} \quad V \\
\quad | \quad | \\
\quad \text{who} \quad \text{recommended}
\end{array}
\]
In the second conjunct, *who* has to undergo overt movement as in (55), so that the wh-phrase will be out of the lower IP at PF to survive PF deletion. This structure feeds into LF as well as PF.

(55) 2\textsuperscript{nd} conjunct:

```
  I   CP  not:know
     /\    \
    / I\  /\ \
   IP  C  Q
  /   /   /
who IP   \\
  /   /
John I'
 /
VP   I
  /
NP  V
 |    |
t  t recommended
```

In the first conjunct, the correlate raises at LF to yield the structure in (56).

(56) 1\textsuperscript{st} conjunct:

```
  IP
 /\    \
someone IP
 /
John I'
 /
VP   I
  /
NP  V
 |    |
t  t recommended
```

At LF, boxed IPs in the first and the second conjuncts have identical structures, and thus the IP in the second conjunct can be deleted at PF under LF identity. Note,
however, that this derivation crucially assumes pre-Spell-Out movement in the second conjunct, which I assume does not exist in Japanese. Hence, the deletion theory of ellipsis cannot be maintained under our assumption.

Now let us turn to a copy theory of ellipsis resolution. I will follow the proposal made in Fukaya & Hoji 1999, which is specified in (57).

(57)  a. The remnant in Japanese sluicing is base-generated in a position adjoined to an empty IP.

b. In order for the remnant to receive an interpretation, an IP available in the discourse is copied onto the empty IP at LF.

c. The copied IP must have an empty slot in it so that the remnant can be syntactically related to the position within the IP.

d. An element within the antecedent IP can optionally undergo an LF operation *Constituent Raising (CR)*, which raises and adjoins the element to an IP (cf. Reinhart 1991). As a result, an IP with an empty slot is created.

e. CR is sensitive to syntactic islands (cf. Reinhart 1991).

To be more concrete, let us illustrate the derivation of (10), repeated here. The first and the second conjuncts have the structures in (58a) and (58b), respectively, at Spell-Out.

(10)  a. John-wa dareka-o suisensita ga, boku-wa

    -TOP someone-ACC recommended but I-TOP
'John recommended someone, but I don't know who <John recommended>.'

(58) a. 1st Conjunct at Spell-Out:

```
IP
  John  I'
  VP    I
    NP  V
       |   |
someone recommended
```

b. 2nd Conjunct at Spell-Out:

```
I CP not:know
  IP  C
    I'  ka
      VP  I
        CP  V
          IP  C  (da)
            NP  IP
               who ∅
```

---

10 In this structure, I put extra layers of VP and IP right above the lower CP because it has been pointed out that the copula *da* can optionally appear in Japanese sluicing. See Nishiyama et al. 1995 and Nishigauchi 1999: 7.2.1, among others, for some relevant discussion. In the following exposition, I will mostly ignore the possibility of having the copula in sluicing.
At LF, the correlate in the first conjunct undergoes Constituent Raising (CR) and is adjoined to the IP that dominates it, as in (59).

(59) 1st Conjunct at LF:

```
IP
   someone
      IP
          John I'
             VP I
                 NP V
                     t recommended
```

An IP with an empty slot has been created as a result of CRing the correlate. Then the lower IP is copied onto the empty IP in (58b), which is base-generated in the sluicing site, yielding the structure in (60). The copied IP has an empty slot in it, to which the remnant can be syntactically related. The remnant is thus given an interpretation by being associated with the empty slot in the copied IP.
Note that there is no restriction on CR in (57) except that it must obey syntactic island constraints. CR can thus adjoin an element to any IP that dominates it, as long as it obeys island conditions (a la Reinhart 1991). In the next section, I will show how this mechanism can account for the facts we have seen in section 2.2.

11 This has the same effect as Merchant's (2001: chapter 5) proposal on the local movement in propositional island contexts (involving a propositional domain). For cases like (i), he proposes the structure in (ii).

(i) (= Merchant 2001: chapter 5 (129a))
They hired someone who speaks a Balkan language--guess which!

(ii) (= Merchant 2001: chapter 5 (132a))
Guess which, [she speaks-1]!}

He thus claims that only the local wh-movement is involved in the sluicing cases which appear to be island-insensitive.
2.4. Local vs. non-local resolutions

In this section, I address the issues raised at the end of section 2.2, repeated below, and, in so doing, I will show how the mechanism of ellipsis resolution summarized above can account for the facts in Japanese sluicing.

(53) Question 1: How can the non-elliptical version yield the covariant and the multiple-event readings (i.e., non-local readings)?

Question 2: Why does the sluicing version lack the covariant and the multiple-event readings (non-local readings)?

Question 3: How can the sluicing version yield the non-covariant and the single-event readings (i.e., local readings)?

More specifically, I will argue that the covariant and the multiple-event readings are due to the wh-phrase taking scope over the island and that this is not possible in sluicing because of the restriction on CR. I will then claim, following Merchant (2001: chapter 5), that apparent island insensitivity results if the local resolution (i.e., a resolution within an island) yields an interpretation indistinguishable from the interpretation that would be obtained by the non-local resolution.

Some clarification of the terminology used in this and the following chapters is in order. A "resolution" means an operation (copying in the theory pursued here) that gives a structure to a missing part, and a "reading" in the context of our discussion means an interpretation obtained as a result of a resolution. A "local resolution" is then an operation of copying onto the ellipsis site an IP resulting from
CRing the correlate within an island in the first conjunct. On the other hand, "non-local resolution" would be an operation of copying onto an ellipsis site an IP that would result from CRing the correlate across an island in the first conjunct if such movement were possible.

2.4.1. The local reading is not equivalent to the non-local reading

2.4.1.1. Scope of a wh-phrase

(53) Question 1: How can the non-elliptical version yield the covariant and the multiple-event readings (i.e., non-local readings)?

Let us start with the covariant reading in the case of the relative clause. As we have seen above, (25), which has the non-elliptical structure in (61) in the second conjunct, gives rise to the covariant reading in (26).

(25) boku-wa keisatu-ga [ISLAND [pro] Tanaka giin]-ni wairo-o okutta]
I- TOP police-NOM Rep. Tanaka-to bribe-ACC gave
otoko2]-o taihosita no-wa sitteiru ga,
man-ACC arrested that-TOP know but
[I SLAND [pro] hoka-no dono giin]-ni
other-GEN which Rep.-to
wairo-o okutta] otoko4]-o taihosita ka]-wa siranai.
bribe-ACC gave man -ACC arrested Q -TOP know:not
'I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative the police arrested the man who gave a bribe to him.'
(61) 2\textsuperscript{nd} conjunct:

\[ \text{I CP-wa know:not} \]

\[ \text{IP C} \]

\[ \text{IP pro}_4 \]

\[ \text{VP I' ka} \]

\[ \text{VP I} \]

\[ \text{NP arrested} \]

\[ \text{IP NP} \]

\[ \text{... which other Rep.... man}_4 \]

(26) I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative is such that the police arrested the man who gave a bribe to him.

[the "different bribers for different politicians" reading (the \textit{covariant reading})]

I assume (62), following Baker 1970.

(62) Wh-in-situ takes scope at the position of the Q-morpheme that binds it.\textsuperscript{12}

Compare the following two examples to see the point in (62).

(63) a. Toroo-wa [Hanako-ga dare-to atta ka] itteimasita ka

\[ \text{Taro-TOP Hanako-NOM who-with met Q said Q} \]

'Did Taro say who Hanako had met?"
b. Taroo-wa [Hanako-ga dare-to atta to] itteimasita ka

Taro-TOP Hanako-NOM who-with met that said Q

'Who did Taro say Hanako had met?'

The difference between (63a) and (63b) is whether the Q-morpheme ka resides in the
embedded clause. In (63a) the wh-phrase takes scope at the embedded clause, and
hence, the entire sentence is a yes-no question with an embedded wh-interrogative.
In (63b), on the other hand, the wh-phrase takes scope at the matrix clause, and
hence, the entire sentence is a wh-interrogative.13

In the case at hand, the wh-in-situ hoka-no dono giin 'which other
Representative' takes scope at the position of the Q-morpheme ka. Since the Q-
morpheme ka is located in the C^0 position of the clause higher than the complex NP,
the wh-phrase takes scope over it, allowing hoka-no 'other/else' taking scope over the
complex NP. I claim that it is this scopal relation that gives rise to covariant
readings in the relative clause island cases.

The same holds in the wh-correlate case. Recall that (34) yields the covariant
reading in (35).

(34) boku-wa [[ISLAND [sensyuu pro2 [minsyutoo-no dono giin]-o

l-TOP last:week Dem. Party-GEN which congressman-ACC

---

12 See also Pesetsky (1987), Cheng (1991), and Li (1992), among others, for a similar proposal.
13 Note that in (63a) the wh-phrase cannot take matrix scope, although there is another Q-morpheme
ka residing in the matrix clause. This indicates that the interpretation of a wh-phrase is constrained
by some kind of locality, i.e., it is interpreted at the closest Q-marker. See Harada 1972 for
discussion on this issue.
I know which congressman of the Democratic Party is such that the newspaper that criticized him last week has been boycotted, but I don't know which congressman of the Republican Party is such that the newspaper that criticized him last week has been boycotted. [The "different newspapers for different congressmen" reading (the covariant reading)]

Since the wh-in-situ is bound by the Q-morpheme located in the C₀ position higher than the complex NP in this case too, *hoka-no 'other/else' takes scope over the complex NP, thereby giving rise to the covariant reading.*

I record our assumption as follows.
The necessary condition for the covariant reading:

The covariant reading obtains only if the wh-phrase takes scope over the complex NP.

Let us turn to the adjunct island cases. We have seen that (46), which has the non-elliptical structure in (65), yields the multiple-event reading in (47).

(46) boku-wa [Taroo-ga [[Tanaka sensei]-to kooron sita tyokugo]-ni
I-TOP Taro-NOM Mr. Tanaka-with quarrel did right:after-at
[kootyoo situ]-ni monku-o ii-ni itta no]-wa sitteiru ga,
principal's:office-to complaint-ACC say:to went that-TOP know but
[[[ec [hoka-no dono sensei]-to kooron sita tyokugo]-ni
other-GEN which teacher-with quarrel did right:after-at
principal's:office-to complaint-ACC say:to went that Q know:not
'I know that Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but I don't know [which other teacher]_2
Taro_3 went to the principal's office to complain right after he_3 had a quarrel with him_2.'
(65) 2nd conjunct:

```
(65) 2\textsuperscript{nd} conjunct:

I CP know:not

IP C\textsuperscript{0}

Taro I' ka

VP I

PP VP

IP P went to the principal's office

| to complain

...which other teacher... after

(47) I know that Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but I don't know which other teacher is such that Taro went to the principal's office to complain right after Taro had a quarrel with him. [the multiple-event reading]

In this case, the wh-phrase with \textit{hoka-no} 'other/else' is bound by the Q-morpheme situated in the C\textsuperscript{0} position of the clause immediately below the matrix clause (see C\textsuperscript{0} in (65)). It thus takes scope at that position, allowing \textit{hoka-no} to take scope there. I assume that \textit{hoka-no} taking scope over the adjunct clause gives rise to the multiple-event reading.

The same line of account also applies to wh-correlate cases, as in (51), whose structure is given in (66). Since the wh-phrase is bound by the Q-morpheme in the
C\textsuperscript{0} position of the embedded clause (see C\textsuperscript{0} in (66)), it takes scope over the adjunct clause. Thus it gives rise to the multiple-event reading in (50b).

(51) boku-wa [Taroo-ga [[Zimintoo-no dare]-to kooron sita tyokugo]-ni
\hspace{1cm} I-TOP Taro-NOM LDP-GEN who -with quarrel did right:after-at
\hspace{1cm} [syuugiin gityoo]-ni soodan-ni itta ka] sitteiru ga,
\hspace{1cm} Lower:House chair-to consult-to went Q know but
\hspace{1cm} [Taroo-ga [[Minsyutoo-no dare]-to kooron sita tyokugo]-ni
\hspace{1.5cm} Taro-NOM DP-GEN who -with quarrel did right:after-at
\hspace{1.5cm} [syuugiin gityoo]-ni soodan-ni itta ka] siranai.
\hspace{1.5cm} Lower:House chair-to consult-to went Q know:not

'I know [who in the Liberal Democratic Party]\textsubscript{2} Taro\textsubscript{3} went to the chair of the Lower House to consult right after he\textsubscript{3} had a quarrel with him\textsubscript{2}, but I don't know [who in the Democratic Party]\textsubscript{4} Taro\textsubscript{3} went to the chair of the Lower House to consult right after he\textsubscript{3} had a quarrel with him\textsubscript{4}.'
I record our assumption as follows.

(67) The necessary condition for the multiple-event reading:
The multiple-event reading obtains only if the wh-phrase takes scope over
the adjunct clause.

Combining (64) and (67), we get the generalized statement regarding the non-local
reading.

(68) The necessary conditions for the non-local reading:
The non-local reading obtains only if the wh-phrase takes scope over an
island.
2.4.1.2. Lack of the non-local reading

Let us now turn to the second question in (53), repeated here.

(53) Question 2: Why does the sluicing version lack the covariant and the multiple-event readings (non-local readings)?

According to (68), the wh-phrase must take scope over the island to obtain the non-local reading. One way to establish it is for the wh-phrase within an island to be bound by a Q-morpheme that is higher than the island. This option, however, is not available in sluicing because the wh-remnant (the boxed NP in (69)) is base-generated in a position adjoined to an empty IP and cannot sit within an island.

(69) 2nd Conjunct at Spell-Out:

Another way would be for the wh-remnant to be associated with a position within an island, as in (70b). In order for such an association to be established, however, the
correlate must move across the island in the 1\textsuperscript{st} conjunct as in (70a). This results in an island violation.

(70) a. 1\textsuperscript{st} conjunct:

\begin{verbatim}
  IP
  NP<correlate>IP
  ... ISLAND ...
  ... t ...
  *
\end{verbatim}

b. 2\textsuperscript{nd} conjunct:

\begin{verbatim}
  IP
  NP<remnant>IP
  ... ISLAND ...
  ... t ...
\end{verbatim}

To be more concrete, let us take (18) for example, which has the structure indicated in (71).

(18) boku-wa keisatu-ga [ISLAND [pro\textsubscript{2} [Tanaka giin]-ni wairo-o okutta]

I-TOP police-NOM Rep. Tanaka-to bribe-ACC gave

otoko\textsubscript{2}-o taihosita no-wa sitteiru ga,

man -ACC arrested that-TOP know but
'I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know to which other Representative.'

(71) a. 1st conjunct:

```
   ...IP
     the police I'
      VP I
     Complex NP arrested
   ... [Rep. T.]-DAT ...
```

b. 2nd conjunct:

```
   CP know:not
     ...IP C
      [which other Rep.]-ACC IP Q
         ∅
```

In order to get the interpretation in (26), the second conjunct must have the representation in (72) at LF.

(26) I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative is such that the police arrested the man who gave a bribe to him.
[the "different bribers for different politicians" reading (the covariant reading)]

(72) 2nd conjunct at LF:

```
CP know:not
  ...IP C
    [which other IP Q]
      Rep.-DAT
    the police I'
      VP I
    Complex NP arrested
      ...
```

In order to get this representation, the NP [Tanaka giin]-ni 'to Representative Tanaka' would need to raise and adjoin to an IP above the island in the first conjunct, as in (73).
(73) 1\textsuperscript{st} conjunct at LF:

Since this movement crosses the relative clause island, the derivation is blocked. Hence, the representation in (72) is unavailable; therefore, the reading in (26) does not obtain.

The same line of account holds of wh-correlate cases as in (20), repeated here.

(20)  boku-wa [[\text{ISLAND sensyuu} \ [minsyttoo-no \ dono giin]-o \\
I-TOP \ last:week \ Dem. Party-GEN \ which congressman-ACC \\
hihansita sinbunsysya]-ga \ boikotto sareteiru \ ka] \ sitteiru \ ga, \\
criticized newspaper-NOM \ is:being:boycotted \ Q \ know \ but \\
[[kyoowatoo-no \ dono giin]-o \ ka](\text{-wa}) \ siranai. \\
Repub. Party-GEN \ which congressman-ACC \ Q \ (-TOP) \ know:not \\
'(lit.)I know which congressman of the Democratic Party the newspaper that criticized him last week has been boycotted, but I don't know [which congressman of the Republican Party].'
The CR would have to cross an island in order to get the necessary structure for the covariant interpretation. Thus, the relevant interpretation is not available.

The same account also applies to the adjunct island cases. According to the necessary condition in (68), repeated below, the wh-remnant must be associated with a position within an adjunct island to get the multiple-event reading. In order to establish such an association, however, the correlate must move across the adjunct island in the 1st conjunct, just as in the relative clause island case in (73). This results in an island violation. Thus, the multiple-event reading is missing from the sluicing version.

(68) The necessary conditions for the non-local reading:

The non-local reading obtains only if the wh-phrase takes scope over an island.

In this subsection, it has been demonstrated that the unavailability of the non-local reading in sluicing is accounted for by the theory of the ellipsis resolution assumed here and the necessary condition for the non-local reading in (68).

2.4.1.3. The local reading

Let us address the third question, using (18) as an example.

(53) Question 3: How can the sluicing version yield the non-covariant and the single-event readings (i.e., local readings)?

(18) boku-wa keisatu-ga [ISLAND [pro$_2$ [Tanaka giin]-ni wairo-o okutta] I-TOP police-NOM Rep. Tanaka-to bribe-ACC gave
otoko2]-o taihosita no-wa sitteiru ga,
man -ACC arrested that-TOP know but
[[hoka-no dono giin]-ni ka]-wa siranai.
other-GEN which Rep.-to Q -TOP know:not
'I know that the police arrested the man who gave a bribe to Representative
Tanaka, but I don't know to which other Representative.'

The NP [Tanaka giin]-ni 'to Representative Tanaka' can raise and adjoin to the IP
within the island, as in (74a), because there is no restriction on CR except that it
cannot cross a syntactic island. Then the lower IP can get copied onto the empty IP
in the first conjunct, yielding the structure in (74b).14

(74) a. 1st conjunct:

I assume here that the Japanese relative clause, unlike its English counterpart, has an empty
pronominal element within it in place of a trace of a relative operator and that this empty element is
co-indexed with the head noun of the relative clause via predication (cf. Kuno 1973: Ch. 21, Haig
I assume, following Merchant (2001: ch. 5), that pro in the second conjunct can function as an E-type pronoun, yielding the interpretation "the man who the police arrested." Then the structure in (74b) gives rise to the reading in (23), repeated here.

(23) I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative he (=the man who the police arrested) gave a bribe to. [The same briber for different Representatives]

The same account holds for the wh-correlate sluicing, where the correlate and the remnant are contrasted by being modified by different phrases.

Next, let us turn to the adjunct island cases. Consider (42), the first conjunct of which has the structure in (43').

(42) boku-wa [Taro-ga [[Tanaka sensei]-to kooron sita tyokugo]-ni I-TOP Taro-NOM Mr. Tanaka-with quarrel did right:after-at
'I know that Taro went to the principal's office to complain right after he had a quarrel with Mr. Tanaka, but I don't know which other teacher/who else.'

(43') 1st conjunct:

If CR raises the correlate within the adjunct clause in the 1st conjunct, as in (75), and the lower IP is copied into the second conjunct, we obtain (76).
within the relative clause in the 1st conjunct:

(75) ... PP
     IP     P
     with Mr. Tanaka | after
     ... t...

(76) [IP [hoka-no dono sensei]-to [IP pro t3 kooron sita] ] ka siranai.

other-GEN which teacher-with quarrel did Q know:not

'I don't know which other teacher he (=Taro) had a quarrel with.'

With the copied IP interpreted as "he had a quarrel," the structure in (76) yields the reading in (44').

(44') I don't know with which other teacher Taro had a quarrel. [the single-event reading]

Note that, since the wh-phrase does not scope out of the adjunct, the multiple-event reading where Taro went to the principal's office more than once to complain right after he had a quarrel with different teachers is not available, as we have seen in sec. 2.4.1.2.

The same line of account holds for the cases where the wh-correlate and the wh-remnant are modified by different phrases as in (48), repeated here.

(48) boku-wa [Taroo-ga [[Zimintoo-no dare]-to kooron sita tyokugo]-ni
      I-TOP Taro-NOM LDP-GEN who -with quarrel did right:after-at
'I know [who in the Liberal Democratic Party]2 Taro3 went to the chair of the Lower House to consult right after he3 had a quarrel with him2, but I don't know who in the Democratic Party.'

The correlate moves within the adjunct island and adjoins to it, and the lower IP gets copied onto the empty IP in the second conjunct. Since what is reconstructed does not contain the island, only the single-event reading obtains as in (50a).

\[(50) \text{a. I know who in the Liberal Democratic Party is such that Taro went to the chair of the Lower House to consult right after Taro had a quarrel with him, but I don't know who in the Democratic Party Taro had a quarrel with.}
\]

\[\text{[the single-event reading]}\]

### 2.4.1.4. Summary

In this subsection, we have provided answers to the three questions raised at the end of section 2.2.

\[(77) \text{Question 1: How can the non-elliptical version yield the covariant and the multiple-event readings (i.e., non-local readings)?}
\]

\[\text{Answer 1: By being bound by a Q-morpheme higher than the island, the wh-phrase can take scope over the island. This scopal relation gives rise to the non-local readings.}\]
Question 2: Why does the sluicing version lack the covariant and the multiple-event readings (non-local readings)?

Answer 2: CR is constrained by island conditions and cannot yield the structure necessary for the remnant to be associated with a position within an island.

Question 3: How can the sluicing version yield the non-covariant and the single-event readings (i.e., local readings)?

Answer 3: CR can raise the correlate within the island, and the IP within the island gets copied into the second conjunct.

2.4.2. The local reading is equivalent to the non-local reading

Next, let us turn to the apparent island repair examples. Recall that these are (i) indefinite-correlate cases, (ii) definite-correlate cases with the remnant not being modified by *hoka-no* 'other', and (iii) wh-correlate/remnant cases where the correlate and remnant are not made contrastive by being modified by different phrases. First consider the relative clause island cases. Recall that the correlate within a relative clause in the first conjunct can raise and adjoin to an IP within the relative clause. This movement is legitimate because it does not cross a syntactic island. In the case of (17), for example, CR can raise the NP *[Tanaka giin]-ni* 'to Representative Tanaka' and adjoin it to the IP within the relative clause, as in (78).

(17)  [keisatu-wa [ISLAND [pro2 [Tanaka giin]-ni wairo-o okutta] police-TOP Rep. Tanaka-to bribe-ACC gave]
The police arrested the man who gave a bribe to Representative Tanaka, but it seems that Bill didn't know to which Representative.

(78) a. [keisatu-wa [ISLAND [IP [Tanaka giin]-ni3 [IP pro2 t3 wairo-o okutta]]] ...

Then the lower IP, i.e., [IP pro2 t3 wairo-o okutta] 'pro gave a bribe t3', is copied onto the empty IP in the second conjunct, giving the structure in (79).

(79) a. ...Bill-wa [IP dono giin-ni [IP pro2 t3 wairo-o okutta] ka] siranakatta rasii.

'... it seems that Bill didn't know to which Representative he gave a bribe.'
(80) Bill didn't know which Representative he (=the man the police arrested)
gave a bribe to.

On the other hand, if CR could raise the correlate across an island and the IP
obtained by CR in the first conjunct could be copied onto the empty IP in the second
conjunct, as in (81), the structure in (82) would result. It would then yield the
interpretation in (83).

(81) a. 1st conjunct:
b. 2\textsuperscript{nd} conjunct:

\[
\text{NP} \quad \text{IP} \quad \text{<remnant>} \\
\text{... IP ...} \\
\text{IP} \\
\text{... ISLAND ...} \\
\text{... t ...}
\]

(82) a. ... Bill-wa [\text{IP dono giin-ni} [\text{IP keisatu-ga} [\text{ISLAND pro}_2 t_3 \text{ wairo-o okutta}]
    -TOP which Rep.-to the police-NOM bribe-ACC gave
    \text{otoko}_2/-o \text{ taihosita} \text{ ka]} siranakatta rasii.
    man -ACC arrested Q knew:not seem

'... it seems that Bill didn't know which Representative the police arrested
the man who gave a bribe to him.'

(83) Bill didn't know which Representative is such that the police arrested the
man who gave a bribe to him.

Since CR obeys island constraints, (82) is not an available option for (17). Note,
however, that the interpretations in (80) and (83) are not distinguishable. Thus,
although what we get syntactically is the structure via the local resolution as in (79),
we feel that we get the non-local interpretation in (83) because the local resolution
gives rise to a reading indistinguishable from the one that the non-local resolution
would yield.
The same line of account holds for the wh-correlate case in (19), repeated here. The correlate [dono giin]-o 'which congressman-ACC' can raise and adjoin to the IP within the island, as in (84).

(19) boku-wa [[ISLAND [sensyuu pro2 [dono giin]-o
I-TOP last:week which congressman-ACC

hihansita] sinbunsyaa2]-ga boikotto sareteiru ka] sitteiru ga,
criticized newspaper-NOM is:being:boycotted Q know but
Bill-wa [[dono giin]-o ka] siranai rasii.

-TOP which congressman-ACC Q know:not seem

'(lit.)I know which congressman the newspaper that criticized him last week has been boycotted, but it seems that Bill doesn't know which congressman.'

(84) a. boku-wa [[ISLAND [IP [dono giin]-o3 [IP sensyuu pro2 t3 hihansita]]
I-TOP which congressman-ACC last:week criticized

sinbunsyaa2]-ga boikotto sareteiru ka] sitteiru ...

newspaper-NOM is:being:boycotted Q know

'I know which congressman the newspaper that criticized him last week has been boycotted....'
Then the lower IP gets copied onto the empty IP in the second conjunct, as in (85).

(85) a. Bill-wa [[isLAND [IP [dono giin]-o [ip sensyu pro2 t hihansita]] ka] -TOP which congressman-ACC last:week criticized Q

siranai rasii ...

know:not seem

'... it seems that Bill doesn't know which congressman it criticized last week.'

b. Bill CP know:not...
(85) then yields the interpretation in (86) with *pro* being interpreted as "the newspaper that has been boycotted."

(86) It seems that Bill doesn't know which congressman it (=the newspaper that has been boycotted) criticized last week.

If CR could raise the correlate across an island, we would get the structure as in (87) for the second conjunct after copying.

(87) a. Bill-wa [CP [IP [dono giin]-o [IP [ISLAND [sensyuu pro₂ t hihansita]

    -TOP which congressman-ACC last:week criticized

    sinbunsya₂-ga boikotto sareteiru]] ka] siranai raisii

    newspaper-NOM is:being:boycotted Q know:not seem

    'it seems that Bill doesn't know which congressman the newspaper that
criticized him last week has been boycotted.'

b. ...

    [which congressman]-ACC [IP]

    ... ISLAND ...

    ...

(87) would then give rise to the reading in (88).

(88) It seems that Bill doesn't know which congressman is such that the newspaper that criticized him last week has been boycotted.
Again, since CR cannot raise an element across an island, the derivation in (87) is not available. Notice however that the interpretations in (86) and (88) are not distinguishable. Thus, although what we get syntactically is the structure via the local resolution as in (85), we feel that we get the non-local interpretation in (88).

Finally, let us consider the adjunct island cases as in (38).

(38)  Taroo-wa [[aru sensei]-to kooron sita tyokugo]-ni [kootyoo situ]-ni
     Taro-TOP a tacher-with quarrel did right:after-at principal's:office-to
     monku-o ii-ni itta rasii ga, boku-wa [dono sensei]-to ka
     complaint-ACC say:to went seem but I-TOP which teacher-with Q
     siranai.

know:not

'Taro went to the principal's office to complain right after he had a quarrel with a teacher, but I don't know which one/teacher.'

In this case too, since CR can raise an element to any IP dominating it as long as it does not cross an island, it can raise the correlate [aru sensei]-to 'with a teacher' and adjoin it to the IP within the adjunct. Thus, we get (89b) from (89a) in the first conjunct.

(89) a. ... [[IP pro [aru sensei]-to kooron sita] tyokugo]-ni...

     a teacher -with quarrel did right:after-at

     'he had a quarrel with a teacher'

b. ... [[IP [aru sensei]-to, [IP pro t, kooron sita]] tyokugo]-ni...

     a teacher -with quarrel did right:after-at
'he had a quarrel with a teacher'

c. a schematic structure of (b):

```
      PP
     /    \
    IP    P
   /       \
  [a teacher]-with IP
     \
      ... t...
```

The lower IP in (89b) is copied onto the empty IP in the second conjunct, and we obtain (90).

(90) boku-wa [IP [dono sensei]-to [IP pro t3 kooron sita] ] ka siranai.

```
I-TOP which teacher -with quarrel did Q know:not
```

'I don't know which teacher he had a quarrel with.'

This structure gives rise to the reading in (91a), which is indistinguishable from the one in (91b) that the non-local resolution would yield if it were possible.

(91) a. I don't know which teacher he had a quarrel with (right before he went to the principal's office to complain).

b. I don't know which teacher is such that Taro went to the principal's office to complain right after he had a quarrel with him.

Since we are looking at one single event in which Taro went to the principal's office to complain, there is no way to distinguish between the local reading and the non-local reading. Note in this connection that when the correlate is an indefinite, there is no means to distinguish between the local and the non-local readings because it is
always the case that one single event is involved. This is why we had to rely crucially on the sluicing examples with other types of correlates.

2.4.3. Summary

In this section we have shown how the rather intricate properties of Japanese sluicing observed in section 2.2 follow from the analysis given in section 2.3. The crucial aspects of the present analysis are: (i) CR is sensitive to syntactic islands; (ii) CR can raise a constituent to any IP as long as it does not cross an island. In the next section, I will turn to another type of Japanese sluicing, i.e., non-cm sluicing in F&H's term.

2.5. Non-cm sluicing

Takahashi (1994) noted, and Fukaya (1998) and F&H further discussed two types of sluicing in Japanese: case-marked-sluicing (cm sluicing) and non-case-marked-sluicing (non-cm sluicing). The remnant is case-marked in the former while it is not in the latter. Note that what we refer to as "case-markers" includes postpositions as well as nominative, accusative, and dative markers. Fukaya (1998) and F&H proposed that non-cm sluicing can have a copula structure as in (92), which is radically distinct from that of cm-sluing.

(92) a. [IP NP [VP [CP [IP pro [VP <remnant> (da)]]] Q] V]
In this section, I examine the non-cm counterparts of the cm sluicing examples investigated in section 2.2 and see that non-cm versions give rise to the readings that are not available in their cm counterparts. Then I claim that those facts follow from the structure in (92).

First, I list the non-cm-counterparts of those cm sluicing examples which do not give rise to the covariant and the multiple-event readings (i.e., non-local readings). I also repeat the readings unavailable in their cm-sluiing counterparts. In all of these cases, the readings that are unavailable in their cm sluicing counterparts appear to be available.

The reading in (26) is available in (18'), which is the non-cm counterpart of (18).
(18') boku-wa keisatsu-ga [ISLAND [Tanaka giin]-ni wairo-o okutta
I-TOP police-NOM Rep. Tanaka-to bribe-ACC gave
otoko]-o taihosita no-wa sitteiru ga,
man -ACC arrested that-TOP know but
[[hoka-no dono giin] ka]-wa siranai.
other-GEN which Rep. Q -TOP know:not
'I know that the police arrested the man who gave a bribe to Representative
Tanaka, but I don't know which other Representative.'

(26) I know that the police arrested the man who gave a bribe to Representative
Tanaka, but I don't know which other Representative is such that the police
arrested the man who gave a bribe to him. [different bribers for different
Representatives (the covariant reading)]

(20'), the non-cm counterpart of (20), gives rise to the reading in (35).

(20') boku-wa [[ISLAND sensyuu [minsyutoo-no dono giin]-o
I-TOP last:week Dem. Party-GEN which congressman-ACC
hihansita sinbunsyaa]-ga boikotto sareteiru ka] sitteiru ga,
criticized newspaper-NOM is:being:boycotted Q know but
[[kyoowatoo-no dono giin] ka](~wa) siranai.

Repub. Party-GEN which congressman Q ~(~TOP) know:not
'(lit.)I know which congressman of the Democratic Party the newspaper
that criticized him last week has been boycotted, but I don't know [which
congressman of the Republican Party].'
I know which congressman of the Democratic Party is such that the newspaper which criticized him last week has been boycotted, but I don't know which congressman of the Republican Party is such that the newspaper that criticized him last week has been boycotted. [Different newspapers for different congressmen (the covariant reading)]

The readings in (30) are available in (28'), the non-cm counterpart of (28).

(28') a. boku-wa [Abby-ga [[pro₂ girisyago-o hanasu] hito₂]-o 
   I-TOP -NOM Greek-ACC speak person-ACC 
yatoitagatteiru no]-wa sitteiru ga, [hoka-no dono gengo]  ka 
   want:to:hire that-TOP know but other-GEN which language Q 
siranai. 
   know:not 
'I know Abby wants to hire someone who speaks Greek, but I don't know which other language.'

b. boku-wa [razio-ga [[Ringo-ga pro₂ tukutta] kyoku₂]-o 
   I-TOP radio-NOM -NOM made song-ACC 
nagasita no]-wa sitteiru ga, [hoka-no dare] ka siranai. 
   played that-TOP know but other-GEN who Q know:not 
'I know the radio played a song that Ringo wrote, but I don't know who else.'
it. [the "different people speak different languages" reading (the covariant reading)]

b. I know the radio played a song that Ringo wrote, but I don't know who else
is such that the radio played a song that he wrote. [the "different songs by
different musicians" reading (the covariant reading)]

(42'), the non-cm version of (42), gives rise to the reading in (47).

(42') boku-wa [Taroo-ga [[Tanaka sensei]-to kooron sita tyokugo]-ni
I-TOP Taro-NOM Mr. Tanaka-with quarrel did right:after-at
[kootyoo situ]-ni monku-o ii-ni itta no]-wa sitteiru ga,
principal's:office-to complaint-ACC say:to went that-TOP know but
[hoka-no dono sensei] ka siranai.
other-GEN which teacher Q know:not
'I know that Taro went to the principal's office to complain right after he
had a quarrel with Mr. Tanaka, but I don't know which other teacher/who
else.'

(47) I know that Taro went to the principal's office to complain right after he
had a quarrel with Mr. Tanaka, but I don't know which other teacher is
such that Taro went to the principal's office to complain right after Taro
had a quarrel with him. [the multiple-event reading]

The non-cm counterpart of (48) in (48') can yield the reading in (50b).

(48') boku-wa [Taroo-ga [[Zimintoo-no dare]-to kooron sita tyokugo]-ni
I-TOP Taro-NOM LDP-GEN who -with quarrel did right:after-at
I know [who in the Liberal Democratic Party] \_2 Taro \_3 went to the chair of the Lower House to consult right after he \_3 had a quarrel with him \_2, but I don't know who in the Democratic Party.'

(50) b. I know who in the Liberal Democratic Party is such that Taro went to the chair of the Lower House to consult right after Taro had a quarrel with him, but I don't know who in the Democratic Party is such that Taro went to the chair of the Lower House to consult right after Taro had a quarrel with him.

[the multiple-event reading]

I assume that a non-case-marked remnant in non-cm sluicing need not be syntactically related to a position in the theta-domain of the verb; such a syntactic relation is assumed to be required crucially for the licensing of a case-marker; see section 2.3. Thus, non-cm sluicing can have the structure in (92) above. To be more concrete, the non-cm sluicing in (93a), for example, can be represented as in (93b).

(93) a. [John-wa kinoo dareka-ni atta] rasii ga,

\[\text{-TOP yesterday someone-DAT met seem but}\]

\[\text{[syuugiin gityoo]-ni soodan-ni itta ka] sitteiru ga,}\]

Lower:House chair-to consult-to went Q know but

\[\text{[Minsyutoo-no dare] ka siranai.}\]

DP-GEN who Q know:not

'I know [who in the Liberal Democratic Party] \_2 Taro \_3 went to the chair of the Lower House to consult right after he \_3 had a quarrel with him \_2, but I don't know who in the Democratic Party.'

(93) a. [John-wa kinoo dareka-ni atta] rasii ga,

\[\text{-TOP yesterday someone-DAT met seem but}\]

\[\text{[syuugiin gityoo]-ni soodan-ni itta ka] sitteiru ga,}\]

Lower:House chair-to consult-to went Q know but

\[\text{[Minsyutoo-no dare] ka siranai.}\]

DP-GEN who Q know:not

'I know [who in the Liberal Democratic Party] \_2 Taro \_3 went to the chair of the Lower House to consult right after he \_3 had a quarrel with him \_2, but I don't know who in the Democratic Party.'

(50) b. I know who in the Liberal Democratic Party is such that Taro went to the chair of the Lower House to consult right after Taro had a quarrel with him, but I don't know who in the Democratic Party is such that Taro went to the chair of the Lower House to consult right after Taro had a quarrel with him.

[the multiple-event reading]

I assume that a non-case-marked remnant in non-cm sluicing need not be syntactically related to a position in the theta-domain of the verb; such a syntactic relation is assumed to be required crucially for the licensing of a case-marker; see section 2.3. Thus, non-cm sluicing can have the structure in (92) above. To be more concrete, the non-cm sluicing in (93a), for example, can be represented as in (93b).

(93) a. [John-wa kinoo dareka-ni atta] rasii ga,

\[\text{-TOP yesterday someone-DAT met seem but}\]

\[\text{[syuugiin gityoo]-ni soodan-ni itta ka] sitteiru ga,}\]

Lower:House chair-to consult-to went Q know but

\[\text{[Minsyutoo-no dare] ka siranai.}\]

DP-GEN who Q know:not

'I know [who in the Liberal Democratic Party] \_2 Taro \_3 went to the chair of the Lower House to consult right after he \_3 had a quarrel with him \_2, but I don't know who in the Democratic Party.'
boku-wa [dare ka] siranai.

I-TOP who Q know:not

'John seems to have met someone yesterday, but I don't know who.'

b.

The subject of the second conjunct is pro, which is comparable to sore 'that'. Thus, (93b) is interpreted analogously to "I don't know who that is." I assume that, like that, pro receives an interpretation from the context pragmatically, rather than syntactically.

Now let us return to each of the examples above and see how the copula structure can give rise to non-local readings. First, the second conjunct in (18') can have the structure in (94).

(94) [IP pro1 [VP [CP [IP pro2 [VP [hoka-no dono giin (da)] ka]-wa

other-GEN which Rep. COP Q -TOP
'I (=pro₁) don't know which other representative (that (=pro₂) is).'

The crucial pro here is pro₂ residing in the subject position of the embedded clause. From the context, it can refer to the property of being the person such that the police arrested the man who gave a bribe to him. Thus the second conjunct can mean "I don't know which other representative the property of being the person such that the police arrested the man who gave a bribe to him holds of." Compare this with the non-local reading in (26).

(26) I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative is such that the police arrested the man who gave a bribe to him. [different bribers for different Representatives]

Notice that the two readings are equivalent, and this makes (18') appear to yield the non-local reading in (26). Note also that replacing pro by an overt form sore-ga 'that-NOM' in (94) gives rise to the same interpretation.

Under our analysis, the second conjunct in (20') can have the structure in (95).

(95) [IP pro₁ [VP [CP [IP pro₂ [VP [koowatoo-no dono giin (da) ]] ka](wa)


siranai]]

know:not
'I (=\textit{pro}_1) don't know which congressman of the Republican Party (that (=\textit{pro}_2) is).'

Again the crucial \textit{pro} is \textit{pro}_2. From the context, it can refer to the property of being the person such that the newspaper which criticized him last week has been boycotted. Thus, the second conjunct can be interpreted as "I don't know which congressman of the Republican Party the property of being the person such that the newspaper which criticized him last week has been boycotted holds of." Note again that this interpretation is indistinguishable from the non-local reading in (35).

(35) I know which congressman of the Democratic Party is such that the newspaper which criticized him last week has been boycotted, but I don't know which congressman of the Republican Party is such that the newspaper that criticized him last week has been boycotted. [Different newspapers for different congressmen (the non-local reading)]

By the same token, the second conjunct in (28'a) has a \textit{pro} in the subject position, and it is interpreted as the property of being the language such that Abby wants to hire someone who speaks it, and the second conjunct is interpreted as "I don't know which other language the property of being the language such that Abby wants to hire someone who speaks it holds of." This gives rise to the reading indistinguishable from the one in (30a), repeated here.

(30) a. I know Abby wants to hire someone who speaks Greek, but I don't know which other language is such that Abby wants to hire someone who speaks
it. [the "different people speak different languages" reading (the covariant reading)]

The same line of analysis applies to (42') and (48') as well, and they yield interpretations in (96a-b), respectively.

(96) a. I don't know which other teacher the property of being the person such that Taro went to the principal's office to complain right after he (=Taro) had a quarrel with him holds of.

b. I don't now know who in the Democratic Party the property of being the person such that Taro went to the chair of the Lower House to consult right after he (=Taro) had a quarrel with him holds of.

One important aspect of the analysis pursued here is that pro receives interpretation pragmatically, rather than syntactically, unlike the null IP in cm sluicing. No syntactic movement is thus involved to derive readings, and hence, no island effects are observed. This has been confirmed by the fact that non-cm sluicing gives rise to the non-local readings that were unavailable in their cm counterparts.16

2.6. Summary

In this chapter I have investigated island sensitivity in various types of Japanese sluicing. I first showed that case-marked sluicing in Japanese is sensitive to the

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16 Thus, it can be said that pro in non-cm sluicing is an instance of deep anaphora while the empty IP
relative clause and the adjunct islands, although it appears otherwise at first glance. I scrutinized the possible interpretations of various types of Japanese case-marked sluicing and claimed that the lack of non-local (i.e., island-crossing) readings in certain types of contrast sluicing is due to island violation. Having established that case-marked sluicing is sensitive to islands, I turned to non-case-marked sluicing in Japanese and showed that it is not sensitive to syntactic islands even in cases where its case-marked counterpart exhibits island effects. I then claimed that this is accounted for by postulating a copula structure for non-case-marked sluicing, which does not require any movement in the resolution of the null element in the structure.

in cm sluicing is an instance of surface anaphora in the sense of Hankamer & Sag 1976.
Chapter 3
Island Sensitivity in Fragment Ellipsis in Japanese

3.1. Introduction

Chapter 2 demonstrated that the analysis of cm sluicing in (1) and that of non-cm sluicing in (2) account for the (un)availability of certain readings in Japanese sluicing.

(1) (Chapter 2: (57))

a. The remnant in Japanese sluicing is base-generated in a position adjoined to an empty IP.

b. In order for the remnant to receive an interpretation, an IP available in the discourse is copied onto the empty IP at LF.

c. The copied IP must have an empty slot in it so that the remnant can be syntactically related to the position within the IP.

d. An element within the antecedent IP can optionally undergo an LF operation Constituent Raising (CR), which raises and adjoins the element to an IP (cf. Reinhart 1991). As a result, an IP with an empty slot is created.

e. CR is sensitive to syntactic islands (cf. Reinhart 1991).

(2) (Chapter 2: (87))

[IP NP [VP [CP [IP pro [VP <remnant> (da) ]]] Q] V]]
According to (1), the wh-phrase in Japanese cm sluicing does not undergo wh-movement, unlike the wh-phrase in English sluicing, and Constituent Raising (CR) at LF is the movement involved in the ellipsis resolution. CR takes place in the first conjunct and the resulting IP with an empty slot is copied onto the empty IP in cm sluicing. Since the relevant movement is not wh-movement but LF CR, it is naturally expected that the ellipsis resolution strategy assumed for cm sluicing carries over to ellipsis cases where a case-marked non-wh-phrase is stranded. Let us use fragment ellipsis as a cover term to refer to such constructions, following Merchant's (2003) terminology. The structure in (2) is a regular copula structure that does not involve wh-movement, and thus the same analysis is expected to carry over to non-case-marked fragment ellipsis.¹

In this chapter, I investigate island sensitivity in three types of fragment ellipsis in Japanese and demonstrate that the mechanism proposed for sluicing in chapter 2 can account for the patterns of island sensitivity in fragment ellipsis as well (sections 3.2 and 3.3). I then review Merchant's (2003) theory of fragment ellipsis in light of Japanese data and demonstrate that it has empirical problems which have to be overcome by adopting what we have been calling the local resolution strategy, concluding that having the local resolution strategy would result in redundancy in the system because his theory advocates deletion-induced amelioration of island effects (section 3.4).

¹ The line of analysis summarized here has been pursued for cm and non-cm stripping in Fukaya & Hoji 1999.
3.2. Case-marked fragments in Japanese

In this section I will discuss the properties of three types of fragment ellipsis in Japanese, as illustrated in (3)-(5).

(3)  Tom-wa John-ga Susan-o suisensita to itteita ga,
     -TOP -NOM -ACC recommended that said but
     boku-wa Mary-o (da) to omotteita.
     I-TOP -ACC (COP) that thought
     '(lit.) Tom said that John recommended Susan, but I thought (it was) Mary.'

(4)  a. A: John-wa dare-o suisensita n desu ka?
      -TOP who-ACC recommended that COP Q
      'Who does John recommended?'

      B: Mary-o desu.
      -ACC COP
      '(lit.) It's Mary.'

      b. A: John-wa Susan-o suisensita n desu ka?
      -TOP -ACC recommended that COP Q
      'Did John recommend Susan?'

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2 I assume that the three types of fragment ellipsis to be discussed in this section are in fact subsumed under typical stripping discussed in Hoji 1990: chapter 5. But in order to avoid terminological confusion, I use the term fragment ellipsis as the cover term to include typical stripping, fragment answers, and the reduced non-wh-interrogative.
B: Iya. Mary-o desu.

No -ACC COP

'No. Mary.'

(5) boku-wa John-ga Bill-o suisensita no-wa sitteiru ga,
I-TOP -NOM -ACC recommended that -TOP know but
Mary-o ka dooka-wa siranai.

-ACC whether -TOP know not

'(lit.) I know that John recommended Bill, but I don't know whether (he recommended) Mary.'

The second conjuncts in (3), (4), and (5) correspond to the non-elliptical constructions in (6a-c), respectively.

(6) a. boku-wa John-ga Mary-o suisensita n da to omotteita.
I-TOP -NOM -ACC recommended that COP that thought
'I thought John recommended Mary.'

b. John-wa Mary-o suisensita n desu.
-TOP -ACC recommended that COP
'John recommended Mary.'

c. John-ga Mary-o suisensita ka dooka siranai.
-NOM -ACC recommended whether know not
'I don't know whether John recommended Mary.'

Let us refer to examples like (3) as *stripping*, following Hoji (1990:ch. 5), who in turn adopted the term from Hankamer 1971/1979; examples like (4) as *fragment*
answers, following Merchant 2003; and examples like (5) as the reduced non-wh-interrogative. In the following subsections, I examine the properties of each of these constructions with respect to island sensitivity.

3.2.1. Case-marked stripping

As I discussed in section 2.1 of chapter 2, if the first conjunct has the structure in (7) and sluicing is accepted with matrix readings, it has been taken to be the evidence that there are no island effects in the past works on sluicing.

(7) ... [ISLAND ... correlate ... ] ...

If we adopt the same criterion of island insensitivity for stripping, cm stripping in Japanese does not seem to be sensitive to syntactic islands. Consider (8).3

(8) Bill-wa [[ISLAND [pro itariva ryoori-o tukuru] hito]-ga

-TOP Italian cuisine-ACC make person-NOM

yoku kono mise-ni kuru to] itteita ga,

often this shop-to come that said but

boku-wa [[huransu ryoori]-o da to] omotteita.

I-TOP French cuisine-ACC COP that thought

'(lit.) Bill told me that those who make Italian cuisine often come to this shop, but I thought French cuisine.'

(Based on Hoji 1990: ch. 5 (114) & (116))

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3 The underline denotes the correlate, an element in the first conjunct that corresponds to the stranded NP in the second conjunct.
In (8), the correlate (i.e., *itariya ryoori-o* 'Italian cuisine-ACC') resides within the relative clause island (i.e., *[itariya ryoori-o tukuru hito]-ga* 'those who make Italian cuisine'), and the sentence seems to be acceptable with the matrix reading in (9).

(9) I thought that those who make French cuisine often come to this shop.

Recall that in sluicing, island effects are obscured if the local and the non-local resolutions give rise to indistinguishable readings. Thus, in (10), for example, no island effect was detected.

(10) [keisatu-wa [ISLAND [pro$_2$ [aru giin]-ni wairo-o okutta] police-TOP a congressman-to bribe-ACC gave

otoko$_2$]-o taihosita ga, boku-wa [dono giin-ni ka] siranai.

man -ACC arrested but I-TOP which Rep.-to Q knew:not

'The police arrested the man who gave a bribe to a congressman, but I don't know which congressman.'

What is copied into the second conjunct is the relative clause IP, i.e., *[IP pro$_2$ t$_3$ wairo-o okutta]* 'he gave a bribe to', as indicated in (11), and the pro is interpreted as "the man the police arrested." This gives rise to the interpretation in (12).

(11) ... boku-wa [IP dono giin-ni *[IP pro$_2$ t$_3$ wairo-o okutta] ka] siranai.

I-TOP which congressman-to bribe-ACC gave Q knew:not

'... I don't know to which congressman he gave a bribe.'

(12) I don't know to which congressman the man the police arrested gave a bribe.
Recall that this interpretation is indistinguishable from the interpretation given in (13) which the non-local resolution would give rise to.

(13) I don't know which congressman is such that the police arrested the man who gave a bribe to him.

Although the syntactic structure that would give rise to the interpretation in (13) is unavailable because it would involve a movement operation across a syntactic island, the local resolution in (11) gives rise to a reading that is indistinguishable from the non-local reading in (13), yielding the apparent availability of the non-local reading.

If we adopt the same analysis for ellipsis resolution in stripping, the apparent availability of (9) is as expected. The second conjunct is base-generated as in (14).

(14) a. boku-wa [[IP [huransu ryoori]-o [IP ∅]] da to] omotteita

   I-TOP                French cuisine-ACC          COP that thought

   'I thought (it was) French cuisine.'

b.  
      I CP thought
         IP C
                  I' that
                IP I
                     VP I
                            CP V
                                      IP C be
                                                IP
                                               [French cuisine]-acc ∅
In order to give an interpretation to the empty IP (which is placed in a box in (14b)), some discourse-available IP must be copied onto the empty IP. The IP must have an empty slot so that the IP-adjoined NP \([\text{huransu ryoori}]^{o}\) 'French cuisine-ACC' can be associated with it. Thus, the correlate \([\text{itariya ryoori}]^{o}\) 'Italian cuisine-ACC' must raise in the first conjunct. As in the case of sluicing, since CR can raise a constituent to any IP as long as it does not violate island conditions, it can raise the correlate within the relative-clause IP, as indicated in (15).

(15) a. Bill-wa [\text{ISLAND} [\text{IP} [\text{itariya ryoori}]^{o} [\text{IP} pro t\text{3} tukuru]] hito\text{2}-ga ...  
        \hspace{1cm} -\text{TOP} \hspace{1cm} \text{Italian cuisine-ACC} \hspace{1cm} \text{make} \hspace{1cm} \text{person-NOM}

b.  
```
...NP = ISLAND
```

```
IP
```

```
NP_{2}
```

```
[Italian cuisine]-ACC_{3}
```

```
<correlate>
```

```
person
```

```
[IP pro t\text{3} tukuru]
```

```
\text{VP}
```

```
\ldots \text{t\text{3}} \ldots
```

The lower IP with an empty slot is then copied into the second conjunct, which yields the structure in (16).

(16) a. boku-wa [[\text{IP} [\text{huransu ryoori}]^{o} [\text{IP} pro t\text{3} tukuru]] (no) da \to] omotteita  
        \hspace{1cm} l-\text{TOP} \hspace{1cm} \text{French cuisine-ACC} \hspace{1cm} \text{make} \hspace{1cm} \text{that COP that thought}

'I thought that they make French cuisine.'
The *pro*, functioning as an E-type pronoun, as proposed by Merchant (2001: chapter 5), can be interpreted as "those who often come to this shop," and (16) thus gives rise to the reading in (17).

(17)  
I thought that those who often come to this shop make French cuisine.

If CR could raise a constituent across a syntactic island, the structure in (18) would obtain in the first conjunct.

(18)  
Bill-wa [[IP *Italian cuisine*-ACC make person-NOM [IP [ISLAND [pro t3 tukuru] hito]-ga yoku kono mise-ni kuru]] to] itteita often this shop-to come that said
The lower IP would then be copied onto the empty IP in the first conjunct as in (19).

(19)  

\begin{align*}
\text{a. boku-wa} & \left[ \text{[IP [huransu ryoori]-o [IP [ISLAND [} pro t3 tukuru] hito]-ga}\right. \\
& \quad \text{-TOP French cuisine-ACC make person-NOM} \\
& \quad \text{yoku kono mise-ni kuru]} \text{] (no) da to] omotteita} \\
& \quad \text{often this shop-to come that COP that thought} \\
\text{b. } & \ldots \text{IP} \\
& \left[ \text{[French cuisine]-ACC [IP [I'] Complex NP VP I]} \right. \\
& \quad \text{often come to this shop} \\
\end{align*}

The structure in (19) would then give rise to the interpretation in (20).

(20)  

I thought that those who make French cuisine often come to this shop.

Notice that this interpretation is not distinguishable from that in (17). As in the case of sluicing, the availability of the local reading that is indistinguishable from the non-local reading makes it appear that the non-local reading is available, although
the syntactic structure that would give rise to the non-local reading is unavailable because of an island violation.

If this extension of the analysis of sluicing to stripping is on the right track, it is expected that island effects are detectable in cases where the local and the non-local resolutions give rise to distinct interpretations, as in the cases of sluicing with a correlate modified by *hoka-no* 'else' and wh-remnant sluicing where the correlate and the remnants are made contrastive by modification. To be more precise, it is predicted that the non-local reading is not available in examples where the local and the non-local resolutions give rise to distinct interpretations.

The prediction is indeed borne out. Consider (21).

(21)  
\[
\text{[itariya ryoori-o tukuru hito]-ga yoku kono mise-ni kuru ]}
\]
Italian cuisine-ACC make person-NOM often this shop-to come

\[
\text{rasii ga, boku-wa } [\text{[huransu ryoori]-o-mo da to]} \text{ omotteita.}
\]
seems but I-TOP French cuisine-ACC-also COP that thought

'(lit.) I hear that those who make Italian cuisine often come to this shop, but I thought French cuisine as well.'

(Based on Hoji 1990: ch. 5 (114) & (116))

Notice that in (21) the stripped NP is marked with *mo* 'also'. First, let us consider the local resolution. CR raises *itariya ryoori*-o 'Italian cuisine-ACC' in the first conjunct, and the resulting IP with an empty slot is copied onto the empty IP in the second conjunct. This yields the structure in (22).
(22) a.  boku-wa [[IP [huransu ryoori]-o-mo

             I-TOP                 French cuisine-ACC-also

             [IP pro t tukuru]] (no) da to] omotteita

             make that COP that thought

             'I thought that they make French cuisine as well.'

b.  I CP thought

         IP C

         I' that

         VP I

         CP V

         IP C be

         NP [French cuisine]

With the *pro* interpreted as "those who often come to this shop (under discussion),"

(22) gives rise to the reading in (23).

(23)  I thought that those who often come to this shop also make French cuisine.

        [the non-covariant reading]

Since those who often come to this shop under discussion make Italian cuisine, (23)
means "I thought that those who often come to this shop and make Italian cuisine
also make French cuisine." Thus, just one group of people is involved. They make
French cuisine as well as Italian cuisine, and they often come to this shop. This is the reading that (21) gives rise to.

If the non-local resolution were possible, it would yield the structure in the second conjunct as in (24).

(24) a. boku-wa [[IP [huransu ryoori]-o3-mo [IP [ISLAND [pro t3 tukuru] hito]-ga
                        I-TOP                French cuisine-ACC-also                       make   person-NOM
                        yoku kono mise-ni kuru]] da   to] omotteita
                      often   this    shop-to come   COP that thought

b. ...IP...
    [French cuisine]-ACC IP
      <remnant> Complex NP I'
         ... t... VP I
                          often come to this shop

This structure would then give rise to the interpretation in (25).

(25) I thought that French cuisine is also such that those who make it often come to this shop. [the covariant reading]

This interpretation is equivalent to "I thought that those who make French cuisine also often come to this shop (in addition to those who make Italian cuisine)". Thus, if what the speaker thought is correct, two distinct groups of people who often come to this shop are involved; one group of people make Italian cuisine, and the other group of people make French cuisine (let us call it the covariant reading because the
group of people co-varies with the kind of cuisine). Notice that this reading is distinct from the local reading given in (23). This non-local reading is unavailable for (21).

Another type of island we considered for sluicing was adjunct islands. (26) is an adjunct island case of stripping.

(26) a. Taro-wa [TA-ga [pro [Tanaka sensei]-to kooron sita tyokugo]-ni

\[TOP \quad NOM \quad Prof. \ Tanaka-with \ quarrel \ did \ right:after-at\]

\[gakubutyoo situ]-ni monku-o ii-ni itta to] itteita ga,

dean's office -to complaint-ACC say-to went that said but

boku-wa [Suzuki sensei]-to da to omoteita.

\[I-\quad TOP \quad Prof. \ Suzuki-with \ COP that \ thought\]

'(lit.) Taro said that a TA went to the dean's office to complain right after she had a quarrel with Prof. Tanaka, but I thought (it was) with Prof. Suzuki.'

b. 1st conjunct:

\[
\begin{align*}
\text{Taro CP said} & \\
\text{IP} & \quad \text{C} \\
\text{TA} & \quad I' \quad \text{that} \\
\text{VP} & \quad I \\
\text{PP} & \quad \text{VP} \\
\text{...[Prof. T]-with...} & \quad \text{went to the dean's office...} \\
<\text{correlate}> & 
\end{align*}
\]
In (26), CR can raise a constituent within the adjunct clause. With the resulting IP copied into the second conjunct, we obtain (27) in the second conjunct.

(27) a. boku-wa [IP [Suzuki sensei]-to [IP pro t3 kooron sita]]  

I-TOP  Prof. Suzuki-with  quarrel did  

(no) da  to  omotteita  

that COP that thought  

'I thought she had quarreled with Prof. Suzuki.'

b.  

I  CP  thought  

IP  C  

I'  that  

VP  I  

CP  V  

IP  C  be  

NP  IP  

[Prof. Suzuki]-with pro  VP  

... t ...  

The pro refers to a TA, and (27) gives rise to the interpretation in (28).

(28) I thought that a TA had a quarrel with Prof. Suzuki (in the event under discussion).
Note that the context imposes a restriction on the interpretation, as I indicated in the parentheses, and hence, the most natural interpretation we get out of the LF in (27) is (29).

(29) I thought a TA had a quarrel with Prof. Suzuki right before she went to the dean's office to complain.

If CR were possible across the adjunct island, the second conjunct could have the structure in (30) after IP copying.

(30) a. boku-wa [IP [Suzuki sensei]-to [IP [TA-ga
   I-TOP Prof. Suzuki-with -NOM
   [pro t3 kooron sita tyokugo]-ni
       quarrel did right:after-at
   [gakubutyoo situ]-ni monku-o ii-ni itta]] (no) da to omotteita
dean's office-to complaint-ACC say-to went that COP that thought
This structure would yield the reading in (31).

(31)  I thought a TA went to the dean's office to complain right after she had a quarrel with Prof. Suzuki.

Note that the readings in (29) and (31) are not distinguishable. Thus, as in the case of sluicing, the non-local reading appears to be available because the local resolution gives rise to a reading that is indistinguishable from the non-local reading.

It is then predicted that the non-local reading is not available if the local resolution gives rise to a reading distinct from the reading that would be yielded by the non-local resolution. Again, this prediction is borne out. Attaching *mo* 'also' to
the stripped NP imposes such a distinction between the local and the non-local readings. Consider (32).

(32) \[TA-ga \textit{pro} [Tanaka sensei]-to kooron sita tyokugo]-ni

\[\text{-NOM} \quad \text{Prof. Tanaka-with quarrel did right:after-at} \]

\[gakubutyoo situ]-ni monku-o ii-ni itta] rasii ga,

\[\text{dean's office-to complaint-ACC say-to went seem but} \]

boku-wa [Suzuki sensei]-to-mo da to omotteita.

\[I-\text{TOP} \quad \text{Prof. Suzuki-with-also COP that thought} \]

'(lit.) Mary went to the dean's office to complain right after she had a quarrel with Prof. Tanaka, but I thought (it was) with Prof. Suzuki as well.'

The local resolution yields the structure in (33) in the second conjunct.

(33) a. boku-wa [[IP [Suzuki sensei]-to-mo

\[I-\text{TOP} \quad \text{Prof. Suzuki-with-also} \]

\[IP \textit{pro} kooron sita]] (no da to] omotteita.

\[\text{quarrel did that COP that thought} \]

'I thought she had a quarrel with Prof. Suzuki.'
(33) yields the reading in (34).

(34) \[ \text{I thought the TA had a quarrel with Prof. Suzuki too (in the event under discussion).} \]
\[ \text{[the single-event reading]} \]

The context imposes a restriction on the interpretation again, and the most natural reading here is "I thought the TA had a quarrel with Prof. Suzuki, too, right before she went to the dean's office to complain," that is, the TA had a quarrel with Prof. Suzuki as well as Prof. Tanaka and then went to the dean's office to complain. Note that on this reading the TA went to the dean's office only once.

If CR were possible across the adjunct island, it would yield the structure in (35).

(35) a. \[ \text{boku-wa [[ [IP [Suzuki sensei]-to-mo [IP TA-ga} \]
\[ I-\text{TOP} \]
\[ \text{Prof. Suzuki}-\text{with-also} \]
\[ -\text{NOM} \] \]
[pro t₃ kooron sita tyokugo]-ni [gakubutyoo situ]-ni
quarrel did right:after-at dean's office-to
monku-o ii-ni itta] (no) da to omotteita.
complaint-ACC say-to went that COP that thought
b. I CP thought
  IP C
  | VP I that
  | CP V
  | IP C be
  | NP [IP
  | [Prof. Suzuki] TA-NOM I'
  -with also
  | VP I
  | PP VP
  | IP P went to the dean's office...
  | pro VP after
  | ... t ...

This structure would yield the reading in (36).

(36) I thought that Prof. Suzuki is also such that a TA went to the dean's office
to complain right after she had a quarrel with him.

[the multiple-event reading]
If what the speaker thought is correct, there are two events involved: the one in which a TA went to the dean's office to complain right after she had a quarrel with Prof. Tanaka, and the other where a TA went to the dean's office to complain right after she had a quarrel with Prof. Suzuki. Compare this reading with the local reading in (34). They are distinct, and (32) lacks the non-local reading. This is what is predicted from our theory. The CR necessary to yield the non-local reading is unavailable because of the island constraint.

3.2.2. Fragment answers

The second type of fragment ellipsis is fragment answers. There are two subtypes of them: the type where the corresponding question is a wh-interrogative and the other where it is a yes-no interrogative. First, let us examine wh-interrogatives, the English version of which was discussed in Merchant 2004. Consider (37).

(37) A: John-wa dare-ni sono hon-o watasita n desu ka?
   -TOP who-DAT that book-ACC handed that COP Q

   'Who did John hand the book to?'

B: John-wa Mary-ni sono hon-o watasimasita.
   -TOP -DAT that book-ACC handed

   'John handed the book to Mary.'

B': Mary-ni desu.
   -DAT COP

   'To Mary.'
As an answer to the wh-interrogative in (37A), (37B') as well as (37B) is acceptable. Let us now look into the island sensitivity of the type of answers in (37B').

Since Japanese is a wh-in-situ language, the wh-interrogative can be formed where the wh-phrase resides within a syntactic island as in (38).

(38) John-wa [ISLAND dare-ni moratta hon]-o nakusita n desu ka?

-TOP who-DAT received book-ACC lost that COP Q

'(lit.) John lost the book that was given by who?'

One possible answer to this question is (39a), where the entire sentence is repeated, and another is (39b), where the complex NP is repeated.4

---

4 Nishigauchi (1990, 1999: section 2.4) claims that the availability of answers like (39b) constitutes evidence for his LF pied-piping analysis. In his theory, (38) is represented as in (i).

(i) a. [CP [DP [CP dare-ni [CP [IP t], moratta]] hon-o] ]

 who-DAT received book-ACC

 [IP John-wa t nakusita] n desu ka?

-TOP lost that COP Q

'(lit.) John lost a book that who gave him?'

b. ... DP

CP D'

XP CP NP D

|   |

who t gave

XP C'

person C

Op IP

According to his theory, the wh-phrase first moves out of the relative clause (which he assumes to be a CP) and adjoins to it (see (i-b)). Then the wh-feature of the wh-phrase percolates up to the entire complex DP, thereby letting the entire DP bear the wh-feature. This makes it possible for the entire DP to undergo wh-movement into SpecCP of the matrix clause at LF. Although his theory employs movement of a wh-phrase, it is only within an island, not out of an island, and thus it can basically be made compatible with the theory of wh-interpretation I am assuming here, as far as island effects are concerned. The reader is referred to Nishigauchi 1986/1990, 1991, 1999 for the LF pied-piping...
What is interesting is that still another type of answer is possible, i.e., an answer where only the NP that corresponds to the wh-phrase appears, as in (40). 5

(40)  Mary-ni desu.

-DAT COP

'Mary.'

In chapter 2, I assumed, following Baker 1970, that wh-in-situ takes scope at the position of the Q-morpheme ka/no in C without moving to the Spec of CP. Hence, no movement is assumed to be involved in the interrogative. In the answer part, on the other hand, an IP must be reconstructed because the NP along with the case marker on it needs to be interpreted by being associated with a position within the θ-

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5 Nishigauchi (1999: sec.2.4.1) allows a short answer containing only the value of a wh-phrase in an island context to be derived from its corresponding answer containing the entire island by a deletion rule at discourse level, as proposed in Kuno 1980, which states "Maximize deletion; otherwise do not delete." Thus, (i-A1), for example, is derived from (i-A2) by deleting -o egaita-hon.

(i) (=Nishigauchi 1999: ch.2 (29))

Q: kimi-wa [[dare-o egaita] hon]-o yonda no?

you-TOP who-ACC describe book-ACC read Q

A1: Bill Gates desu.

COP


-ACC describe book COP
domain of a verb. In (40), for example, *Mary-ni* 'Mary-DAT' has to be associated with a position within the θ-domain of the verb *moratta* 'received'. If what is reconstructed had to correspond to the entire sentence, as illustrated in (41), our theory would predict that (40) is unavailable because the wh-phrase in the interrogative has to raise across an island via CR in order to give rise to an IP that can be copied into the answer part (the IP in the box).

(41) a. Mary-ni [IP John-wa [t moratta hon]-o nakusita] (n) desu.

```
  -DAT  -TOP  received book-ACC lost that COP
```

b. 

```
[Mary]-DAT [IP
    NP I'
    |   
    John-NOM VP I
  Complex NP V
  
  ... t... lost]
```

The availability of answers like (40) appears to indicate that no island effects are observed in fragment answers. I claim, however, that, as in the case of sluicing and stripping, the availability of examples like (40) is due to the availability of the local resolution which gives rise to a reading that is equivalent to the one that the non-local resolution would yield. Thus, the actual representation of (40), I maintain, is as in (42).
With the $pro_1$ and $pro_2$ interpreted as "John" and "the book that John lost," respectively, (42) yields the interpretation in (43).

(43)  John had received the book he lost from Mary.

The non-local resolution in (41) would yield the interpretation in (44).

(44)  John lost the book he had received from Mary.

Thus, I claim that just as in the case of sluicing with a remnant without $hoka$-no 'else' and stripping without $mo$ 'also', the availability of the apparent island-violating cases are illusory. The non-local resolution is syntactically blocked, but since the local resolution yields a reading that is indistinguishable from the reading that the non-local resolution would give rise to, we feel that we get the non-local reading.

The same line of account holds for adjunct island cases, too. Consider (45).
A: Taro-wa [[dono sensei]-to kooron sita ato-de] - TOP which prof.-with quarrel did after-at gakubutyoo situ-ni monku-o ii-ni itta no? dean's office-to complaint-ACC say-to went '(lit.) Taro went to the dean's office to complain after having a quarrel with whom?'

B: [Tanaka sensei]-to desu.

Prof. Tanaka-with COP

'With Prof. Tanaka.'

The local resolution in (46a) yields the reading in (47a), while the non-local resolution in (46b) would yield the reading in (47b). Note that they are not distinguishable, with the event under discussion interpreted as "the event where John went to the dean's office to complain after having a quarrel" from the context.
(47) a. Taro had a quarrel with Prof. Tanaka (in the event under discussion).

b. Taro went to the dean's office to complain after he had a quarrel with Prof. Tanaka.

Let us turn to the other subtype of fragment answers Merchant (2003) discusses, as in (4b), repeated here, where the corresponding question is a yes-no interrogative, not a wh-interrogative.

(4) b. A: John-wa Susan-o suisensita n desu ka?

'Did John recommend Susan?'
B: Iya. Mary-o desu.

No -ACC COP

'No. Mary.'

Now consider (48), where the correlate is located within an island.

(48) A: John-wa [Mary-ni moratta hon]-o nakusita n desu ka?

-TOP -DAT received book-ACC lost that COP Q

'John lost a book MARY gave?'

B: Iie. Susan-ni desu.

No -DAT COP

'No, Susan.'

Just as in the case of fragment answers to wh-interrogatives, the mechanism in (1) can account for this case. If we assume again that the remnant must be related to a position within the $\theta$-domain of a verb because of its case-marker, it follows that an IP with an empty slot must be copied into the answer part. If the entire sentence were to be reconstructed as in (49a), the CR necessary to generate an empty slot within the copied IP would have to cross an island, as in (49b-c).

(49) a. The second conjunct:

[Susan-ni [John-ga [t moratta hon]-o nakusita]] (n) desu.

-DAT -NOM received book-ACC lost that COP

b. The first conjunct:

[Mary-ni [John-wa [t moratta hon]-o nakusita]] (n) desu ka.

-DAT -TOP received book-ACC lost that COP Q
c. The first conjunct:

```
...IP...
  [Mary]-DAT  IP
    <correlate>
      NP   I'
         |  
        John-TOP  VP   I
          |  |
      Complex NP  V  
         |  |
              ... t... lost
```

Thus, the only possible derivation for (48B) is to CR the correlate within the island.

The copying of the resulting IP yields the structure in (50).

(50) a. [Susan-ni [pro₁ t pro₂ moratta]]

```
  -DAT  received
  
  b.      IP
          I'
            |  |
         VP   I
           |
       CP   V  
         |
      IP    C  be
        |
       NP  pro₁  VP
          |
        Susan-DAT t pro₂ received
```
With $pro_1$ and $pro_2$ being interpreted as "John" and "the book he lost" respectively, (50) gives rise to the interpretation in (51).

(51) John had received the book he lost from Mary.

The non-local resolution in (49a), if it were available, would yield the interpretation in (52). Notice again that the readings in (51) and (52) are not distinguishable.

(52) John lost the book he had received from Mary.

The same line of account holds for the adjunct island cases as well. Consider (53).

(53) A: John-wa [[Tanaka sensei]-to kooron sita ato-de]

     -TOP Prof. Tanaka-with quarrel did after-at

gakubutyoo situ-ni monku-o ii-ni itta n datte?
dean's office-to complaint-ACC say-to went that cop

'John went to the dean's office to complain after he had a quarrel with Prof. Tanaka?'

B: Iie. [Suzuki sensei]-to desu.

     no Prof. Suzuki-with COP

'No. With Prof. Suzuki,'

The local resolution yields the reading in (54a), and with the event most naturally interpreted from the context as "the event where John went to the dean's office to complain after having a quarrel," the interpretation in (54b) obtains.

(54) a. John had a quarrel with Prof. Suzuki (in the event under discussion).
b. John had a quarrel with Pref. Suzuki before he went to the dean's office to complain.

The non-local resolution, on the other hand, would yield the reading in (55).

(55) John went to the dean's office to complain after he had a quarrel with Prof. Suzuki.

Note again that the local and the non-local readings are not distinguishable with the event under discussion (compare (54b) and (55)).

The proposal above then predicts that the non-local reading is unavailable if the local and the non-local resolutions give rise to distinct readings. Unlike sluicing and stripping, however, there are not such cases in fragment answers because there can be only a single event involved in either of the subtypes. Thus, we cannot verify the prediction in this case.

3.2.3. Reduced non-wh-interrogatives

Finally, I will turn to the third subtype of fragment, i.e., reduced non-wh-interrogatives as in (5), repeated here.

(5) boku-wa [John-ga Bill-o suisensita no]-wa sitteiru ga,
     I-TOP                  -NOM       -ACC recommended that -TOP know but
[Mary-o ka dooka]-wa siranai.
     -ACC whether-TOP know:not

'I know that John recommended Bill, but I don't know whether (he recommended) Mary.'

The second conjunct in (5) is presumably a reduced form of (56).
... [John-ga Mary-o suisensita ka dooka]-wa siranai.

'I don't know whether John recommended Mary.'

I claim that this type of construction is also analyzed analogously to sluicing. The remnant is base-generated in a position adjoined to an empty IP, and an IP that can be copied onto this empty IP is generated as a result of the correlate undergoing CR. Thus, in (5) Bill-o 'Bill-ACC' in the first conjunct raises and adjoins to an embedded IP as in (57).

(57) [[[IP Bill-o3 [IP John-ga t3 suisensita]] no]-wa sitteiru ga,

'(lit.) I know that John recommended Bill.'

The bold-faced IP is then copied onto the empty IP in the second conjunct, yielding (58).

(58) [[[IP Mary-o [IP John-ga t3 suisensita]] ka dooka]-wa siranai.

'I don't know whether John recommended Mary.'

Now let us turn to a case where the correlate resides within an island.

(59) boku-wa [John-ga [sluicing-o kenkyuusiteiru gengogakysya]-o

'I don't know whether John recommended Mary.'
'(lit.) I know John is looking for a linguist who studies sluicing, but I don't know whether stripping.'

Notice that, unlike stripping without *mo* 'also', the local and the non-local resolutions yield distinct readings in (59). If CR takes place within the relative clause in the first conjunct, the second conjunct will have the structure in (60) after IP copying, and if CR applied across the island, the second conjunct would have the structure in (61). The copied IPs are boldfaced.

(60) a. [[IP stripping-o [IP *pro t₃ kenkyuusiteiru*]] ka dooka]-wa siranai.

b. 

```
  IP
   
  I'
   
  VP
   
  I
  
  CP
   
  V
  
  IP
   
  C know:not
  
  IP
   
  whether
  
  sluicing-ACC pro VP
   
   t studies
```

(61) a. [[IP stripping-o [IP *John-ga [[IP *pro t₃ kenkyuusiteiru* gengogakusya]-o sagasiteiru*]] ka dooka]-wa siranai.

```
  -ACC -NOM is:studying linguist -ACC
  is:looking:for whether -TOP know:not
```
(62) a. I don't know whether the linguist John is looking for studies stripping.

b. I don't know whether John is looking for a linguist who studies stripping.

On the reading in (62a), only one linguist is involved, and the speaker knows that s/he studies sluicing but does not know whether s/he studies stripping. On the reading in (62b), by contrast, two linguists are involved, and the speaker knows that John is looking for a linguist who studies sluicing but does not know whether John is looking for another linguist who studies stripping.

With the pro interpreted as "the linguist John is looking for," (60) yields the reading in (62a). (61), on the other hand, would yield the reading in (62b).
The non-local reading in (62b) is syntactically blocked because CR would have to cross an island. Note that, as in the case of sluicing, the non-elliptical version of (59), given in (63), yields the reading missing in its elliptical counterpart.

(63)  

boku-wa [John-ga [sluicing-o kenkyuusiteiru gengogakusya]-o kayuutteiru gengogakusya]-o

I-TOP -NOM -ACC is:studying linguist -ACC

sagasiteiru no] wa sitteiru ga,
is:looking:for that TOP know but

[John-ga [stripping-o kenkyuusiteiru gengogakusya]-o kayuutteiru gengogakusya]-o

-NOM -ACC is:studying linguist -ACC

sagasiteiru ka dooka]-wa siranai
is:looking:for whether -TOP know:not

'I know John is looking for a linguist who studies sluicing, but I don't know whether John is looking for a linguist who studies stripping.'

Thus, we conclude that it is the property of ellipsis that makes the relevant reading unavailable. The reading available in (59) is the local reading in (62a), which is equivalent to the reading that (64) gives rise to with sono gengogakusya 'that linguist' interpreted as the linguist who studies sluicing.

(64)  

boku-wa [John-ga [sluicing-o kenkyuusiteiru gengogakusya]-o kayuutteiru gengogakusya]-o

I-TOP -NOM -ACC is:studying linguist -ACC

sagasiteiru no] wa sitteiru ga,
is:looking:for that TOP know but
that linguist -NOM -ACC studies whether -TOP

'siranai

' (lit.) I know John is looking for a linguist who studies sluicing, but I don't know whether the linguist studies stripping.'

Let us turn to an adjunct island case in (65).

(65)  boku-wa kensatu-ga [Suzuki-o kiso suru mae-ni]
I-TOP prosecutor-NOM -ACC indict before-at

masukomi-ni riiku sita no wa sitteiru ga,
press-to leaked that TOP know but

[Tanaka-o ka dooka]-wa siranai

-ACC whether -TOP know:not

'(lit.) I know the prosecutor leaked to the press before he indicted Suzuki, but I don't know whether Tanaka.'

In this case too, the local and the non-local resolutions would give rise to distinct readings. If CR raises the correlate within the adjunct without crossing the island, the structure in (66) results after the copying of the relevant IP into the second conjunct. If CR could raise the correlate across the adjunct island, the structure in (67) would result.

(66)  a.  [[IP Tanaka-o [IP pro t₃ kisosita]] ka dooka] siranai.

Tanaka-ACC indicted whether know:not
(67) a. 

[[[IP Tanaka-o [IP kensatu-ga [pro t3 kisosuru mae]-ni Tanaka-ACC proctor-NOM indict before-at masukomi-ni riikusita]] ka dooka] siranai.

press-to leaked whether know: not
With the *pro* being interpreted as 'the prosecutor', (66) gives rise to the interpretation in (68a), while (67) would yield the interpretation in (68b).

(68) a. I know that the prosecutor leaked to the press before he indicted Suzuki, but I don't know whether the prosecutor indicted Tanaka (in the event under discussion).

b. I know that the prosecutor leaked to the press before he indicted Suzuki, but I don't know whether the prosecutor leaked to the press before he indicted Tanaka.
Note that (68a) involves a single event of leaking while (68b) involves multiple events of leaking. For (65), (68a) is the only available reading. (68b) is not available because the movement to create an IP that would yield that reading is excluded due to the island constraint.

Notice that the non-local reading in (68b) is readily available in the non-elliptical counterpart of (65).

(69) boku-wa kensatu-ga [Suzuki-o kiso suru mae-ni]
    I- TOP prosecutor-NOM -ACC indict before-at

masukomi-ni riiku sita no wa sitteiru ga,
press-to leaked that TOP know but

[kensatu-ga [Tanaka-o kiso suru mae-ni]
    prosecutor-NOM -ACC indict before-at

masukomi-ni riiku sita ka dooka]-wa siranai
press-to leaked whether -TOP know:not

'I know the prosecutor leaked to the press before he indicted Suzuki, but I don't know whether the prosecutor leaked to the press before he indicted Tanaka.'
This is what is expected in our theory. Illegitimate movement is required in the first conjunct in order to obtain a structure that would give rise to the non-local reading in the second conjunct of the ellipsis version; hence, the unavailability of the relevant reading results.\textsuperscript{6}

3.2.4. Summary

In this section, we have examined the properties of three types of fragment ellipsis in Japanese (stripping, fragment answers, and reduced non-wh-interrogatives), and showed that they can be accounted for by the analysis proposed in chapter 2. The properties of these constructions are summarized in (70)-(73).

Table 3: Readings in Japanese case-marked stripping without \textit{mo} 'also'

\begin{table}[h]
\centering
\begin{tabular}{|l|l|}
\hline
Type of the island & Readings \\
\hline
relative clause island & the local and the non-local readings are indistinguishable; hence apparent island insensitivity \\
adjunct island & \\
\hline
\end{tabular}
\caption{Table 3: Readings in Japanese case-marked stripping without \textit{mo} 'also'}
\end{table}

Table 4: Readings in Japanese case-marked stripping with \textit{mo} 'also'

\begin{table}[h]
\centering
\begin{tabular}{|l|l|l|}
\hline
Type of the island & Available reading & Missing reading \\
\hline
relative clause island & the non-covariant reading & the covariant reading \\
adjunct island & the single-event reading & the multiple-event reading \\
\hline
\end{tabular}
\caption{Table 4: Readings in Japanese case-marked stripping with \textit{mo} 'also'}
\end{table}

\textsuperscript{6} Examples where the remnant is marked with \textit{mo} 'also' in reduced non-wh-interrogatives exhibit the same properties as the examples with the remnant not marked with \textit{mo}. The relevant examples are obtained by adding \textit{mo} to the right of the case marker on the remnant.
3.3. Non-case-marked fragments in Japanese

In the preceding section, we have been concerned with case-marked fragments. In this section, we examine their non-case-marked counterparts. Below I list the non-cm versions of the cm examples in which the non-local reading is not available.

First, let us consider stripping with mo 'also'. (74) is the non-cm version of (21).

(74) [[itariya ryoori-o tukuru hito]-ga yoku kono mise-ni kuru ]

Italian cuisine-ACC make person-NOM often this shop-to come

rasii ga, boku-wa [[huransu ryoori]-mo da to] omotteita.

seems but I-TOP French cuisine-also COP that thought

'(lit.) I hear that those who make Italian cuisine often come to this shop, but I thought French cuisine as well.'

(Based on Hoji 1990: ch. 5 (114) & (116))
While (21) does not yield the non-local reading in (25), repeated here, (74) can. This is what is expected in our theory, given the possibility that non-cm stripping has a representation as in (75).

(25) I thought that French cuisine is also such that those who make it often come to this shop. [the covariant reading]

(75)

```
(75)
    IP
     /\n    NP   I'
    /   |
    I   VP I
     /   |
    CP V
     /   |
    IP C  thought
     /   |
    pro I' that
     /   |
    VP I
     /   |
    NP V
     /   |
    [French cuisine]-also (be)
```

With pro referring to the property of being the cuisine such that people who make it often come to this shop, the second conjunct in (74) gives rise to the reading "I thought the property of being the cuisine such that people who make it often come to this shop holds of French cuisine as well." Notice that this reading is comparable to (25). Such an interpretation is possible in (74), just as it is possible in the non-elliptical version in (76).
(76) 

[[itariya ryoori-o tukuru hito]-ga yoku kono mise-ni kuru]  
Italian cuisine-ACC make person-NOM often this shop-to come  
rasii ga, boku-wa [sore-wa [huransu ryoori]-mo da to] omotteita.  
seems but I-TOP it-TOP French cuisine-also COP that thought  
'(lit.) I hear that those who make Italian cuisine often come to this shop,  
but I thought (it was) French cuisine as well.'

Next, let us turn to (77), which is the non-cm version of (32).

(77) 

[TA-ga [pro [Tanaka sensei]-to kooron sita tyokugo]-ni  
-NOM Prof. Tanaka-with quarrel did right:after-at  
gakubutyoo situ]-ni monku-o ii-ni itta] rasii ga,  
dean's office-to complaint-ACC say-to went seem but  
boku-wa [Suzuki sensei]-mo da to omotteita.  
I-TOP Prof. Suzuki-also COP that thought  
'(lit.) A TA went to the dean's office to complain right after she had a  
quarrel with Prof. Tanaka, but I thought (it was) Prof. Suzuki as well.'

Here again, the non-local reading that (32) does not give rise to seems to be available 
in its non-cm counterpart. The second conjunct of (77) yields the reading in (36).

(36) I thought that Prof. Suzuki is also such that a TA went to the dean's office  
to complain right after she had a quarrel with him.  
[the multiple-event reading]

In our proposal, the second conjunct in (77) can have the copula structure as in (78), 
and pro therein can refer to a property available from the context: in this case, the
property of being the person such that a TA went to the dean's office to complain right after she had a quarrel with him.

(78) [boku-wa [CP [IP pro [VP [Suzuki sensei]-mo da]] to] omotteita]

I-TOP Prof. Suzuki-also COP that thought

'(lit.) I thought it was Prof. Suzuki, too.'

The reading in (36) is available in (77), just as it is available in the non-elliptical version in (79).

(79) [TA-ga [pro [Tanaka sensei]-to kooron sita tyokugo]-ni

-NOM Prof. Tanaka-with quarrel did right:after-at

gakubutyouo situ]-ni monku-o ii-ni itta] rasii ga,
dean's office-to complaint-ACC say-to went seem but

[boku-wa [CP [IP sore-ga [VP [Suzuki sensei]-mo da]] to] omotteita]

I-TOP it-NOM Prof. Suzuki-also COP that thought

'(lit.) Prof. Tanaka's TA went to the dean's office to complain right after she had a quarrel with Prof. Tanaka, but I thought with Prof. Suzuki as well.'

Now let us turn to fragment ellipsis. Recall that (59) and (65) do not give rise to the non-local reading. Consider (80), which is the non-cm version of (59).

(80) boku-wa [John-ga [sluicing-o kenkyuusiteiru gengogaksysa]-o

I-TOP -NOM -ACC is:studying linguist -ACC sagasiteiru no] wa sitteiru ga, [stripping ka dooka]-wa siranai

is:looking:for that TOP know but whether -TOP know:not
'(lit.) I know John is looking for a linguist who studies sluicing, but I don't know whether stripping.'

Unlike its cm counterpart, (80) seems to give rise to the non-local reading in (62b), repeated here.

(62)  b. I don't know whether John is looking for a linguist who studies stripping.

This is again what is expected in our system. The non-cm fragment ellipsis can have the structure in (81).

(81)  \[
\begin{array}
\text{[CP} & \text{[IP} & \text{pro} & \text{[VP} & \text{stripping (da)} & \text{] ka dooka]-wa siranai.} \\
\text{COP} & \text{whether} & \text{-TOP know: not} \\
\end{array}
\]

'(lit.) I don't know if (that is) stripping.'

With pro interpreted as the property of being the field such that John is looking for a linguist who studies it, (81) can be interpreted as "I don't know if the property of being the field such that John is looking for a linguist who studies it holds of stripping," which is equivalent to "I don't know whether John is looking for a linguist who studies stripping." Note that the availability of such a reading in (80) corresponds to that available in (82), which has an overt element in place of pro in (81).

(82)  boku-wa [John-ga [sluicing-o kenkyuusiteiru gengogaksya]-o sagasiteiru no] wa sitteiru ga, [sore-ga stripping ka dooka]-wa siranai is:looking:for that TOP know but that-NOM whether -TOP know: not
'(lit.) I know John is looking for a linguist who studies sluicing, but I don't know whether that is stripping.'

Another type of island we are concerned with is the adjunct island. Consider the non-cm version of (65).

\[(83)\]

<table>
<thead>
<tr>
<th>boku-wa kensatu-ga</th>
<th>[Suzuki-o kiso suru mae-ni]</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-TOP</td>
<td>prosecutor-NOM</td>
</tr>
<tr>
<td></td>
<td>-ACC indict before-at</td>
</tr>
<tr>
<td>masukomi-ni riiku sita no wa sitteiru ga,</td>
<td></td>
</tr>
<tr>
<td>press-to leaked that TOP know but</td>
<td></td>
</tr>
<tr>
<td>[Tanaka ka dooka]-wa siranai</td>
<td></td>
</tr>
<tr>
<td>whether       -TOP know:not</td>
<td></td>
</tr>
</tbody>
</table>

'(lit.) I know the prosecutor leaked to the press before he indicted Suzuki, but I don't know whether Tanaka.'

Unlike its cm counterpart, (83) seems to give rise to the non-local reading in (68b).

\[(68)\] b. I know that the prosecutor leaked to the press before he indicted Suzuki, but I don't know whether the prosecutor leaked to the press before he indicted Tanaka.

The non-cm fragment can have the copula structure in (84), and with pro interpreted as the property of being a person such that the prosecutor leaked to the press before he indicted him, it can yield the reading "I don't know if Tanaka has the property of being a person such that the prosecutor leaked to the press before he indicted him."

This reading is equivalent to the reading, given in (68b).
(84) \[
(CP \ [IP \ pro \ [VP \ Tanaka \ (da)] \ ka \ dooka]-wa \ siranai).
\]
COP \ whether \ -TOP \ know: not

'(lit.) I don't know if (that is true of) Tanaka.'

Again, the availability of such a reading in (83) corresponds to that in the non-elliptical version in (85).

(85) \[
boku-wa \ kensatu-ga \ [Suzuki-o \ kiso \ suru \ mae-ni]
I-TOP \ prosecutor-NOM \ -ACC \ indict \ before-at
\]
masukomi-ni \ riiku \ sita \ no \ wa \ sitteiru \ ga,
press-to \ leaked \ that \ TOP \ know \ but

[sore-ga \ [Tanaka \ ka \ dooka]-wa \ siranai
that-NOM \ whether \ -TOP \ know: not

'(lit.) I know the prosecutor leaked to the press before he indicted Suzuki, but I don't know whether that is (true of) Tanaka.'

In this section, we have examined non-cm counterparts of the cm cases where the non-local reading is not available in the island context. We have seen such a reading is available in non-cm versions and that this is what is expected in our proposal, which assumes a copula structure for non-cm fragment ellipsis. In the following section, I will return to cm fragment ellipsis and argue that Merchant's (2003) system fails to capture the range of data we have seen above.

3.4.1. Overview

Merchant (2004) investigates the properties of fragment ellipsis in English, including those fragment answers in (86) and (87), and proposes an analysis of fragment ellipsis along the lines of his analysis of sluicing.

(86) (= Merchant 2004: (37a-b))

a. Who did she see?

b. John.

(87) (= Merchant 2004: (72))

a. Who was Peter talking with?

b. Mary.

Let us first summarize his analysis of sluicing. He adopts the particular implementation of ellipsis he developed in Merchant 2001: chaps. 1&2. In essence, he attributes ellipsis phenomena to the feature E residing on a functional head. This feature E instructs the phonological component not to parse its complement. The relevant part of the second conjunct of (88a), for example, is assumed to have the structure in (88b) before Spell-Out with the E feature residing on C.

(88) a. John saw someone, but I don't know who.
Although the full structure exists throughout the syntactic derivation of (88a), the feature E on C instructs the phonological component to skip the parsing of the boxed TP; hence, it is not pronounced. In his theory, this is the totality of ellipsis.

Merchant argues that under this hypothesis it is not necessary to postulate an independent component of grammar that deals with deletion. He also assumes that wh-movement proceeds successive-cyclically, adjoining to the intermediate maximal projections and leaving traces behind.

Let us now consider cases where an extraction takes place out of an island. His crucial assumption is that intermediate traces of island-escaping XPs are marked with the feature * and that this feature is PF-uninterpretable. Thus, unless the feature * is eliminated from the PF representation, the derivation crashes at the PF interface. In the case of sluicing, since E needs to reside in C in order to leave the TP in its complement unpronounced, all the *-marked intermediate traces get eliminated, as illustrated in (89).

---

7 Fox & Lasnik (2003) propose a theory similar to Merchant's. They claim that a maximal projection that does not host wh-movement as an intermediate landing site is marked with *, which they assume
(89) (Cf. Merchant to appear: (49))

a. They want to hire someone who speaks a Balkan language, but I don’t remember which.

b. \[\ldots\text{CP} \quad \begin{array}{c}
\text{[DP which]}_2 \\
\text{C'}
\end{array} \\
\begin{array}{c}
\text{C} \\
\text{[E]}
\end{array} \\
\begin{array}{c}
\text{TP}
\end{array} \\
\begin{array}{c}
\text{they}
\end{array} \\
\begin{array}{c}
\text{T'}
\end{array} \\
\begin{array}{c}
\text{(do)}
\end{array} \\
\begin{array}{c}
\text{VP}
\end{array} \\
\begin{array}{c}
\text{*t''}_2 \\
\text{TP}
\end{array} \\
\begin{array}{c}
\text{want to hire [DP [NP someone] CP ]}
\end{array} \\
\begin{array}{c}
\text{who speaks t}_2
\end{array} \]

\[\text{⇐ TP-deletion eliminates all *-traces}\]

Now turning to fragment answers, Merchant proposes that they be analyzed as having moved to a clause-peripheral position via A'-movement, followed by the "eliding" of TP. He assumes that the fragment moves successive-cyclically, adjoining to intermediate maximal projections and leaving traces there.\(^8\) He also

---
\(^8\) Merchant (2004) assumes that the intermediate landing sites are Spec of a maximal projection for fragment answers, while Merchant (to appear) assumes that those are positions adjoined to maximal projections for sluicing. Since the choice between the Spec and the adjoined positions is immaterial, I simply extended his theory of sluicing to fragment answers in the main text for the sake of consistency.
assumes that the final landing site of the fragment is the Spec of some functional category above CP. Thus, (86b), for example, is analyzed as in (90).

(86b) (= Merchant 2004: (37a-b))

a. Who did she see?

b. John.

One cannot use regular wh-interrogatives to test for island sensitivity in fragment answers because an island constraint would be violated in the first conjunct, as illustrated in (91A).

(91) A: *[Which Balkan language]_{3} does Abby want to hire someone who speaks t_{3}?

B: Greek.

Merchant employs two strategies to overcome this problem and demonstrates that island effects persist in fragment ellipsis even though the answer is elided to the

---

9 Merchant (2004: 675) suggests that it may be the Spec of FocusP in Rizzi's (1997) theory.
exclusion of the fragment. The first strategy is to use question-answer pairs in multiple questions, as in (92). Note that multiple fragment answers are possible across a clause-boundary.

(92) (=Merchant 2004: (91b))

A: Which lawyer said he was representing which war criminal?

B: Johnnie Cochran Slobodan Milosevic, and Alan Dershowitz Ariel Sharon.

Multiple fragment answers, however, are impossible across an island, as in (93).

(93) (=Merchant 2004: (92a, c))

A: Which committee member wants to hire someone who speaks which language?

B: *Abby Greek, and Ben Albanian.

The second strategy he utilizes is fragment answers to implicit salient questions (cf. Morgan 1973). "Asking a yes-no question with an intonation rise on a particular constituent [...] can give rise to an implicit constituent question where the appropriate wh-phrase replaces the accented constituent" (Merchant 2004: 687). In (94), for example, "the answerer can take it that the questioner may be interested in the answer to the question 'What language(s) does Abby speak?' in addition to the narrower answer to her yes-no question, hence the felicity of either continuation in [(94B)] or [(94B')]" (Merchant 2004: 687-8). Note that the correlate resides within an embedded clause in (94A).
A: Did Abby claim she speaks Greek fluently?
B: No, Albanian.
B': No, she claimed she speaks Albanian fluently.

According to Merchant, fragment answers are impossible when the stressed correlate occurs within an island, as in (95)-(97).¹⁰

(95) (=Merchant 2004: (87))

A: Does Abby speak the same Balkan language that Ben speaks?
B: *No, Charlie.
B': No, she speaks the same Balkan language that Charlie speaks.

(96) (=Merchant 2004: (180))

A: Did Abby like the candidate who referred to Chomsky?
B: *No, to Bresnan.
B': No, she liked the candidate who referred to Bresnan.

(97) A: Did John meet a man who had been to Paris?
B: *No, to London.

His system is set up so that it can account for the island sensitivity in these examples. The fragment answer in (96B), for example, is assumed to have the structure as in (98).
Since the feature E is assumed to reside on C, the boxed TP is unpronounced, leaving \( *t''_2 \) undeleted. This \( * \)-marked trace, he claims, causes a PF crash.

**3.4.2. A challenge from Japanese**

Merchant assumes that Japanese fragment ellipsis is the same phenomenon as English fragment ellipsis. He also suggests, following Fukaya & Hoji 1999, that "Japanese has only the fragment ellipsis structure available, and not the sluicing one" (Merchant 2004: 715), thereby assimilating Japanese sluicing to the fragment ellipsis. Thus, he suggests that Japanese sluicing and fragment ellipsis both be analyzed.

---

10 The judgments on (95)-(96) reported in Merchan 2004 will be challenged in chapter 6.
analogously to English fragment ellipsis, as illustrated in (90) and (98) above. In
this subsection, I will assess Merchant's theory with respect to the Japanese sluicing
data in chapter 2 and the Japanese fragment ellipsis data in the previous sections.

Both Merchant's and our analyses rule out the non-local resolutions; they are
ruled out by the existence of a *-marked trace in the former, and by island-violating
CR in the latter. Thus, both analyses correctly predict the lack of non-local readings
in cases where the local and the non-local readings are distinguishable.

However, Merchant's theory, as it is proposed, cannot account for the apparent
island insensitivity in Japanese sluicing. In chapter 2, I claimed that some types of
Japanese sluicing do not appear to exhibit syntactic island effects, as in examples
like (99)-(101).

(99) (=chapter 2: (15))

keisatu-wa [\[pro_2 Los Angeles-de [aru yuumee zin]-ni mayaku-o utta]
police-TOP -at a celebrity -to drug-ACC sold
otoko_2]-o taihosita rasii ga, boku-wa [dare-ni ka] siranai.
man -ACC arrested seem but I-TOP who-to Q know: not
'(I heard) the police arrested a man who had sold drugs to a celebrity in LA,
but I don't know to whom.'

(100) (=chapter 2: (17))

[keisatu-wa [\_ISLAND \[pro_2 [Tanaka giin]-ni wairo-o okutta]
police-TOP Rep. Tanaka-to bribe-ACC gave
otoko o taihosita ga, Bill-wa [dono giin ni ka] siranakatta rasii.
man -ACC arrested but -TOP which Rep. -to Q knew:not seem
'The police arrested the man who gave a bribe to Representative Tanaka, but it seems that Bill didn't know which Representative.'

(101) (= chapter 2: (19))

boku-wa [[ISLAND sensyuu pro2 [dono giin]-o
l-TOP last:week which congressman-ACC
hihansita] sinbunsya2]-ga boikotto sareteiru ka] sitteiru ga,
criticized newspaper-NOM is:being:boycotted Q know but
Bill-wa [[dono giin]-o ka] siranai rasii.
-TOP which congressman-ACC Q know:not seem
'(lit.)I know which congressman the newspaper that criticized him last week has been boycotted, but it seems that Bill doesn't know which congressman.'

I claimed that the second conjuncts in (99), (100) and (101) appear to give rise to the non-local readings in (102a), (102b), and (102c), respectively.

(102) a. I don't know who is such that the police arrested the man who sold drugs to him.

b. Bill didn't know which Representative is such that the police arrested the man who gave a bribe to him.

c. Bill doesn't know which congressman is such that the newspaper which criticized him last week has been boycotted.
In Merchant's (2004) theory, (99), for example, is to be represented as in (103).\footnote{I use English translation for lexical items while retaining the word order of Japanese.}

\begin{displaymath}
(103)
\begin{array}{c}
\text{FP} \\
\text{[DP to whom]$_2$ F'} \\
\text{CP F} \\
\text{*t'''$_2$ CP} \\
\text{C'} \\
\text{TP-deletion}$\Rightarrow$ \\
\text{TP C [E]} \\
\text{*t''$_2$ TP} \\
\text{police T'} \\
\text{VP T} \\
\text{*t'$_2$ VP} \\
\text{[TP [NP man] ] arrested} \\
\text{pro t$_2$ drugs sold}
\end{array}
\end{displaymath}

The TP which is the complement to C is unpronounced, i.e., deleted at PF. Since this deletion leaves a *-marked intermediate trace at the position adjoined to CP, this resulting representation is ruled out at PF because the *-feature, by hypothesis, is PF-uninterpretable. The same derivation applies to (100) and (101) as well. Thus, if the derivation Merchant proposes is the only derivation available for these Japanese sluicing examples, they are all predicted to be unacceptable, contrary to fact.
On the other hand, the facts in (99)-(101) can be captured in our system. Recall that it is assumed that a constituent can raise and adjoin to any IP (=TP) dominating it as long as the movement does not cross a syntactic island. The apparent availability of the non-local readings in the examples under discussion is then attributed to the fact that the local resolution yields a reading which is indistinguishable from the non-local reading. To be more specific, the correlates in (99)-(101) raise within the island (the relative clause island in these cases) without crossing it, and the IP to which the raised constituent is adjoined is copied into the second conjunct, yielding the structures in (104).

(104) a. ... boku-wa [dare-ni \[pro_2 \text{ Los Angeles-de } t_3 \text{ mayaku-o utta} \] ka] siranai.

   l-TOP  who-to       -at  drug-ACC  sold  Q  know:not

   '... I don't know who he sold drugs to in LA.'

b. ... Bill-wa [\[\text{IP dono giin-ni} \[\text{IP pro}_2 t_3 \text{ wairo-o okutta} \] ka\] ]

   -TOP  which Rep.-to  bribe-ACC  gave  Q

   siranakatta rasii.

   knew:not  seem

   '... it seems that Bill didn't know to which Representative he gave a bribe.'

c. Bill-wa [[[\text{ISLAND} [\text{IP dono giin}-o \[\text{IP sensyuu pro}_2 t \text{ hihansita}] \] ka\] ]

   -TOP  which congressman-ACC  last:week  criticized  Q

   siranai  rasii

   know:not  seem
... it seems that Bill doesn't know which congressman it criticized last week.'

I claimed that with the pros interpreted as "the man the police arrested" in (104a-b) and as "the newspaper being boycotted" in (104c), (104a-c) yield the interpretations in (105a-c), which are not distinguishable from the non-local readings in (102a-c), respectively.

(105) a. I don't know who the man the police arrested sold drugs to.
   b. Bill didn't know which Representative the man the police arrested gave a bribe to.
   c. Bill doesn't know which congressman the newspaper being boycotted criticized last week.

In order to accommodate these facts, Merchant would have to assume that the local resolution strategy is also available. Under this assumption, the complement of siranai 'not know' of the second conjunct in (99), repeated here, for example, is to be represented as in (106).

(99) (=chapter 2: (15))

keisatu-wa [\[a \{pro_2 Los Angeles-de [aru yuumee zin]-ni mayaku-o utta\}]
police-TOP -at a celebrity -to drug-ACC sold
otoko_2-o taishosita rasii ga, boku-wa [dare-ni ka] siranai.
man -ACC arrested seem but I-TOP who-to Q know:not
'(I heard) the police arrested a man who had sold drugs to a celebrity in LA, but I don't know to whom.'
Since the trace that is left behind, namely, t''_2, is not *-marked because it is not a trace of an island-escaping element, the representation in (106) is well-formed. With he interpreted as "the man the police arrested," (106) will give rise to the interpretations in (105a). Thus, Merchant's theory has to resort to the local resolution strategy in order to account for the same range of data as our theory can account for.

Without adopting the local resolution strategy, Merchant's theory has the same problem regarding the fragment ellipsis cases in Japanese given in section 3.2. I showed that stripping without mo 'also' and fragment answers do not appear to
exhibit island sensitivity, as in (8), (38)/(40), and (48), repeated here as (107), (108) and (109), respectively.

(107)  Bill-wa [[ISLAND [pro itaria ryoori-o tukuru] hito]-ga
Italian cuisine-ACC make person-NOM
yoku kono mise-ni kuru to itteita ga,
often this shop-to come that said but
boku-wa [[huransu ryoori]-o da to] omotteita.
I-TOP French cuisine-ACC COP that thought
'(lit.) Bill told me that those who make Italian cuisine often come to this shop, but I thought French cuisine.'

(Based on Hoji 1990: ch. 5 (114) & (116))

(108) A: John-wa [ISLAND dare-ni moratta hon]-o nakusita n desu ka?
who-DAT received book-ACC lost that COP Q
'(lit.) John lost a book that who gave him?'
B: Mary-ni desu.
DAT COP
'Mary.'

(109) A: John-wa [Mary-ni moratta hon]-o nakusita n desu ka?
who-DAT received book-ACC lost that COP Q
'John lost a book MARY gave?'
B: Iie. Susan-ni desu.
no DAT COP
'No, Susan.'

Under Merchant's theory, the complement of omotteita 'thought' of the second conjunct in (107), for example, is analyzed as having the structure in (110).

(110)

\[
\begin{array}{c}
\text{... FP} \\
\text{[DP French cuisine]-ACC}_2 \ F' \\
\text{CP \ F} \\
\text{*t''}_2 \ CP \\
\text{C'} \\
\text{TP-deletion} \Rightarrow \begin{cases} \\
\text{TP} & \text{C} \\
\text{[E]} \end{cases} \\
\text{*t'}_2 \ TP \\
\text{DP \ T'} \\
\text{[TP [NP people]] \ VP \ T} \\
\text{pro t}_2 \text{make} \quad \text{often come to this shop}
\end{array}
\]

The TP which is the complement to C is not parsed in the phonological component, making the *-marked traces it dominates invisible at the PF interface. The *-marked trace that is adjoined to CP, however, survives, making the derivation crash at PF. (108) and (109) are assumed to have similar derivations. Hence, these examples would be predicted to be unacceptable under Merchant's fragment theory as it is proposed.

Since Japanese fragment ellipsis is analyzed analogously to Japanese sluicing under our theory, it is assumed that in fragment ellipsis as well the correlate can raise
and adjoin to any IP (=TP) as long as it does not cross an island. Thus, the correlate can raise within an island without crossing it. As we saw in section 3.2, the relevant portion of the second conjunct of (107), for example, is to be represented as in (16), repeated here.

(16) a. boku-wa [[IP huransu ryoori]-o [IP pro t3 tukuru]] (no) da to] omotteita

I-TOP French cuisine-ACC make that COP that thought

'I thought that they make French cuisine.'

b. I CP thought

IP C

I' that

VP I

CP V

I

NP IP

[French cuisine]-ACC pro VP

<remnant>

... t ...

The pro is interpreted as "those who often come to this shop (under discussion)," and (16) gives rise to the reading in (17), which is indistinguishable from the reading in (20), which the non-local resolution would yield. The former reading thus gives us an illusion that the latter is available.
(17) I thought that those who often come to this shop (under discussion) make French cuisine.

(20) I thought that those who make French cuisine often come to this shop.

As in the case of sluicing, unless we assume the local resolution strategy, Merchant's theory cannot account for these facts. It would have to allow the complement of *omotteita* 'thought' of the second conjunct in (107) to be analyzed as having the structure in (111) instead in order to accommodate the facts.

(111)

\[
\begin{array}{c}
\text{... FP} \\
\text{[DP French cuisine]-ACC$_2$} \\
\text{FP} \\
\text{CP} \\
\text{t''$_2$ CP} \\
\text{C'} \\
\text{TP-deletion} \Rightarrow \text{TP} \text{ C} \\
\text{t'_2 TP} \\
\text{they T'} \\
\text{VP T} \\
\text{t$_2$ make}
\end{array}
\]

Since the trace that is left undeleted is not *-marked, the structure in (111) is well-formed. *They* is interpreted as "those who often come to this shop (under discussion)," and (111) gives rise to the reading in (17). Again, Merchant's theory thus has to resort to the local resolution strategy in order to account for these data. If
the system must rely on the local resolution strategy to account for the island insensitivity in Japanese, one will expect the same strategy to be available in English as well. If that is the case, the island insensitivity in English sluicing will be redundantly attributed to the local resolution strategy and to the island repair by deletion, under approaches which advocate amelioration by deletion. I will discuss English data related to this issue in chapter 6.

I have shown in this subsection that without also adopting the local resolution strategy for island insensitivity, Merchant's (2004) theory cannot account for the Japanese data which appear to exhibit no island effects: indefinite-correlate sluicing, definite-correlate sluicing with a remnant not marked with hoka-no 'else', stripping without mo 'also', and fragment answers. I have then confirmed that those facts can be accounted for under the theory proposed in chapter 2. I have also shown that in order to cover the range of Japanese data given here, it is necessary to assume a version of the local resolution strategy under Merchant's (2004) system as well, which results in redundancy in the system.

3.5. Summary

In this chapter, I first investigated the properties of cm fragment ellipsis in Japanese: cm stripping, cm fragment answers, and cm reduced non-wh-interrogatives. Although it appeared to be insensitive to syntactic islands at first glance, it was shown to be indeed sensitive to them, through the investigation of cases where the
local and the non-local resolutions give rise to distinct readings. I then showed that the theory pursued for Japanese sluicing in chapter 2 can also capture the Japanese fragment ellipsis facts. I also examined non-cm counterparts and demonstrated that they do not exhibit island effects even in cases where their cm counterparts do, as expected from our analysis of non-cm cases. Then I examined Merchant's (2004) theory of fragment ellipsis, along with his theory of sluicing, in light of the sluicing and fragment ellipsis data in Japanese, and demonstrated that the local resolution strategy must be postulated in his system as well in order to account for those facts.
Chapter 4
The Sloppy Reading in Sluicing in Japanese

4.1. Introduction

In the preceding chapters I have demonstrated that sluicing and stripping exhibit the same properties with respect to island effects: the case-marked versions of sluicing and stripping do, and their non-case-marked versions do not, respect syntactic islands. I have also shown that those properties can be captured by postulating distinct structures for case-marked and non-case-marked sluicing/stripping. Briefly put, the case-marked version has a missing IP that is reconstructed at LF, and the non-case-marked version can have a copula structure with an empty pro in the subject position, which functions as a pragmatically controled deep anaphor.¹

In this and the next chapters, I will demonstrate that sluicing and stripping in Japanese exhibit the same properties with respect to the availability of the sloppy identity reading and that the properties exhibited by their case-marked and non-case-marked versions can be captured by postulating the same structural distinction between the two that was proposed in previous chapters based on their behaviors regarding syntactic island effects. Thus, I argue that sluicing and stripping

¹ I use the terms the *deep anaphor* and the *surface anaphor* to denote the anaphors that enter into deep and surface anaphora in the sense of Hankamer & Sag 1976.
are manifestations of the same syntactic phenomena in Japanese. This chapter focuses on sluicing.

In the following discussion, I will refer to the NP that is intended to act as the "sloppy pronoun" as the dependent term, and to the NP that the dependent term is supposed to co-vary with as the antecedent for ease of reference. In tree diagrams and tables below, the antecedent is represented as "A," and the dependent term is represented as "B," where the choice of a specific lexical item is not at issue.

4.2. The sloppy reading in cm sluicing

4.2.1. C-command and the availability of the sloppy reading

Let us begin our discussion with cases where the correlate is the antecedent in the first conjunct, as schematically represented in (1).

\[(1) \quad \text{I remember that [ correlate}_2 \ldots \text{ dependent term}_2 \ldots ],\]

\[\text{but I don't remember [wh-phrase].}\]

\[<\text{remnant}>\]

A typical example of this is a subcase of cm sluicing we discussed in chapter 2, i.e., cm contrast sluicing. Recall that in cm contrast sluicing as in (2) the correlate is a Name, rather than an indefinite NP like *someone* (The correlate is underlined.)

\[(2) \quad \text{a. boku-wa [John-ga kita]-no-wa oboeteiru ga,}\]

\[\text{l-TOP -NOM came that TOP remember but}\]

\[[hoka-no dare]-ga ka wa oboeteinai.\]

\[\text{other-GEN who-NOM Q TOP remember: not}\]
'I remember John came, but I don't remember who else.'

In this section, I will investigate the distribution of the sloppy reading in this type of sluicing.

Now consider (3) and (4).

(3)  boku-wa [Toyota-ga sakunen [soko-no bengosi]-o uttaeta] no wa
     I-TOP -NOM last:year that:place-GEN attorney-ACC sued that TOP
 oboeteiru ga, [IP [CP [NP hoka-no dono kaisya]-ga ka] wa oboeteinai].
     remember but other-GEN which company-NOM Q TOP remember:not
'I remember that Toyota sued its attorney last year, but I don't remember which other company.'

(4)  [IP (boku-wa) [CP [NP Toyota-ga [NP naganen soko-to torihiki-ga
     I-TOP -NOM long:year that:place-with business-NOM
 aru buhin meekaa]-o sirabeteita no]-wa oboeteiru] ga,
     have parts maker-ACC was:investigating that TOP remember but
 [IP [CP [NP hoka-no dono zidoosya gaisya]-ga ka]-wa oboeteinai].
     other-GEN which automobile company-NOM Q TOP remember:not
'I remember that Toyota is investigating a parts supplier which has been doing business with soko (that place/it) for a long time, but I don't remember which other automobile company.'

In (3) and (4), not only the strict reading but also the sloppy reading is readily available.

(3) yields the sloppy reading in (5a) as well as the strict reading in (5b).
(5) a. I remember that Toyota sued Toyota's attorney last year, but I don't remember [which other company]$_3$ sued [that company]$_3$'s attorney last year.

b. I remember that Toyota sued Toyota's attorney last year, but I don't remember which other company sued Toyota's attorney last year.

Similarly, (4) gives rise to the sloppy reading in (6a), along with the strict reading in (6b).

(6) a. I remember Toyota is investigating a parts supplier which has been doing business with Toyota for a long time, but I don't remember [which other automobile company]$_2$ is investigating a parts supplier which has been doing business with [that automobile company]$_2$ for a long time.

b. I remember that Toyota is investigating a parts supplier which has been doing business with Toyota for a long time, but I don't remember which other automobile company is investigating a parts supplier which has been doing business with Toyota for a long time.

The schematic structure of the first conjunct in (3) and (4) is given in (7). Note that in these examples the antecedent c-commands the dependent term.
I start our discussion by assuming the hypothesis in (8), originally put forth in Lasnik 1976: appendix and Reinhart 1983: chap. 7.²

(8) (=Hoji 2003a: (15))

The distribution of a sloppy identity reading in surface anaphora is constrained in the same way as that of bound variable anaphora.

² The correspondence between the conditions on bound variable anaphora and those on the sloppy identity reading as given in (8) is not uncontroversial. Fiengo & May (1994: 108-109), for example, discuss two types of contexts that allow sloppy identity, but not bound variable anaphora, as in (i) and (ii).

(i) (=Fiengo & May 1994: ch. 3 (40))
All of Jane's colleagues admire her, but none of Brenda's students do.

(ii) (=Fiengo & May 1994: ch. 3 (40), adapted from examples due to M. Wescoat, cited in Dalrymple, Shieber, and Pereira 1991)
  a. The policeman who arrested John read him his rights, and the one who arrested Bill did, too.
  b. The person who introduced Mary to John would not give her his phone number, nor would the person who introduced Sue to Bill.

See also Dalrymple, Shieber, and Pereira 1991 and Tomioka 1996. For cases like (ii), I assume that the sloppy reading is based on co-I-indexation, which I will review in section 4.4 below, following Hoji (2003a), who argues for the hypothesis based on the mix reading pattern test. For cases like (i), I speculate that the VP ellipsis behaves like a deep anaphor do so. With do so referring to a concept like "do the admiring," pragmatics gives the reading that none of Brenda's students admire Brenda in the second conjunct. An immediate prediction this claim makes is that mix reading pattern is not observed in (i), but I will leave this issue for future research.
A surface anaphor requires a linguistic antecedent that can be reconstructed onto it, unlike a deep anaphor, which can be pragmatically controlled and thus does not require a linguistic antecedent.

I further assume (9), following Hoji (2003a: sec. 2), in which the relevant formal relation is an asymmetrical relation of dependency which he calls Formal Dependency (FD), represented as FD(A, B), whose necessary conditions are given in (12).³

(9) (from Hoji 2003a: sec. 2)

The bound variable anaphora (BVA) as schematized in [(10)], and as illustrated in [(11)], is possible only if there is a formal relation established between the trace of the QP and the NP.

(10) (=Hoji 2003a: (16))

Q₁ ... N₁ ...

(11) (=Hoji 2003a: (17))

a. [even John]₁ t₁ voted for his₁ father

'EVEN x, x=John, x voted for x's father'

b. [only you]₁ voted for your₁ husband

'ONLY x, x=you, x voted for x's husband'

³ Note that, although his FD is inspired by Higginbotham's (1983) Linking, the c-command requirement distinguishes the two proposals.
The necessary conditions for an \( FD(A,B) \), where \( A \) and \( B \) are in argument positions:

a. \( B \) is not D-indexed.\(^4\)

b. \( A \) c-commands \( B \).

c. \( A \) is not in the local domain of \( B \).

Some remarks regarding the conditions in (12a, c) are in order. D-indexed NPs are referential, and its reference is determined according to a set of ordered pairs of a natural number (index) and an individual in the world as in (13).

(13) (=Ueyama 1998: ch.4 (26))

\[ \sigma^D = \{<1,John>, <2,Mary>, <3,Bill>, ... \} \]

If an NP carries the D-index \( D-2 \), for example, the expression refers to an individual which is paired with the index 2 in \( \sigma^D \), the individual Mary in this case. Since a D-indexed NP is referential, it cannot be dependent upon another NP for reference, and thus cannot enter BVA as a dependent term. \( So \)-words in Japanese (namely, NPs with a \( so \)-demonstrative like \( so-ko 'that place' \) and \( so-no kaisya 'that company' \)) are assumed not to be D-indexed, and personal pronouns in English can be not D-indexed.

\(^4\) Hoji (2003a: sec. 2.1) actually states "\( B \) is [+β]" instead, and remarks that "[t]he property [+β]—i.e., being a β-occurrence, rather than an α-occurrence, in the terms of Fiengo & May 1994—is what makes a nominal expression a dependent term, in that the determination of its value is dependent upon that of another...Given FD (A, B), the value of B is to be determined on the basis of that of A, i.e., as being identical to that of A." I use Ueyama's (1998) term here and in the following discussion because what Hoji intends by the property [+β] is equivalent to the property of not being D-indexed in Ueyama's term.
Names in English and Japanese and \textit{a}-words in Japanese (namely, NPs with an \textit{a}-demonstrative like \textit{a-so-ko} 'that place' and \textit{a-no kaisya} 'that company'), on the other hand, must be D-indexed. Some of the examples with a Name and an \textit{a}-word are given in (14), which contrast with cases with a \textit{so}-word in (15).

(14) (=Hoji 2003a: (22))
\begin{itemize}
  \item a. *[Toyota-sae],-ga Toyota,-no sitauke-o hihansi-(tara)
    \begin{itemize}
      \item Toyota-even-NOM Toyota-GEN subsidiary-ACC criticize-if
    \end{itemize}
    '(if) [even Toyota] criticizes its subsidiaries, ...'
  \item b. *[Toyota-sae],-ga asoko,-no sitauke-o hihansi-(tara)
    \begin{itemize}
      \item Toyota-even-NOM that:place-GEN subsidiary-ACC criticize-if
    \end{itemize}
    '(if) [even Toyota] criticizes its subsidiaries, ...'
\end{itemize}

(15) (=Hoji 2003a: (23))
\begin{itemize}
  \item [Toyota-sae],-ga soko,-no sitauke-o hihansi-(tara)
    \begin{itemize}
      \item Toyota-even-NOM it-GEN subsidiary-ACC criticize
    \end{itemize}
    '(if) [even Toyota] criticizes its subsidiaries, ...'
\end{itemize}

(14a) and (14b) are different from (15) only in the choice of the dependent term; yet (15) does, but (14a) and (14b) do not, give rise to BVA readings.

The "local domain" referred to in (12c) is assumed to be "the smallest complete functional complex containing B in the sense of Chomsky 1986: 169" (Hoji 2003a: sec. 2.1), as in the regular formulation of Principle B of Binding Theory.

Let us then assume, again following Hoji (2003a), as an initial hypothesis, that there must be parallel FD relations in both conjuncts in order to obtain the sloppy
reading. Thus, the VP ellipsis case in (16a), which gives rise to the reading in (16b), for example, is represented as in (17).

(16)  
(a. (=Hoji 2003a: (8))
John\textsubscript{1} will [\textit{VP praise his\textsubscript{1} father}], and Bill\textsubscript{2} will [\textit{VP }], too.

b. John will praise John's father, and Bill will praise Bill's father, too.

(17) (=Hoji 2003a: (39))
John\textsubscript{1} \textit{t\textsubscript{1}} will [\textit{VP praise his father}], and Bill\textsubscript{2} \textit{t\textsubscript{2}} will [\textit{VP praise his father}], too.

\[
\text{FD}(t_1, \text{his}) \quad \text{FD}(t_2, \text{his})
\]

Now let us return to (3) and (4), repeated here.

(3)
\textit{boku-wa [\textit{Toyota-ga sakunen [soko-no bengosi]-o uttaeta] no wa I-TOP -NOM last:year that:place-GEN attorney-ACC sued that TOP oboeteiru ga, [\textit{IP [CP [NP hoka-no dono kaisya]-ga ka] wa oboeteinai]. remember but other-GEN which company-NOM Q TOP remember:not 'I remember that Toyota sued its attorney last year, but I don't remember which other company.'}

(4)  
\textit{[IP (boku-wa) [CP [\textit{Toyota-ga [NP naganen soko-to torihiki-ga I-TOP -NOM long:year that:place-with business-NOM aru buhin meekaa]-o sirabeteita no]-wa oboeteiru] ga, have parts maker-ACC was:investigating that TOP remember but [IP [CP [NP hoka-no dono zidoosya gaisya]-ga ka]-wa oboeteinai]. other-GEN which automobile company-NOM Q TOP remember:not}
'I remember that Toyota is investigating a parts supplier which has been doing business with *soko* (that place/it) for a long time, but I don't remember which other automobile company.'

In our system proposed in the preceding chapters, Constituent Raising (CR) raises the antecedent and adjoins it to an IP, and the relevant FD obtains, as in (18).

(18) 1st conjunct after CR at LF:

```
    IP
   /   \
  NP   IP
     /   \   
    A  t  I'
   /     \
  VP    I
   /   \
 NP    V
  /  
..soko...  FD (t, soko)
```

The boxed IP is copied onto the empty IP in the second conjunct, and the structure (19) with the relevant FD results.\(^5\)

---

\(^5\) See section 4.7 for some remarks on how the trace and the dependent term are interpreted.
(19) 2\textsuperscript{nd} conjunct after IP Copying:

\[
\begin{array}{c}
\text{IP} \\
\text{wh-phrase-CM}
\end{array}
\begin{array}{c}
\text{NP} \\
\text{t} \\
\text{VP} \\
\text{NP}
\end{array}
\begin{array}{c}
\text{IP} \\
\text{I'} \\
\text{I} \\
\text{V}
\end{array}
\begin{array}{c}
.\text{soko...} \\
\text{FD (t, soko)}
\end{array}
\]

An analogous derivation applies in cases where the remnant is marked with a case marker other than the nominative, as in (20) and (21). In these cases, too, the sloppy reading is readily available.

(20) (boku-wa) seihu-ga [Taiyoo Ginkoo]-ni [husyoozi-no tyokugo]-ni

I-TOP government-NOM Taiyo Bank-DAT scandal-GEN right:after -at

[soko-no keiretugaisya]-to-no torihiki-o teisi saseta]

that:place-GEN affiliate compay-with-GEN deal-ACC stop caused

no wa oboeteiru ga,

that-TOP remember but

[hoka-no dono ginkoo]-ni ka-wa oboeteinai.

other-GEN which bank-DAT Q-TOP remember:not

'I remember the government has made Taiyo Bank stop doing business with its affiliate companies right after the scandal, but I don't remember which other bank.'
(21) kensatu-ga Toyota-o [naganen soko-ni kekkan buhin-o
prosecutor-NOM -ACC long:years that:place-to defective parts-ACC
noonyuu siteita gyoosya]-to doozai da to
supplying supplier-with equally:guilty COP that
danzita no wa oboetairu ga,
concluded that TOP remember but
[hoka-no dono zidoosya gaisya]-o ka wa oboetainai.
other-GEN which auto:company-ACC Q TOP remember:not
'I remember that the prosecutor concluded Toyota to be as guilty as the
supplier that had been supplying Toyota with defective parts for a long time,
but I don't remember which other automobile company.'

(20) yields the sloppy reading in (22a) in addition to the strict reading in (22b).

(22) a. I remember that the government made Taiyo Bank stop doing business with
its affiliate companies right after the scandal, but I don't remember [which
other bank]3 the government made stop doing business with its3 affiliate
company right after the scandal.

b. The government made Taiyo Bank stop doing business with Taiyo Bank's
affiliate companies right after the scandal, but I don't remember which other
bank the government made stop doing business with Taiyo Bank's affiliate
company right after the scandal.

Likewise, (21) gives rise to the sloppy reading in (23a), along with a rather unnatural
strict reading in (23b).
(23)  a. I remember that the prosecutor concluded Toyota to be as guilty as the parts supplier that supplied Toyota with defective parts for a long time, but I don't remember [which other auto company] the prosecutor concluded to be as guilty as the parts supplier that supplied defective parts to it for a long time.

b. I remember that the prosecutor concluded Toyota to be as guilty as the parts supplier that supplied Toyota with defective parts for a long time, but I don't remember which other auto company the prosecutor concluded to be as guilty as the parts supplier that supplied defective parts to Toyota for a long time.

4.2.2. Precedence and the availability of the sloppy reading

If the hypothesis in the previous subsection holds that the distribution of the sloppy reading is constrained in the same way as bound variable anaphora, and if BVA is established only if a formal relation that Hoji calls Formal Dependency holds between the trace of a QP and the dependent term, then it is predicted that the sloppy reading is unavailable if the antecedent does not c-command the dependent term in the first or the second conjunct. Consider (24), whose schematic structure is given in (25).

(24)   [Toyota-o tantoo siteiru soosain]-ga
       -ACC is:in:charge:of investigator-NOM
       [NP naganen soko-to torihiki-ga aru buhin meekaa]-o
       long:year that:place-with business-NOM have parts maker-ACC
sirabeteita no]-wa oboeteiru] ga,

was:investigating that TOP remember but

[IP [CP [NP [NP hoka-no dono zidoosya gaisya]-o

other-GEN which automobile company-ACC
tantoo siteita soosain]-ga ka]-wa oboeteinai].
is:in:charge:of investigator-NOM Q TOP remember:not

'(lit.) I remember that the investigator who is in charge of Toyota is

investigating the parts supplier which has been doing business with soko

(that place/it), but I don't remember [the investigator who is in charge of

which other automobile company].'

(25) 1st conjunct at Spell-Out:

IP
   NP
      I'
         ...
   VP
      I
         NP
            V
               ...

CR applies to (25), and the structure in (26) results. Note that, since the antecedent

Toyota-o 'Toyota-ACC' does not e-command soko-to 'with that place', FD cannot be

established between the trace of the former and the latter.
(26) 1st conjunct after CR at LF:

```
IP
/ \  
NP  [IP]
   /  
  ...A... t I'
    /   
   VP  I
    / 
   NP  V
   /   
  ...soko...
```

The lower IP in the box is copied onto the empty IP in the second conjunct, and the structure in (27) obtains.

(27) 2nd conjunct after IP Copying:

```
IP
/ \  
NP  [IP]
   /  
  ...A... t I'
    /   
   VP  I
    / 
   NP  V
   /   
  ...soko...
```

Note that there is no FD tagged to this structure. Since there are no parallel FD relations established in the first and second conjuncts, the sloppy reading is predicted to be unavailable in this example under the assumption that sloppy readings obtain only if parallel FD relations are established in the first and second conjuncts.
Contrary to the prediction, however, the sloppy reading is readily available in (24). It gives rise to the sloppy reading in (28a) in addition to the strict reading in (28b).

(28)  

a. I remember that the investigator who is in charge of Toyota is investigating the parts supplier which has been doing business with Toyota, but I don't remember [which other automobile company] is such that the investigator who is in charge of [that company] is investigating the parts supplier which has been doing business with [that company].

b. I remember that the investigator who is in charge of Toyota is investigating the parts supplier that has been doing business with Toyota, but I don't remember [which other automobile company] is such that the investigator who is in charge of [that company] is investigating the parts supplier which has been doing business with Toyota.

The following are examples where the remnant is marked by a case marker other than the nominative.

(29)  

(boku-wa) [[Teikoku Databank]-ga
I- TOP Teikoku Databank -NOM
[Sumitomo Ginkoo-de hataraita koto-ga aru tyoosain]-ni
Sumitomo Bank-at worked event-NOM exit investigator-DAT
[soko-no zaimu zyookyoo]-o tyoosa saseteita no]-wa
that:place-GEN financial situation-ACC investigate caused nml -TOP
oboeteiru ga, [[hoka-no dono ginkoo]-de hataraita koto-ga aru
remember but other-GEN which bank-at worked event-NOM exist
I remember that Teikoku Databank had an investigator who had worked at Sumitomo Bank investigate Sumitomo Bank's financial situation, but I don't remember [an investigator who had worked at which other bank].'

'I remember the prosecutor concluded the employee who was in charge of quality control at Toyota to be as guilty as the supplier that supplied defective parts to Toyota for a long time, but I don't remember [the employee who was in charge of quality control at which other company].'
(31) I remember that Teikoku Data Bank had the investigator who had worked for Sumitomo Bank investigate Sumitomo Bank's financial situation, but I don't remember [which other bank]₂ is such that Teikoku Databank had the investigator who had worked for it₂ investigate its₂ financial situation.

Note that (29) also yields the strict reading in (32).

(32) I remember that Teikoku Databank had an investigator who had worked at Sumitomo Bank investigate Sumitomo Bank's financial situation, but I don't remember [which other bank]₂ is such that Teikoku Databank had the investigator who had worked for it₂ investigate Sumitomo Bank's financial situation.

(30) yields the sloppy reading in (33a) in addition to the pragmatically odd strict reading in (33b)

(33) a. I remember that the prosecutor concluded the employee who was in charge of quality control at Toyota to be as guilty as the supplier who had supplied defective parts to Toyota for a long time, but I don't remember [which other automobile company]₂ was such that the prosecutor concluded the employee who was in charge of quality control at it₂ to be as guilty as the supplier who had supplied defective parts to it₂.

b. I remember the prosecutor concluded the employee who was in charge of quality control at Toyota to be as guilty as the supplier who had supplied defective parts to Toyota for a long time, but I don't remember [which other automobile company]₂ was such that the prosecutor concluded the
employee who was in charge of quality control at [that company] to be as
guilty as the supplier who had supplied defective parts to Toyota for a long
time.

I record the results as in (34).

Table 7: The availability of the sloppy reading in cm contrast sluicing 1

<table>
<thead>
<tr>
<th>(34)</th>
<th>A c-commands B</th>
<th>The sloppy reading is:</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Yes</td>
<td>available</td>
<td>(3), (4), (20), (21)</td>
</tr>
<tr>
<td>b.</td>
<td>No</td>
<td>available</td>
<td>(24), (29), (30)</td>
</tr>
</tbody>
</table>

Notice that in all the cases summarized in (34) the antecedent precedes the dependent
term, even in cases where the former does not c-command the latter. One might then
suspect that the following hypothesis might be at work.

(35) The sloppy reading obtains only if the antecedent precedes the dependent
term in the first conjunct at PF.

In the next subsection, I will demonstrate that an account based solely on precedence
cannot capture the distribution of the sloppy reading in sluicing.

4.2.3. C-command, precedence, and the availability of the sloppy reading

In order to test the precedence-based hypothesis in (35), we will utilize the
so-called scrambling construction because it makes it possible to tease apart

---

6 I am using the term 'scrambling' as a descriptive term to refer to constructions which do not have the
basic word order. The word order in (i) is assumed to be the basic order, and that in (ii) is referred to as
a scrambling construction here. Note that I am not committing myself to the view that the word order
in (ii) is always derived from that in (i) by the movement operation of the 'dislocated phrase', i.e.,
NP-ACC/DAT.
(i) NP-NOM NP-ACC/DAT V
c-command and precedence. With a scrambling construction we can investigate cases where there is an LF c-command relation, but not a PF precedence relation, between the antecedent and the dependent term.

Consider (36), which is a scrambling version of (4).

(36)  [IP (boku-wa) [CP [NP naganen soko-to torihiki-ga aru

I-TOP long:year that:place-with business-NOM have
buhin meekaa]-o Toyota-ga sirabeteita no]-wa oboeteiru] ga,
parts maker-ACC -NOM was:investigating that TOP remember but
[IP [CP [NP hoka-no dono zidoosya gaisya]-ga ka]-wa oboeteinai].
other-GEN which automobile company-NOM Q TOP remember:not
'I remember that the parts supplier which has been doing business with soko
(that place/it) for a long time, Toyota is investigating _, but I don't remember
which other automobile company.'

In (36), the dependent term appears before the antecedent, but (36) gives rise to the sloppy reading in (37).

(37)  I remember that Toyota is investigating a parts supplier which has been
doing business with Toyota for a long time, but I don't remember [which
other automobile company]3 is investigating the parts supplier which has
been doing business with [that automobile company]3.

(ii)  NP-ACC/DAT NP-NOM V
See section 1.3.3 of chapter 1 for the theory of scrambling assumed in this thesis.
Thus, the precedence-based hypothesis of the availability of the sloppy reading as in (35) cannot be maintained.

According to Ueyama's analysis of the so-called scrambling, which I summarized in section 1.3.3 of chapter 1, the first conjunct can be an instance of the surface OS type, which has the structure in (38) at PF.

(38) 1st conjunct at PF:

\[
\begin{array}{c}
\text{IP} \\
\text{NP} \\
\ldots soko\ldots \\
\text{NP} \\
\text{A} \\
\text{VP} \\
\text{I} \\
\text{t} \\
\text{V}
\end{array}
\]

The sentence-initial NP in (36) can be moved to that position at PF, as indicated in (38), and the NP can be situated in the position occupied by the trace in the tree diagram in (38) at LF, where the dependent term within the NP is c-commanded by the antecedent, as indicated in (39).

(39) 1st conjunct at LF before CR:

\[
\begin{array}{c}
\text{IP} \\
\text{NP} \\
\text{A} \\
\text{VP} \\
\text{I} \\
\text{NP} \\
\ldots soko\ldots \\
\text{V}
\end{array}
\]
Under our analysis, CR applies to this structure, raising the antecedent NP and adjoins it to an IP. With the relevant FD established, the structure in (40) results.

(40) 1\textsuperscript{st} conjunct after LF CR:

\begin{center}
\begin{tikzpicture}
    \node (ip) {IP};
    \node (np) [below left of=ip] {NP};
    \node (t) [right of=np] {t};
    \node (which) [below of=t] {which};
    \node (company) [right of=which] {company-NOM};
    \node (vp) [right of=ip] {VP};
    \node (i) [right of=vp] {I};
    \node (vp2) [below of=vp] {VP};
    \node (ip2) [right of=vp2] {IP};
    \node (np2) [right of=ip2] {NP};
    \node (v) [right of=np2] {V};
    \node (fd) [right of=v] {FD (t, soko)};
    \node (soko) [below of=vp2] {soko...};
    \draw (ip) -- (np) -- (t) -- (ip2) -- (vp) -- (i) -- (ip2) -- (vp2) -- (np2) -- (v) -- (fd);
    \end{tikzpicture}
\end{center}

Then the boxed IP is copied onto the empty IP in the second conjunct, and the structure (41) obtains. Since there are parallel FD relations in the first and the second conjuncts the sloppy reading is expected to be available.

(41) 2\textsuperscript{nd} conjunct after IP Copying at LF:

\begin{center}
\begin{tikzpicture}
    \node (ip) {IP};
    \node (np) [below left of=ip] {NP};
    \node (which) [below of=np] {which};
    \node (company) [right of=which] {company-NOM};
    \node (t) [right of=ip] {t};
    \node (which2) [below of=t] {which other auto};
    \node (vp) [right of=ip] {VP};
    \node (i) [right of=vp] {I};
    \node (vp2) [below of=vp] {VP};
    \node (ip2) [right of=vp2] {IP};
    \node (np2) [right of=ip2] {NP};
    \node (v) [right of=np2] {V};
    \node (fd) [right of=v] {FD (t, soko)};
    \node (soko) [below of=vp2] {soko...};
    \draw (ip) -- (np) -- (which) -- (company) -- (ip2) -- (vp) -- (i) -- (ip2) -- (vp2) -- (np2) -- (v) -- (fd);
    \end{tikzpicture}
\end{center}

The analogous derivation holds in (42), a scrambling version of (20), and the sloppy reading in (43) is expected to be also available. This is indeed the case.
(42) (Cf. (20))

(boku-wa) [[soko-no keiretugaisya]-to-no torihiki]-o seihu-ga
I-TOP that:place-GEN affiliate compay-with-GEN deal-ACC government-NOM
[Taiyoo Ginkoo]-ni [husyoozi no tyokugo] teisi saseta]
Taiyo Bank-DAT scandal GEN right:after stop caused
no wa oboeteiru ga,
that-TOP remember but
[hoka-no dono ginkoo]-ni ka-wa oboeteinai.
other-GEN which bank-DAT Q-TOP remember:not
'I remember the government has made Taiyo Bank stop doing business with
its affiliate companies right after the scandal, but I don't remember which
other bank.'

(43) I remember that the government made Taiyo Bank stop doing business with
its affiliate companies right after the scandal, but I don't remember [which
other bank], the government made stop doing business with its affiliate
company right after the scandal.

The state of affairs is summarized in (44).

Table 8: The availability of the sloppy reading in cm contrast sluicing 2

<table>
<thead>
<tr>
<th>(44)</th>
<th>A c-c's B at LF</th>
<th>A precedes B at PF</th>
<th>The sloppy reading:</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>available</td>
<td>(3), (4), (20), (21)</td>
</tr>
<tr>
<td>b.</td>
<td>no</td>
<td>yes</td>
<td>available</td>
<td>(24), (29), (30)</td>
</tr>
<tr>
<td>c.</td>
<td>yes</td>
<td>no</td>
<td>available</td>
<td>(36), (42)</td>
</tr>
</tbody>
</table>

(44) indicates neither c-command nor precedence can capture the facts by itself. The
sloppy reading is available if the antecedent c-commands the dependent term, as in
(44a, c), and it is also available if the antecedent precedes the dependent term at PF, as in (44b). In section 4.4, I will propose an analysis, based on Ueyama's theory of dependency, for the data summarized in (44) and some additional data, but before doing so I will summarize her theory in the next section.

4.3. Ueyama's (1998) theory of anaphoric relations

4.3.1. Summary of the observations by Ueyama

Ueyama (1998: ch. 3) investigates the syntactic conditions on the availability of BVA readings, on the basis of a descriptive characterization of BVA as in (45).

(45) (= Ueyama 1998: ch.3 (1))

Any anaphoric relation between $\alpha$ and $\beta$ is called 'BVA' in the following, if

(i) $\alpha$ is an expression which can induce a distributive reading, such as

kanarinokazu-no NP 'most of the NPs', $NP$-sae 'even $NP$', do-no NP 'which

NP' and so on, and

(ii) $\beta$ is a singular-denoting expression which need not refer to a specific individual.

She investigates the distribution of BVA in the four types of configurations given in (46)-(49).

(46) (= Ueyama 1998: ch.3 (3))

Configuration type 1:

a. The QR-trace of $\alpha$ c-commands $\beta$ at LF.
b. $\alpha$ precedes $\beta$ at PF.

(47) (= Ueyama 1998: ch.3 (4))

Configuration type 2:

a. The QR-trace of $\alpha$ does not c-command $\beta$ at LF.

b. $\alpha$ does not precede $\beta$ at PF.

(48) (= Ueyama 1998: ch.3 (5))

Configuration type 3:

a. The QR-trace of $\alpha$ does not c-command $\beta$ at LF.

b. $\alpha$ precedes $\beta$ at PF.

(49) (= Ueyama 1998: ch.3 (6))

Configuration type 4:

a. The QR-trace of $\alpha$ c-commands $\beta$ at LF.

b. $\alpha$ does not precede $\beta$ at PF.

She looks into the availability of BVA in the cases in (50)-(53). The SO-type configuration and the OS-type configuration mean Subject-Object word order and Object-Subject word order, respectively.\(^7\) (50), (51), (52), and (53) correspond to (46), (47), (48), and (49), respectively.

\(^7\) Note that objects here include both accusative-marked and dative-marked NPs.
(50) (= Ueyama 1998: ch.3 (7))

SO-type configuration I:

PF: $\alpha$-NOM ... $[ \cdots \beta \cdots ]$-ACC/DAT ... $V$

$\alpha$ precedes $\beta$ at PF.

LF: $\alpha$-NOM ... $[ \cdots \beta \cdots ]$-ACC/DAT ... $V$ (before QR)

The QR-trace of $\alpha$ c-commands $\beta$ at LF.

(51) (= Ueyama 1998: ch.3 (8))

SO-type configuration II:

PF: $[ \cdots, \beta \cdots ]$-NOM ... $\underline{\alpha}$-ACC/DAT ... $V$

$\alpha$ does not precede $\beta$ at PF.

LF: $[ \cdots, \beta \cdots ]$-NOM ... $\underline{\alpha}$-ACC/DAT ... $V$ (before QR)

The QR-trace of $\alpha$ does not c-command $\beta$ at LF.

(52) (= Ueyama 1998: ch.3 (10))

OS-type configuration II:

PF: $[ \cdots, \beta \cdots ]$-ACC/DAT ... $\underline{\alpha}$-NOM ... $V$

$\alpha$ does not precede $\beta$ at PF.

LF: $\underline{\alpha}$-NOM ... $[ \cdots, \beta \cdots ]$-ACC/DAT ... $V$ (before QR)

The QR-trace of $\alpha$ c-commands $\beta$ at LF.
(53) (= Ueyama 1998: ch.3 (9))

OS-type configuration I.\(^8\)

PF: \(\alpha\)-ACC/DAT ... \([\ldots, \beta \ldots]\)-NOM ... V

\(\alpha\) precedes \(\beta\) at PF.

LF: \([\ldots, \beta \ldots]\)-NOM ... \(\alpha\)-ACC/DAT ... V (before QR)

The QR-trace of \(\alpha\) does not c-command \(\beta\) at LF.

She observes that BVA obtains in these configurations, as summarized in (54).

Table 9: The availability of BVA readings in SO- and OS-type configurations

<table>
<thead>
<tr>
<th>(54)</th>
<th>LF c-command</th>
<th>PF precedence</th>
<th>(\alpha)</th>
<th>(\beta)</th>
<th>BVA ok?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>ok</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>ok</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>ok</td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>no</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>no</td>
<td>no</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>no</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>h.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>yes</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>m.</td>
<td>yes</td>
<td>no</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>n.</td>
<td>yes</td>
<td>no</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>o.</td>
<td>yes</td>
<td>no</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>p.</td>
<td>yes</td>
<td>no</td>
<td>A-type (\text{large}^\text{NP})</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

(Ueyama 1998: ch.3 (63), slightly adapted for ease of reference)

\(\text{\(8\) Ueyama titles (52) and (53) "(Surface) OS-type configuration I" and "(Surface) OS-type configuration II," respectively, in order to distinguish them from Deep OS-type configurations. See section 1.3.3. of chapter 1. I eliminated "(Surface)" for brevity reasons.}
A-type QPs are those in (55a), as opposed to those QPs in (55b).\footnote{Note that A-type QPs, B-type QPs, small NPs and large NPs are just descriptive terms. In section 4.7 I will provide a theoretical characterization of small NPs and large NPs and discuss how to identify A-type and B-type QPs.}

(55) (=Ueyama 1998: ch.3 (12))

a. A-type QPs:

NP-sae 'even NP'
kanarinokazu-no NP 'most of the NPs'
10 izyoo-no NP 'ten or more NPs'
55%-no NP '55% of the NPs'
NP1 to NP2 (to) 'NP1 and NP2'
NP1 ka NP2 (ka) 'either NP1 or NP2'

b. B-type QPs:

do-no NP 'which NP'
do-no NP-mo 'every NP'
(subete-no NP 'every NP')

The following is the list of what is meant by small NPs and large NPs.

(56) (= Ueyama 1998: ch.3 (13))

a. large NPs:

so-no zidoosya-gaisya 'that automobile company'
so-no daigaku-insei 'that graduate student'
b. small NPs:

so-ko 'it/that institution'

so-re 'it/that thing'

(so-itu 'he/that guy')

4.3.2. Illustrations

4.3.2.1. SO-type configuration I

First, let us look at her examples in the SO-type configuration I, where the QP c-commands and precedes the dependent term. The contrast between (57) and (58) illustrates the distinction between (54a) and (54b).10

(57) (=Ueyama 1998: ch.3 (16))

A-type QP & large NP:

*?Toyota-sae-ga [so-no zidoosya-gaisya-no ko-gaisya]-o

Toyota-even-NOM that-GEN automobile-company-GEN child-company-ACC

suisensita.

recommended

'Even Toyota recommended [that automobile company's subsidiary].'

EVEN(Toyota)( x recommended x's subsidiary)

PF: [even Toyota]-NOM [so-no zidoosya-gaisya's subsidiary]-ACC

recommended

10 The judgments are on the availability of the BVA reading. Unless otherwise noted, the judgments on the examples cited in this section are Ueyama's (1998), and I agree with her judgments.
LF: [even Toyota], \([ t_1 (-NOM) [so-no zidoosya-gaisya]'s subsidiary]-ACC recommended] (after QR)

(58) (=Ueyama 1998: ch.3 (14))

A-type QP & small NP:

\[
\text{Toyota-sae-ga} [\text{so-ko-no ko-gaisya]-o suisensita.}
\]

\[
\text{Toyota-even-NOM that-place-GEN child-company-ACC recommended}
\]

'Even Toyota recommended [its subsidiary].'

EVEN(Toyota)(x recommended x's subsidiary)

PF: [even Toyota]-NOM [so-ko]'s subsidiary]-ACC recommended

LF: [even Toyota], \([ t_1 (-NOM) [so-ko]'s subsidiary]-ACC recommended] (after QR)

(59) and (60) are examples of (54c) and (54d), respectively.

(59) (=Ueyama 1998: ch.3 (17))

B-type QP & large NP:

\[
\text{Do-no zidoosya-gaisya-ga [so-no zidoosya-gaisya-no which-GEN automobile-company-NOM that-GEN automobile-company-GEN ko-gaisya]-o suisensita no?}
\]

\[
\text{child-company-ACC recommended COMP}
\]

'Which automobile company recommended [that automobile company's subsidiary]?'

WH(automobile company)(x recommended x's subsidiary)
215

PF: [which automobile company]-NOM [so-no zidoosya-gaisya's subsidiary]-ACC recommended

LF: [which automobile company], [t1 (-NOM)] [so-no zidoosya-gaisya's subsidiary]-ACC recommended (after QR)

(60) (=Ueyama 1998: ch.3 (15))

4.3.2.2. SO-type configuration II

Second, let us turn to the SO-type configuration II, where there is no c-command or precedence relation between a QP and the dependent term. (61)-(64) illustrate (54e-h), respectively.
(61) (=Ueyama 1998: ch.3 (19))

A-type QP & large NP:

?*[So-no zidoosya-gaisya-no oya-gaisya]-ga A-sya-ni-
that-GEN automobile-company-GEN parent-company-NOM A-company-DAT-
sae Toyota-o suisensita.
even Toyota-ACC recommended

'[That automobile company's parent company] recommended Toyota to
even Company A.'

EVEN(Company A)( x's parent company recommended Toyota to x)
PF: [so-no zidoosya-gaisya]'-s parent company]-NOM even Company A-DAT
    Toyota-ACC recommended
LF: [even Company A][ [so-no zidoosya-gaisya]'-s parent company]-NOM t1
    (-DAT) Toyota-ACC recommended] (after QR)

(62) (=Ueyama 1998: ch.3 (18))

A-type QP & small NP:

?*[So-ko-no oya-gaisya]-ga A-sya-ni-sae Toyota-o
that-place-GEN parent-company-NOM A-company-DAT-even Toyota-ACC
suisensita.
recommended

'[Its parent company] recommended Toyota to even Company A.'

EVEN(Company A)( x's parent company recommended Toyota to x)
PF: [so-ko's parent company]-NOM even Company A-DAT Toyota-ACC recommended

LF: [even Company A]; [so-ko's parent company]-NOM t_1 (-DAT) Toyota-ACC recommended] (after QR)

(63) (=Ueyama 1998: ch.3 (21))

B-type QP & large NP:

?*[So-no zidoosya-gaisya-no oya-gaisya]-ga do-no that-GEN automobile-company-GEN parent-company-NOM which-GEN zidoosya-gaisya-ni Toyota-o suisensita no?

automobile-company-DAT Toyota-ACC recommended COMP

'To which automobile company did [that automobile company's parent company] recommend Toyota?'

WH(automobile company) (x's parent company recommended Toyota to x)

PF: [so-no zidoosya-gaisya's parent company]-NOM [which automobile company]-DAT Toyota-ACC recommended

LF: [which automobile company]; [so-no zidoosya-gaisya's parent company]-NOM t_1 (-DAT) Toyota-ACC recommended] (after QR)

(64) (=Ueyama 1998: ch.3 (20))

B-type QP & small NP:

?*[So-ko-no oya-gaisya]-ga do-no zidoosya-gaisya-ni that-place-GEN parent-company-NOM which-GEN automobile-company-DAT
'To which automobile company did [its parent company] recommend Toyota?'

WH(automobile company)( x's parent company recommended Toyota to x )

PF: [so-ko's parent company]-NOM [which automobile company]-DAT

Toyota-ACC recommended

LF: [which automobile company]1 [ [so-ko's parent company]-NOM t1(-DAT) Toyota-ACC recommended] (after QR)

4.3.2.3. OS-type configuration I

Third, the following examples illustrate the OS-type configuration I, where the QP precedes, but does not c-command, the dependent term. (65), (66), (67) and (68) are examples of (54i), (54j), (54k), and (54l), respectively. Note that (65)-(68) are instances of the long-distance OS construction, and recall from chapter 1 that long-distance OS construction is necessarily an instance of Surface OS type, in which the dislocated element resides within the θ-domain of the embedded verb at LF.
(65) (based on Ueyama 1998: ch.3 (33))

A-type QP & large NP:

*Toyota-ni-sae [so--no zidoosya-gaisya-no bengosi]-ga [John-ga ec
Toyota-DAT-even that-GEN automobile-company-GEN attorney-NOM John-NOM
ayamatta to] omotteiru.
apologized COMP think

'its attorney thinks [that John apologized to even to Toyota].'

*EVEN(Toyota)( x's attorney thinks that John apologized to x)

PF: even to Toyota [so-no zidoosya-gaisya's attorney]-NOM [John-NOM
apologized COMP] think

LF: [so-no zidoosya-gaisya's attorney]-NOM [even to Toyota [John-NOM t1
(-DAT) apologized] COMP] think (after QR)

(66) (=Ueyama 1998: ch.3 (33))

A-type QP & small NP:

?*Toyota-ni-sae [so-ko-no bengosi]-ga [John-ga ec
Toyota-DAT-even that-place-GEN attorney-NOM John-NOM
ayamatta to] omotteiru.
apologized COMP think

'its attorney thinks [that John apologized to even to Toyota].'

?*EVEN(Toyota)( x's attorney thinks that John apologized to x)

11 The judgment is mine.
PF: even to Toyota [so-ko's attorney]-NOM [John-NOM apologized COMP] think

LF: [so-ko's attorney]-NOM [even to Toyota [John-NOM t1(-DAT)] apologized] COMP] think (after QR)

(67) (=Ueyama 1998: ch.3 (35))

B-type QP & large NP:

Do-no zidoosya-gaisya-ni [so-no zidoosya-gaisya-no which-GEN automobile-company-DAT that-GEN automobile-company-GEN bengosi]-ga [John-ga ec ayamatta to] omotteiru no?
attorney-NOM John-NOM apologized COMP think COMP
'To which automobile company does [that automobile company's attorney] think [that John apologized]?'

WH(automobile company)( x's attorney thinks that John apologized to x)

PF: which automobile company [so-no zidoosya-gaisya's attorney]-NOM
[John-NOM apologized COMP] think

LF: [which automobile company [ [so-no zidoosya-gaisya's attorney]-NOM [John-NOM t1(-DAT) apologized] COMP] think] COMP] (after QR)

(68) (=Ueyama 1998: ch.3 (34))

B-type QP & small NP:

Do-no zidoosya-gaisya-ni [so-ko-no bengosi]-ga
which-GEN automobile-company-DAT that-place-GEN attorney-NOM
[John-ga  ec  ayamatta to]  omotteiru no?

John-NOM  apologized  COMP  think  COMP

'To which automobile company does [its attorney] think [that John apologized]?'

WH(automobile company)( x's attorney thinks that John apologized to x)

PF: which automobile company  [so-ko's attorney]-NOM  [John-NOM
apologized  COMP]  think

LF: [which automobile company  [[so-ko's attorney]-NOM  [John-NOM  tJ-
(-DAT)  apologized  COMP]  think]  COMP  ] (after QR)

4.3.2.4. OS-type configuration II

Finally, the following examples illustrate OS-type configuration II, where the QP
commands, but does not precede, the dependent term.  (69)-(72) correspond to
(54m)-(54p), respectively.

(69)  (based on Ueyama 1998: ch.3 (57a))12

?*[So-no  zidoosya-gaisya-no  ko-gaisya]-o

that-GEN  automobile-company-GEN  child-company-ACC

Toyota-sae-ga  suisensita

Toyota-even-NOM  recommended

'Even Toyota recommended [its subsidiary].'

EVEN(Toyota)( x recommended x's subsidiary)

12 The judgment is mine.
PF: [so-no zidoosya-gaisya's subsidiary]-ACC [even Toyota]-NOM recommended

LF: [even Toyota] [t₁(-NOM) [so-no zidoosya-gaisya's subsidiary]-ACC recommended] (after QR)

(70) (=Ueyama 1998: ch.3 (57a))

[So-ko-no ko-gaisya]-o Toyota-sae-ga suisensita
that-place-GEN child-company-ACC Toyota-even-NOM recommended

'Even Toyota recommended [its subsidiary].'

EVEN(Toyota)( x recommended x's subsidiary)

PF: [so-ko's subsidiary]-ACC [even Toyota]-NOM recommended

LF: [even Toyota] [t₁(-NOM) [so-ko's subsidiary]-ACC recommended] (after QR)

(71) (=Ueyama 1998: ch.3 (58))

?*[So-no zidoosya-gaisya-no ko-gaisya]-o do-no
that-GEN automobile-company-GEN child-company-ACC which-GEN zidoosya-gaisya-ga suisensita no?

automobile-company-NOM recommended COMP

'Which automobile company recommended [that automobile company's subsidiary]?'

WH(automobile company)( x recommended x's subsidiary)

PF: [so-no zidoosya-gaisya's subsidiary]-ACC [which automobile company]-NOM recommended
4.3.3. Ueyama's (1998) theory

In order to account for this intricate distribution of BVA as summarized in (54), Ueyama argues that there are two kinds of syntactic basis for BVA readings: Formal Dependency (FD), as seen in section 4.2, and co-I-indexation, based on which Indexical Dependency (ID) is established. She then claims (73).
A dependent term $\beta$ can enter into BVA only if either $\text{FD}(\alpha, \beta)$ or $\text{ID}(\alpha, \beta)$ is established.\(^{14}\)

Ueyama proposes, drawing on the proposal in Hoji 1997a, that FD is subject to the condition in (74), and also claims that ID is subject to the condition in (75).\(^{15}\)

(74) \((= \text{Ueyama} 1998:\text{ch.}3\text{ (65)})\)

a. Structural condition on FD:

$$\star \text{FD}(\alpha, \beta) \text{ if } \alpha \text{ does not c-command } \beta \text{ at LF.}$$

b. Lexical condition on FD:\(^{16}\)

$$\star \text{FD}(\alpha, \beta) \text{ if } \beta \text{ is a large NP.}$$

(75) \((= \text{Ueyama's} 1998:\text{ch.}3\text{ (66)})\)

Structural condition on ID:

a. $$\star \text{ID}(\alpha, \beta) \text{ if } \alpha \text{ does not precede } \beta \text{ at PF.}$$

---

\(^{13}\) BVA is a linguistic intuition about an interpretation of NPs and is thus related to LF representations, while $\text{ID}(\alpha, \beta)$ is an object that is checked at PF, as is specified in (75). The statement in (73) hence raises a non-trivial issue because it specifies the availability of an LF interpretation in reference to a PF object. As you will see below, empirical materials point to the correctness of the hypothesis, but how to formulate the hypothesis has to be left for future research. See Ueyama 1998: sec. 5.3.3 for discussion.

\(^{14}\) In footnote 30 of chapter 3, Ueyama notes that "'\(\alpha'\) in $\text{FD}(\alpha, \beta)$ refers to the QR-trace of the QP, while '\(\alpha'\) in $\text{ID}(\alpha, \beta)$ refers to the QP itself."

\(^{15}\) Objections may be raised to postulating two distinct bases for BVA. As we will see below, however, the intricate empirical materials to be discussed below would remain puzzling and unaccounted for, if we did not recognize two distinct bases for BVA, whether or not the two bases indeed belong to syntax as proposed in Ueyama 1998.

\(^{16}\) Ueyama (1998: sec.5.3.2.1) eliminates this second condition in (74), attributing it to the general principle of recoverability of deletion. We retain it for the ease of exposition here.
b. Lexical condition on ID.\textsuperscript{17}

*ID(α,β) if α is an A-type QP.

From (73)-(75), BVA is predicted to be unavailable and expected to be available as in the last column of the table in (76). Notice that it is exactly the same as the distribution of BVA summarized in the table in (54) above. (76a-p) correspond to (54a-p), respectively.

Table 10: Negative predictions and positive expectations regarding the availability of BVA readings in Ueyama's (1998) theory

<table>
<thead>
<tr>
<th>(76)</th>
<th>LF c-command</th>
<th>PF precedence</th>
<th>α</th>
<th>β</th>
<th>FD ok?</th>
<th>ID ok?</th>
<th>BVA ok?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>A-type</td>
<td>large\textsuperscript{NP}</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td></td>
<td>A-type</td>
<td></td>
<td>FD</td>
<td>*</td>
<td>Ok</td>
</tr>
<tr>
<td>c.</td>
<td></td>
<td></td>
<td>large\textsuperscript{NP}</td>
<td></td>
<td>*</td>
<td>ID</td>
<td>Ok</td>
</tr>
<tr>
<td>d.</td>
<td></td>
<td></td>
<td></td>
<td>FD</td>
<td>ID</td>
<td></td>
<td>Ok</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>no</td>
<td>A-type</td>
<td>large\textsuperscript{NP}</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>f.</td>
<td></td>
<td></td>
<td>A-type</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>g.</td>
<td></td>
<td></td>
<td>large\textsuperscript{NP}</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>h.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>i.</td>
<td>no</td>
<td>yes</td>
<td>A-type</td>
<td>large\textsuperscript{NP}</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>j.</td>
<td></td>
<td></td>
<td>A-type</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>k.</td>
<td></td>
<td></td>
<td>large\textsuperscript{NP}</td>
<td></td>
<td>*</td>
<td>ID</td>
<td>Ok</td>
</tr>
<tr>
<td>l.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>ID</td>
<td>Ok</td>
</tr>
<tr>
<td>m.</td>
<td>yes</td>
<td>no</td>
<td>A-type</td>
<td>large\textsuperscript{NP}</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>n.</td>
<td></td>
<td></td>
<td>A-type</td>
<td></td>
<td>FD</td>
<td>*</td>
<td>Ok</td>
</tr>
<tr>
<td>o.</td>
<td></td>
<td></td>
<td>large\textsuperscript{NP}</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>p.</td>
<td></td>
<td></td>
<td></td>
<td>FD</td>
<td>*</td>
<td></td>
<td>Ok</td>
</tr>
</tbody>
</table>

(Ueyama 1998: ch.3 (67), slightly modified for ease of reference)

\textsuperscript{17} Ueyama (1998: sec.5.3.3.1) eliminates this second condition in (75) in order to conflate ID with co-I-indexation, which is employed to account for E-type link cases in the sense of Chierchia 1992. We retain the condition for the ease of exposition here.
Let us clarify the indexical system in Ueyama's analysis. In her system, NPs of the semantic category $e$ enter into Numeration as one of the following three types.\footnote{Ueyama uses the term type $m$ to refer to type $e$ in standard semantic categories. In what follows, I will replace her notations by standard semantic types.}

(77) (Ueyama 1998: ch.6 (30))

NPs of $e$:

a. D-indexed NPs

b. I-indexed NPs

c. non-indexed NPs

As briefly touched upon in section 4.2, D-indexed NPs are referential, and its reference is determined according to a set of ordered pairs of a natural number (index) and an individual in the world as in (13).

(13) (=Ueyama 1998: ch.4 (26))

$$\sigma^D = \{<1,John>, <2,Mary>, <3,Bill>, \ldots\}$$

If an NP carries a D-index $D-2$, for example, the expression refers to an individual which is paired with the index 2 in $\sigma^D$, the individual Mary in this case. Since a D-indexed NP is referential, it cannot be dependent upon another NP for reference, and thus cannot enter BVA as a dependent term. Ueyama (1998: sec.4.2) claims, drawing on Kinsui & Takubo 1990 and Kuroda 1979, that $a$-words in Japanese are always "referential" and "cannot be 'anaphoric' to another linguistic expression in the discourse" (p. 179). She also points out that "the fact that an $a$-word can never be
bound, as shown in [(78)], naturally follows from the generalization that an a-word is always 'referential' just as names" (p. 179).

(78) (= Ueyama's (19) of chapter 4)

*do-no    kaisya-mo     a-soko-no    bengosi-o    uttaeta

which-GEN company-NOM  that-place-GEN attorney-ACC  sued

'every company sued its attorney'

Thus, a-words can be assumed to carry a D-index. An I-indexed NP turns into a bound variable if it is a QR trace, but otherwise, an I-indexed NP turns into a free variable. A non-indexed NP cannot be interpreted unless it enters into FD.

FD can be established if the condition in (74a), repeated here, is met.

(74) (= Ueyama (1998: ch. 3 (65))

a. Structural condition on FD:

*FD(α,β) if α does not c-command β at LF.

Although the establishment of FD is optional, it must be established if a non-indexed NP of type e is introduced because the NP would otherwise be unable to receive interpretation, causing the derivation to crash. ID, on the other hand, has to be obligationarily established in the environment specified in (79).

---

19 According to Ueyama (1998: sec. 5.1.2), an NP of type <<e,t>,t> undergoes QR, and QR is an operation that consists of the following three sub-operations.

(i) (Ueyama 1998: ch. 5 (8), semantic categories adjusted)

Sub-operations of QR:

(i) dislocate an NP α (the semantic category of α being <<e,t>,t>),
(ii) adjoin the I-index of α to its c-commanding domain, and
(iii) leave a trace (whose semantic category is e) with the same I-index with α.
If $\beta$ is an NP whose semantic category is $e$ and $\beta$ is co-I-indexed with an NP $\alpha$ within the same sentence, $\text{ID}(\alpha, \beta)$ has to be established.

Then, the establishment of $\text{ID}$ is subject to the condition in (75a), repeated here.

\begin{equation}
\text{(75) (=} \text{Ueyama's (1998:ch.3 (66)))}
\end{equation}

Structural condition on $\text{ID}$:

\begin{itemize}
\item a. $\ast \text{ID}(\alpha, \beta)$ if $\alpha$ does not precede $\beta$ at PF.
\end{itemize}

Ueyama (1998: 249) then assumes "that [(79)] has to be fulfilled as soon as two co-I-indexed NPs appear in the syntactic representation" in order to guarantee that $\text{ID}$ is not established after Spell-Out in the covert component. $\text{ID}$ is thus established before Spell-Out and conveyed into the PF side.

In the next section, I will return to sluicing in the configuration in (1), repeated here, and demonstrate that the distribution of the sloppy reading is captured by Ueyama's theory reviewed in this section.

\begin{equation}
\text{(1) I remember that [ correlate}_2 [... dependent term}_2 [...]],
\end{equation}

but I don't remember [wh-phrase].

<remnant>

4.4. Analysis of the distribution of the sloppy reading in cm contrast

sluicing

4.4.1. Hypothesis and predictions

Drawing on Hoji's (2003a) hypothesis in (8), repeated here, in combination with Ueyama's theory, reviewed in the previous section, I hypothesize (80).
The distribution of a sloppy identity reading in surface anaphora is constrained in the same way as that of bound variable anaphora.

The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (co-I-indexation-based sloppy reading)

Now we can exhaust the possibilities of relations between the antecedent (A) and the dependent term (B) and those of the nature of the dependent term from the following three perspectives.

a. Whether A c-commands B at LF.

b. Whether A precedes B at PF.

c. Whether B is a non-D-indexed smallNP, a non-D-indexed largeNP, or a D-indexed NP.

The following chart exhausts the possibilities with respect to (81).
Table 11: Negative predictions and positive expectations regarding the availability of the sloppy reading in cm contrast sluicing.

<table>
<thead>
<tr>
<th></th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small\textunderscore S0-</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>large\textunderscore S0-</td>
</tr>
<tr>
<td>c.</td>
<td>yes</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>small\textunderscore S0-</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>yes</td>
<td>large\textunderscore S0-</td>
</tr>
<tr>
<td>f.</td>
<td>no</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>yes</td>
<td>small\textunderscore S0-</td>
</tr>
<tr>
<td>h.</td>
<td>no</td>
<td>yes</td>
<td>large\textunderscore S0-</td>
</tr>
<tr>
<td>i.</td>
<td>no</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>no</td>
<td>small\textunderscore S0-</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>no</td>
<td>large\textunderscore S0-</td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>no</td>
<td>a-</td>
</tr>
</tbody>
</table>

With the hypothesis in (80), along with Ueyama's theory summarized in the previous section, the sloppy reading is expected to obtain in (82a), (82b), (82g), (82h), and (82j), and it is predicted to be unavailable in (82c), (82d), (82e), (82f), (82i), (82k), and (82l), as indicated in the table.\footnote{As we will see below, coreference does not obtain between the intended antecedent and the intended dependent term in the first conjunct in the case of (82e) and (82k), to begin with. Thus, the sloppy reading cannot obtain in these cases.} Note that, since our hypothesis is that there is no other formal basis for the sloppy reading in the case of cm contrast sluicing than those in (80), the falsifiability of the hypothesis lies in the negative predictions it makes as in (82c), (82d), (82f), (82i), and (82l). If there is one instance at all where the sloppy reading is available under the conditions specified there, then our hypothesis will be in principle falsified. On the other hand, it is not nearly as devastating as those negative
predictions being disconfirmed, if the sloppy reading is not available in cases where it is expected to obtain (as in (82a), (82b), (82g), (82h), and (82j)). This is because what our hypothesis expects is that the sloppy reading is not impossible in those cases and there can be pragmatic factors involved that make the sloppy reading difficult to obtain.

4.4.2. Verification of the predictions and expectations

4.4.2.1. Positive expectations

Now let us examine each of the positive expectations. Regarding (82a) (82g) and (82j), we have already seen relevant examples in section 4.2. The results are summarized in (44), repeated here.

Table 8 (repeated): The availability of the sloppy reading in cm contrast sluicing 2

<table>
<thead>
<tr>
<th>(44)</th>
<th>A c-c's B at LF</th>
<th>A precedes B at PF</th>
<th>The sloppy reading is:</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>available</td>
<td>(3), (4), (20), (21)</td>
</tr>
<tr>
<td>b.</td>
<td>no</td>
<td>yes</td>
<td>available</td>
<td>(24), (29), (30)</td>
</tr>
<tr>
<td>c.</td>
<td>yes</td>
<td>no</td>
<td>available</td>
<td>(36), (42)</td>
</tr>
</tbody>
</table>

(44a), (44b) and (44c) correspond to (82a), (82g), and (82j), respectively. The sloppy reading is available in these cases, as expected from the hypothesis in (80). Let us see how the sloppy reading arises in the case of (44a), taking the derivation of (4) for example.

(4)  
\[
\text{[IP (boku-wa) [CP [NP Toyota-ga [NP naganen soko-to torihiki-ga aru buhin meekaa]-o sirabeteita no]-wa oboeteiru] ga, have parts maker-ACC was:investigating that TOP remember but}]
\]
I remember that Toyota is investigating a parts supplier which has been doing business with soko (that place/it), but I don't remember which other automobile company.'

The first conjunct has the structure given in (83a) before Spell-Out. At LF the correlate Toyota-ga 'Toyota-NOM' raises and adjoins to an IP, as illustrated in (83b).

At this point, FD(t, soko) is established because the conditions in (74), repeated below, are met.

(83) a. 1st conjunct before Spell-Out:

```
  IP
   (I-TOP)  I'
     VP   I
       CP  V
         IP  C  remember
         Toyota-NOM  I'
           VP   I
             NP  V
               ...soko...
```
b. 1st conjunct after LF movement:

```
IP
   (I-TOP) I'  
       VP I  
          CP V
               IP C remember
     Toyota-NOM [IP
                 t I'  
                    VP I  
                       NP V
                           ...soko...

FD(t, soko)
```

(74) (= Ueyama (1998:ch.3 (65))

a. Structural condition on FD:

*FD(α,β) if α does not c-command β at LF.

b. Lexical condition on FD:

*FD(α,β) if β is a large NP.

The second conjunct is base-generated as in (84a). Then, the IP in the box in (83), along with FD(t, soko), is copied onto the empty IP in (84a), yielding the structure in (84b).
(84) a. 1\textsuperscript{st} conjunct before LF:

\[
\begin{array}{c}
\text{IP} \\
(\text{I-TOP}) \quad \text{I'} \\
\text{VP} \quad \text{I} \\
\text{CP} \quad \text{V} \\
\text{IP} \quad \text{Q} \quad \text{remember: not} \\
\end{array}
\]

other-GEN which IP
auto company-NOM |
\emptyset

b. 2\textsuperscript{nd} conjunct after IP Copy:

\[
\begin{array}{c}
\text{IP} \\
(\text{I-TOP}) \quad \text{I'} \\
\text{VP} \quad \text{I} \\
\text{CP} \quad \text{V} \\
\text{IP} \quad \text{Q} \quad \text{remember: not} \\
\end{array}
\]

other-GEN which [IP]
auto company-NOM
\text{t} \quad \text{I'}
\text{VP} \quad \text{I}
\text{NP} \quad \text{V}
\ldots soko \ldots \quad \text{FD}(t, \text{soko})
The IP in the box with the FD is eventually mapped to the λ-predicate $\lambda x \ (x \ is \ investigating \ the \ parts \ supplier \ which \ has \ been \ doing \ business \ with \ x)$ at Semantics, yielding the sloppy reading. This is the derivation of the FD-based sloppy reading.

The other type is a case where the antecedent does not c-command the dependent term, as in (44b) above. Let us see the derivation of such cases, using (24) as an example.

(24) [Toyota-o tantoo siteiru soosain]-ga

-ACC is:in:charge:of investigator-NOM

[NP naganen soko-to torihiki-ga aru buhin meekaa]-o

long:year that:place-with business-NOM have parts maker-ACC

sirabeteita no]-wa oboeteiru] ga,

was:investigating that TOP remember but

[IP [CP [NP hoka-no dono zidoosya gaisya]-o

other-GEN which automobile company-ACC

tantoo siteita soosain]-ga ka]-wa oboetainai].

is:in:charge:of investigator-NOM Q TOP remember:not

'(lit.) I remember that the investigator who is in charge of Toyota is investigating the parts supplier which has been doing business with soko (that place/it), but I don't remember [the investigator who is in charge of which other automobile company].'

The first conjunct has the structure given in (85) before Spell-Out.
Assuming that both *Toyota* and *soko* 'that place/it' have the I-index \textit{I-3}, then \textit{ID(Toyota, soko)} is established as soon as they are merged into the structure. This structure with \textit{ID(Toyota, soko)} feeds into PF, and since the condition in (75), repeated below, is met, the derivation does not crash.

(75) (= Ueyama's (1998:ch.3 (66)))

Structural condition on ID:

a. \*ID(\(\alpha,\beta\)) if \(\alpha\) does not precede \(\beta\) at PF.

b. Lexical condition on ID:

\*ID(\(\alpha,\beta\)) if \(\alpha\) is an A-type QP.

On the LF side, the correlate *[Toyota-o tantoo siteiru soosain]-ga* 'the investigator who is in charge of Toyota' raises and adjoins to an IP, as illustrated in (86).
The second conjunct, on the other hand, is base-generated as in (87a). Then, the IP in the box in (86) is copied onto the empty IP in (87a), yielding the structure in (87b).
(87) a. 2\textsuperscript{nd} conjunct at Spell-Out:

```
IP
  (I-TOP) I'
  VP I
  CP V
  IP Q \text{remember:not}
  NP IP
  \ldots[other-GEN which \auto company]_{1,3}\text{-ACC}...
```

b. 2\textsuperscript{nd} conjunct after IP Copying:

```
IP
  (I-TOP) I'
  VP I
  CP V
  IP Q \text{remember:not}
  NP IP
  \ldots[other-GEN which \auto company]_{1,3}\text{-ACC}...
  \ldots soko_{1,3}...
```
Soko_{1,3} seeks an NP which has the same I-index in the preceding context, and in this case, \([hoka-no~dono~zidoosya~gaisya]\)_{1,3}-o 'which other automobile company-ACC' is co-I-indexed with it. Soko_{1,3} thus takes as its referent the same referent as \([hoka-no~dono~zidoosya~gaisya]\)-o, so to speak.\(^{21}\)

This is the basis of the co-I-indexation-based sloppy reading. Note that ID is hypothesized to be established before Spell-Out and conveyed into the PF side, where its legitimacy is checked. Thus, ID is not established in the second conjunct.

Let us go on to the other positive expectations in (82). Consider first (88), (89), (90), and (91), which are distinct from (3), (4), (20) and (21), respectively, only in the choice of the dependent term. The former group has a large NP, while the latter has a small NP, as the dependent term.

(88) boku-wa Toyota-ga [sono zidoosya gaisya-no bengosi-o
I-TOP -NOM that-GEN auto:company-GEN attorney-ACC
uttaeta no wa oboeteiru ga,
sued that TOP remember but
hoka-no dono kaisya-ga ka wa oboeteinai.
other-GEN which company-NOM Q TOP remember:not
'I remember that Toyota sued that automobile company's attorney, but I don't remember which other company.'

\(^{21}\)See section 4.7 for an account of how soko is interpreted.
(89) [IP (boku-wa) [CP [NP Toyota-ga [NP naganen [sono zidoosya gaisya]-to
I-TOP -NOM long:year that-GEN auto:company-with
torihiki-ga aru buhin meekaa]-o sirabeteita no]-wa oboeteiru] ga,
business-NOM have parts maker-ACC was:investigating that TOP remember but
[IP [CP [NP hoka-no dono zidoosya gaisya]-ga ka]-wa oboeteinai].
other-GEN which auto company-NOM Q TOP remember:not
'I remember that Toyota is investigating a parts supplier which has been
doing business with that automobile company, but I don't remember which
other automobile company.'

(90) (boku-wa) seihu-ga [Taiyoo Ginkoo]-ni [husyoozi no tyokugo]
I-TOP government-NOM Taiyo Bank -DAT scandal GEN right:after
[[so-no ginkoo]-no keiretugaisya]-to-no torihiki-o teisi saseta]
that:GEN bank -GEN affiliate:compay-with-GEN deal-ACC stop caused
no wa oboeteiru ga,
that-TOP remember but
[hoka-no dono ginkoo]-ni ka-wa oboeteinai.
other-GEN which bank-DAT Q-TOP remember:not
'I remember the government has made Taiyo Bank stop doing business with
that bank's affiliate companies right after the scandal, but I don't remember
which other bank.'

(91) kensatu-wa Toyota-o [naganen [so-no zidoosya gaisya]-ni
prosecutor-TOP -ACC long:years that-GEN auto company -to
'I remember that the prosecutor concluded Toyota to be as guilty as the supplier that had been supplying that automobile company with defective parts for a long time, but I don't remember which other automobile company.'

(88)-(91) give rise to the sloppy reading in (92a-d), respectively.

(92)  

a. I remember that Toyota sued Toyota's attorney last year, but I don't remember [which other company]3 sued [that company]3's attorney last year.

b. I remember Toyota is investigating a parts supplier which has been doing business with Toyota for a long time, but I don't remember [which other automobile company]3 is investigating the parts supplier which has been doing business with [that automobile company]3 for a long time.

c. I remember that the government made Taiyo Bank stop doing business with its affiliate companies right after the scandal, but I don't remember [which other bank]3 the government made stop doing business with its3 affiliate company right after the scandal.
d. I remember that the prosecutor concluded Toyota to be as guilty as the parts supplier that supplied Toyota with defective parts for a long time, but I don't remember [which other auto company] the prosecutor concluded to be as guilty as the parts supplier that supplied defective parts to it for a long time.

Thus, the positive expectations in (82b) are confirmed. (88)-(91) undergo derivations parallel to that illustrated in (85)-(87).

Next, consider (93)-(95), which differ from (24), (29) and (30), respectively, only in the choice of the dependent term. A largeNP is used in place of the smallNP.

(93) \[Toyota-o\ tantoo siteiru soosain]-ga

-ACC charge is:taking investigator-NOM

[\[NP naganen [sono zidoosya gaisya]-to torihiki-ga aru long:year that-GEN auto company-with business-NOM have buhin meekaa]-o sirabeteita no]-wa oboeteiru] ga,

parts maker-ACC was:investigating that TOP remember but

[\[IP [CP [NP hoka-no dono zidoosya gaisya]-o other-GEN which automobile company-ACC tantoo siteita soosain]-ga ka]-wa oboetainai].

charge is:taking investigator-NOM Q TOP remember:not

'(lit.) I remember that the investigator who is in charge of Toyota is investigating the parts supplier which has been doing business with that automobile company, but I don't remember [the investigator who is in charge of which other automobile company].'
(94)  (boku-wa) [[Teikoku Databank]-ga]
I-TOP -NOM

[Sumitomo Ginkoo-de hataraita koto-ga aru tyoosain]-ni
Sumitomo Bank -at worked event-NOM exit investigator-DAT
[[so-no ginkoo]-no zaimu zyookyoo]-o tyoosa saseteita no]-wa that-GEN bank-GEN financial situation-ACC investigate caused that -TOP
oboeteiru ga, [[hoka-no dono ginkoo]-de hataraita koto-ga aru remember but other-GEN which bank-at worked event-NOM exist
tyoosain-ka] wa oboeteinai.
investigator-DAT Q TOP remember:not

'(lit.) I remember that Teikoku Databank had an investigator who had
worked at Sumitomo Bank investigate that bank's financial situation, but I
don't remember [an investigator who had worked at which other bank.]

(95)  kensatu-ga [Toyota-de hinsitukanri-o tantoo siteita syain]-o
prosecutor-NOM -at quality:control-ACC in:charge:of employee-ACC
[naganen [so-no zidoosya gaisya]-ni kekkan buhin-o noonyuu siteita long:year that-GEN auto company-to defective parts-ACC supplied
gyoosya]-to doozai da to danzita no wa oboetairu ga,
supplier-with equally:guilty COP that concluded that TOP remember but
[[hoka-no dono zidoosya gaisya]-de hinsitukanri-o other-GEN which auto company-at quality:control-ACC
'I remember the prosecutor concluded the employee who was in charge of quality control at Toyota to be as guilty as the supplier that had supplied defective parts to that company for a long time, but I don't remember [the employee who was in charge of quality control at which other company].'

The sloppy reading is readily available in (93)-(95). (93)-(94) yield the readings in (96a-c), respectively.

(96) a. I remember that the investigator who is in charge of Toyota is investigating a parts supplier which has been doing business with Toyota, but I don't remember [which other automobile company] 3 is such that the investigator who is in charge of [that company] 3 is investigating a parts supplier which has been doing business with [that company] 3.

b. I remember that Teikoku Databank had an investigator who had worked for Sumitomo Bank investigate Sumitomo Bank's financial situation, but I don't remember [which other bank] 2 is such that Teikoku Databank had an investigator who had worked for it 2 investigate its 2 financial situation.

c. I remember that the prosecutor concluded the employee who was in charge of quality control at Toyota to be as guilty as the supplier who had supplied defective parts to Toyota for a long time, but I don't remember [which other automobile company] 2 was such that the prosecutor concluded the
employee who was in charge of quality control at it, to be as guilty as the supplier who had supplied defective parts to it.

The availability of the sloppy reading in these examples confirms the positive expectations in (82h).

4.4.2. Negative predictions I (c-command and a-word as the dependent term)

4.4.2.1. A negative prediction disconfirmed

Let us now turn to the negative predictions made in (82) with respect to the lexical property of the dependent term, i.e., cases where the dependent term is an a-word. Given that a-words cannot enter into BVA as the dependent term, as we saw in the previous section, the sloppy reading is predicted to be unavailable in (82c, i, l) under our hypothesis in (80).

Consider (97), the a-word counterpart of (20).

(97)  (boku-wa) seihu-ga [Taivoo Ginkoo]-ni [husyoozi-no tyokugo]-ni
       I- TOP government-NOM Taiyo Bank -DAT scandal-GEN right:after -at
       [asoko-no keiretugaisya]-to-no torihiki-o teisi saseta]

   that:place-GEN affiliate compay-with-GEN deal-ACC stop caused

   no wa oboeteiru ga,
   that-TOP remember but

   [hoka-no dono ginkoo]-ni ka-wa oboeteinai.
   other-GEN which bank-DAT Q-TOP remember:not
'I remember the government has made Taiyo Bank stop doing business with its affiliate companies right after the scandal, but I don't remember which other bank.'

Contrary to our prediction, (97) yields the sloppy reading in (98a), as well as the strict reading in (98b), for many speakers.

(98) a. I remember that the government forced [Taiyo Bank]₂ to quit having business with its₂ affiliate company, but I don't remember [which other bank]₃ the government forced to quit having business with its₃ affiliate company.

b. I remember that the government forced [Taiyo Bank]₂ to quit having business with its₂ affiliate company, but I don't remember which other bank the government forced to quit having business with Taiyo Bank's affiliate company.

The availability of the sloppy reading in cases like (97) indicates that either (99a) or (99b), or both, should be discarded.

(99) a. The hypothesis in (80), repeated here, holds.

b. Cm sluicing is an instance of surface anaphora.

(80) The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

   (i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)
(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (co-I-indexation-based sloppy reading)

In what follows, I will argue that (99b) should be discarded in some cases of cm sluicing and that (99a) remains to be valid.

4.4.2.2.2. The copula analysis of cm sluicing

In this subsection I claim that the sloppy reading in cases like (97) arise from the possibility that cm sluicing can have the structure in (100a), which can be considered to be a covert version of (100b).

(100) a. \[ pro \text{-cm } \text{ka}\] ...
   Q

   b. \[ sore-ga \text{ wh-cm } \text{ka}\]...

   \[\text{that-NOM}\] Q

   '... [wh-phrase that is (true of)].'

Pro in (100) refers to a property available in the discourse and sluicing can mean something like "who/what/etc. such a property holds of." Thus, I maintain that what seems to be the sloppy reading in these cases is in fact the sloppy-like reading in the sense of Hoji 1998, not the genuine sloppy reading that arises based on FD or co-I-indexation. In (97), for example, I suggest that the second conjunct can be analyzed as (101).\(^{22}\)

\(^{22}\) See footnote 7 in chapter 5 for a case where cm stripping is acceptable even without a linguistic
(101) \[pro \text{ [hoka-no dono ginkoo]-ni ka]-wa oboeteinai.}\]

other-GEN which bank-DAT Q -TOP remember:not

'I don't remember which other bank (that is).'

Then the *pro* refers to the property of being a bank such that the government forced it to quit having business with its affiliate company, and the second conjunct can mean that the speaker does not know which other bank that property holds of.

If this option is available even in case-marked sluicing, one may naturally wonder if the negative predictions made by the hypothesis in (80) can be tested in cm sluicing at all. In the next two subsections I will show that the negative predictions can be tested and that they are indeed borne out in the following two cases: (i) cases in which the copula analysis as in (100a) seems untenable, and (ii) cases with a more stringent type of sloppy reading, which the copula analysis cannot give rise to. The first set of data involves case-markers other than the dative, and the second set involves the mix readings, which were originally discussed by Dahl (1974), subsequently investigated by Fiengo & May (1994: ch.4), and further discussed by Fox (2000: ch. 4).

4.4.2.2.3. Cases where the copula structure is marginal

The overt option in (100b) does not seem to be readily available with some types of case-markers. For example, it is marginal in the case of the accusative marker. Compare (102a) and (102b).
They say the professor recommended a graduate student, but I don't know who.'

While the sluicing version in (102a) is acceptable, its counterpart with an overt subject 'that-NOM' is marginal, as illustrated in (102b). This contrasts with cases with the dative marker, as in (103).
'They say that the professor had a graduate student collect Korean data, but I don't know who.'

b. sensei-wa insei-no dareka-ni kankokugo-no deeta-o
   professor-TOP graduate:student-GEN someone-DAT Korean-GEN data-ACC
   atume saseta rasii ga,
   collect made seem but
   boku-wa sore-ga dare-ni ka siranai.
   I-TOP that-NOM who-DAT Q know:not

'They say that the professor had a graduate student collect Korean data, but I don't know who that is.'

(103b) with overt sore 'that' is acceptable in contrast to (102b).

Assuming that the covert element behaves in a parallel fashion to its overt counterpart, I suggest that the copula structure with the pro subject is also marginal in sluicing with an accusative-marked remnant. Given this and the assumption that the pro subject is the source of the sloppy-like reading in the case of the copula analysis, it is predicted that the sloppy reading is marginal in cm sluicing with an a-word as the dependent term if the remnant is marked with the accusative case. Now consider the a-word counterpart of (21), where the remnant is accusative-marked.

(104) kensatu-ga Toyota-o [naganen asoko-ni kekkan buhin-o
   prosecutor-NOM -ACC long:years that:place-to defective parts-ACC
   noonyuu siteita gyoosya]-to doozai da to
   supplying supplier-with equally:guilty COP that
danzita no wa oboetairu ga,

concluded that TOP remember but

[hoka-no dono zidoosya gaisya]-o ka wa oboeteinai.

other-GEN which auto:company-ACC Q TOP remember:not

'I remember that the prosecutor concluded Toyota to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time but I don't remember which other automobile company.'

The sloppy reading is marginal in (104); thus, the prediction is borne out. (104) only gives rise to the pragmatically odd strict reading in (105).

(105) I remember that the prosecutor concluded Toyota to be as guilty as the parts supplier who had supplied defective parts to Toyota, but I don't remember which other auto manufacturer the prosecutor concluded to be as guilty as the parts supplier who had supplied defective parts to Toyota.

Another case where the copula structure is marginal is when the remnant is marked with the nominative case. Consider (106).

(106) a. insei-no dareka-ga [Tanaka sensei]-to

graduate:student-GEN someone-NOM Prof. Tanaka-with

kyootyo ronbun-o kaku rasii ga,

co-authored paper-ACC write seem but

boku-wa dare-ga ka siranai

I-TOP who-NOM Q know:not
'They say a graduate student is going to write a paper with Professor Tanaka, but I don't know who.'

By the same logic we have applied in the case of sluicing with an accusative-marked remnant above, the sloppy reading is predicted to be marginal in cm sluicing with an a-word as the dependent term if the remnant is marked with the nominative case.

Consider the a-word counterpart of (4) in (107).

(107)  [IP (boku-wa) [CP [NP Toyota-ga [NP naganen asoko-to torihiki-ga
       I-TOP -NOM long:year that:place-with business-NOM
       aru buhin meekaa]-o sirabeteita no]-wa oboeteiru] ga,
       have parts maker-ACC was:investigating that TOP remember but
       [IP [CP [NP hoka-no dono zidoosya gaisya]-ga ka]-wa oboeteinai],
       other-GEN which automobile company-NOM Q TOP remember:not
'(lit.) I remember that Toyota is investigating a parts supplier which has been doing business with that place for years, but I don't remember which other automobile company.'

As is predicted, the sloppy reading is marginal in these cases. While the strict reading in (108b) is available, the sloppy reading in (108a) is marginal in (107).

(108) a. I remember Toyota is investigating the parts supplier which has been doing business with Toyota for years, but I don't remember [which other automobile company]₃ is investigating the parts supplier which has been doing business with [that automobile company]₃ for years.

b. I remember Toyota is investigating the parts supplier which has been doing business with Toyota, but I don't remember which other automobile company is investigating the parts supplier which has been doing business with Toyota for years.

Given these correlations of judgments, I conclude that there is evidence for the hypothesis in (80), which makes the prediction in (82c).

(80) The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (co-I-indexation-based sloppy reading)
Table 11 (partly repeated): A prediction regarding the availability of the sloppy reading in cm contrast sluicing

<table>
<thead>
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<th>(82)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
</tr>
<tr>
<td>c.</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

In the next subsection, I will show evidence that the prediction is in fact borne out, drawing on the availability of mix readings.

4.4.2.2.4. The mix reading

Dahl (1974) originally presented, and Fiengo & May (1994: ch. 4) and Fox (2000: ch. 4), among others, more recently attempted to give an account for, the pattern of availability of the sloppy readings in (109), as indicated in (110) and (111).

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

(110) a. Max1 said he1 saw his1 mother; Oscar2 said he1 saw his1 mother.
   b. Max1 said he1 saw his1 mother; Oscar2 said he2 saw his2 mother.
   c. Max1 said he1 saw his1 mother; Oscar2 said he2 saw his1 mother.
   d. *Max1 said he1 saw his1 mother; Oscar2 said he1 saw his2 mother.

(111) a. Max1 said his1 mother saw him1; Oscar2 said his1 mother saw him1.
   b. Max1 said his1 mother saw him1; Oscar2 said his2 mother saw him2.
   c. Max1 said his1 mother saw him1; Oscar2 said his2 mother saw him1.
   d. Max1 said his1 mother saw him1; Oscar2 said his1 mother saw him2.
In (109a), where the first pronoun he c-commands the second pronoun his, the Oscar-Oscar-Max reading in (110c) (let us call it Mix 1 reading) is available, in addition to the across-the-board strict reading in (110a) and the across-the-board sloppy reading in (110b), but the Oscar-Max-Oscar reading in (110d) (let us call it Mix 2 reading) is not. On the other hand, in (109b), where the first pronoun his does not c-command the second pronoun him, both Mix 1 and Mix 2 readings are available in addition to the ATB strict and the ATB sloppy readings.

Hoji (1997b: sec. 2) demonstrated that cm-comparatives in Japanese, as illustrated in (112) and (113), exhibit the same pattern of judgments, as indicated in (114) and (115).  

(112) [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.'

(113) [Bill-ni yori mo saki-ni] sensei-wa John-ni
       -DAT than earlier teacher-TOP -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.'

23 Although it cannot be construed as a bound variable with certain QPs, kare can be a dependent term; see Hoji 1997b, 1998a and Hoji et al. 1999.
(114) a. The teacher made John₂ say he₂ hit his₂ roommate earlier than the teacher
       made Bill₁ say he₂ hit his₂ roommate.

b. The teacher made John₂ say he₂ hit his₂ roommate earlier than the teacher
       made Bill₁ say he₃ hit his₂ roommate.

c. The teacher made John₂ say he₂ hit his₂ roommate earlier than the teacher
       made Bill₁ say he₃ hit his₂ roommate.

d. *The teacher made John₂ say he₂ hit his₂ roommate earlier than the teacher
       made Bill₁ say he₂ hit his₃ roommate.

(115) a. The teacher made John₂ say his₂ roommate hit him₂ earlier than the teacher
       made Bill₁ say his₂ roommate hit him₂.

b. The teacher made John₂ say his₂ roommate hit him₂ earlier than the teacher
       made Bill₁ say his₃ roommate hit him₃.

c. The teacher made John₂ say his₂ roommate hit him₂ earlier than the teacher
       made Bill₁ say his₃ roommate hit him₂.

d. The teacher made John₂ say his₂ roommate hit him₂ earlier than the teacher
       made Bill₁ say his₂ roommate hit him₃.

The use of deep anaphora (e.g., soo su 'do so') in the than-clause in (112) and
(113) results in the unavailability of Mix readings altogether; cf. Hoji 1997b: sec.4.3
and Fukaya & Hoji 1999. (116) lacks the readings in (114c-d), and (117) lacks the
reading in (115c-d).

(116) [Bill-ni soo saseru yori-mo saki-ni] sensei-wa John-ni
       -DAT so do:make than earlier teacher-TOP -DAT
The facts observed in (116) and (117) indicate that deep anaphora can give rise to the ATB strict and the ATB sloppy readings but cannot yield the mix readings.

With this much background, let us return to Japanese sluicing. Consider (118) and (119).

(118) [seihu-ga Toyota-ni [soko-ga [soko-no sitauke]-o uttaeta to]
government-NOM -DAT it-NOM its subsidiary -ACC sued that
happyoo saseta]-no-wa oboeteiru ga,
announce made that-TOP remember but
[hoka-no dono kaisya]-ni ka wa oboeteinai.
other-GEN which company-DAT Q TOP remember:not
'I remember that the government made Toyota announce that it had sued its subsidiary, but I don't remember which other company.'

(119) [seihu-ga Toyota-ni [[soko-no sitauke]-ga soko-o uttaeta to]
government-NOM -DAT its subsidiary-NOM it-ACC sued that
happyoo saseta]-no-wa oboeteiru ga,
announce made that-TOP remember but
[hoka-no dono kaisya]-ni ka wa oboetainai.
other-GEN which company-DAT Q TOP remember:not
'I remember that the government made Toyota announce that its subsidiary
had sued it, but I don't remember which other company.'

In (118), where the first dependent term c-commands the second, the readings in (120
a, b, c) arise, but not the reading in (120d). In (119), where the first dependent term
does not c-command the second, all the four readings in (121) are available. This is
exactly the pattern of judgments observed in the case of Japanese cm comparatives, as
seen in (112) and (113) above.

(120)  a. I remember that the government made Toyota\textsubscript{2} announce that it\textsubscript{2} had sued
its\textsubscript{2} subsidiary, but I don't remember [which other company]\textsubscript{3} the
government made announce that it\textsubscript{2} had sued its\textsubscript{2} subsidiary. (ATB strict)
b. I remember that the government made Toyota\textsubscript{2} announce that it\textsubscript{2} had sued
its\textsubscript{2} subsidiary, but I don't remember [which other company]\textsubscript{3} the
government made announce that it\textsubscript{3} had sued its\textsubscript{3} subsidiary. (ATB sloppy)
c. I remember that the government made Toyota\textsubscript{2} announce that it\textsubscript{2} had sued
its\textsubscript{2} subsidiary, but I don't remember [which other company]\textsubscript{3} the
government made announce that it\textsubscript{3} had sued its\textsubscript{2} subsidiary. (Mix 1)
d. *I remember that the government made Toyota₂ announce that it₂ had sued its₂ subsidiary, but I don't remember [which other company]₃ the government made announce that it₂ had sued its₃ subsidiary.  (Mix 2)

(121) a. I remember that the government made Toyota₂ announce that its₂ subsidiary had sued it₂, but I don't remember [which other company]₃ the government made announce that its₂ subsidiary had sued it₂.  (ATB strict)

b. I remember that the government made Toyota₂ announce that its₂ subsidiary had sued it₂, but I don't remember [which other company]₃ the government made announce that its₃ subsidiary had sued it₃.  (ATB sloppy)

c. I remember that the government made Toyota₂ announce that its₂ subsidiary had sued it₂, but I don't remember [which other company]₃ the government made announce that its₃ subsidiary had sued it₂.  (Mix 1)

d. I remember that the government made Toyota₂ announce that its₂ subsidiary had sued it₂, but I don't remember [which other company]₃ the government made announce that its₂ subsidiary had sued it₃.  (Mix 2)

Recall that I claimed that the copula analysis is available in cases like (97), repeated below, and that the interpretation of the pro, which is situated in the subject position of the copula structure as indicated in (100a), repeated below, gives rise to the sloppy-like reading.

(97)  (boku-wa) seihu-ga [Taiyoo Ginkoo]-ni [husyoozi-no tyokugo]-ni
      I- TOP     government-NOM    Taiyo Bank   -DAT scandal-GEN right:after -at
'I remember the government has made Taiyo Bank stop doing business with its affiliate companies right after the scandal, but I don't remember which other bank.'

(100) a.  [ pro wh-cm ka] ...

Given the unavailability of the Mix readings in (116) and (117), it is reasonable to conclude that the interpretation of deep anaphora, which pro is an instance of, cannot give rise to the Mix readings. Hence, we can conclude that the Mix readings in (118) and (119) are solely based on the structure reconstructed into the ellipsis site in the second conjunct.

Now we are in a position to test the hypothesis in (80). Recall from sections 4.4.2.2.1 and 4.4.2.2.2 that complication arose regarding the sloppy reading because of the possibility of the copula structure in cm sluicing. Utilizing the Mix readings eliminates that possibility. Now our hypothesis makes the following negative prediction: if we replace the so-words by a-words in (118) and (119), the Mix 1 and the Mix 2 readings cease to be available. Consider (122) and (123).
The prediction is borne out. (122) and (123) do not yield the Mix 1 or the Mix 2 reading. Since the intended dependent terms in (122) and (123) are a-words, they cannot enter into FD or bear an I-index even if a structure parallel to that in the first conjunct is reconstructed at the ellipsis site. Thus, as predicted by our hypothesis in
(80), repeated here, (122) and (123) do not give rise to a stringent type of sloppy readings, i.e., the Mix readings. 24

(80) The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (co-I-indexation-based sloppy reading)

In addition to the ATB strict reading, the ATB sloppy reading is available in (122) and (123). I suggest that the availability of the ATB sloppy reading is also due to the availability of the copula analysis in (100a). In (122), the pro is interpreted as referring to the property of being the company such that the government made it announce that it had sued its subsidiary. In (123) the pro is construed as referring to the property of being the company such that the government made it announce that its subsidiary had sued it. In the case of Mix readings, on the other hand, I claim that such concept formation through pro is not available because of the complication of the concept necessary to give rise to those readings.

24 Note that the mix readings are not available even though the remnants are dative-marked. Recall that sluicing with a dative-marked remnant was a problematic case, which gives rise to the sloppy reading even when the dependent term is an a-word, as in (97).
In this subsection, we have seen that a negative prediction made by our hypothesis first appears to be disconfirmed but that a closer examination shows that the prediction is indeed borne out. This has been shown by investigating cases with various types of case-markers on the remnant and a more stringent type of sloppy reading, i.e., Mix readings.

4.4.2.3. Negative predictions II (precedence, no c-command, and a-word as the dependent term)

Next, let us consider cases where the antecedent precedes the intended dependent term at PF but the former does not c-command the latter at LF, as schematized in (124). Notice that cm sluicing with an accusative- or a nominative-marked remnant is used in the following discussion in order to avoid the complication (discussed in section 4.4.2.2.2) that arises if the remnant is marked with the dative marker.

(124) 1st conjunct at Spell-Out:

```
IP
  NP     I'
  ...A...
  VP     I
  NP     V
  ...asoko...
```

(125) is an a-word counterpart of (24).

(125)  [Toyota-o tantoo siteiru soosain]-ga

-ACC charge is:taking investigator-NOM
'I remember that the investigator who is in charge of Toyota is investigating the parts supplier which has been doing business with soko (that place/it), but I don't remember [the investigator who is in charge of which other automobile company].'

In (125) the sloppy reading in (126) is marginal. (126) I remember that the investigator who is in charge of Toyota is investigating a parts supplier which has been doing business with Toyota, but I don't remember [which other automobile company] is such that the investigator who is in charge of it is investigating a parts supplier which has been doing business with it.

(127) is the a-word counterpart of (30). (127) kensatu-ga [Toyota-de hinsitukanri-o tantoo sitea syain]-o prosecutor-NOM -at quality:control-ACC in:charge:of employee-ACC
'(lit.) I remember the prosecutor concluded the employee who was in charge of quality control at Toyota to be as guilty as the supplier that supplied defective parts to that place for a long time, but I don't remember [the employee who was in charge of quality control at which other company].'

In (127) the sloppy reading in (128) is marginal.

(128) I remember that the prosecutor concluded the employee who was in charge of quality control at Toyota₂ to be as guilty as the supplier who had supplied defective parts to it₂, but I don't remember [which other automobile company]₃ was such that the prosecutor concluded the worker who was in charge of quality control at it₃ to be as guilty as the supplier who had supplied defective parts to it₃.

If the sloppy reading based upon such formal properties as FD were available even with D-indexed dependent terms, it would be expected to be as readily available in (125) and (127) as in (24) and (30), respectively, where the dependent term is
non-D-indexed. But the fact is that it is marginal in (125) and (127). I maintain that the correlation between the marginality of the sloppy reading and the marginality of the overt copula structure in these examples indicates that the sloppy reading in (125) and (127), if it arises at all, cannot be based upon such formal properties. I thus conclude that there is evidence that confirms the prediction in (82i).

Table 11 (partly repeated): A prediction regarding the availability of the sloppy reading in cm contrast sluicing

<table>
<thead>
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<th>(82)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>A c-c’s B at LF</td>
<td>A precedes B at PF</td>
</tr>
<tr>
<td>i.</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>

4.4.2.4. Negative predictions III (c-command, no precedence, and a-word as the dependent term)

Now let us turn to a case where the antecedent c-commands the dependent term at LF but the former does not precede the latter at PF, and the intended dependent term is an a-word. The schematic structure of the first conjunct at Spell-Out is given in (129).

(129) 1st conjunct at Spell-Out:

```
IP
  NP
  ...asoko...
  IP
    NP
    I'
    A
    VP
    I
    t
    V
```
Consider the \( a \)-word counterpart of (36), given in (130).

(130) \[
\text{IP (boku-wa) [CP [NP [NP naganen asoko-to torihiki-ga aru I-TOP long:year that:place-with business-NOM have buhin meekaa-o Toyota-ga sirabeteita no]-wa oboeteiru] ga, parts maker-ACC -NOM was:investigating that TOP remember but [IP [CP [NP hoka-no dono zidoosya gaisya]-ga ka]-wa oboeteinai]. other-GEN which automobile company-NOM Q TOP remember:not }
\]

'I remember that the parts supplier which has been doing business with \text{soko (that place/it) for a long time, Toyota is investigating \_}, but I don't remember which other automobile company.'

In (130), while the strict reading in (131a) is available, the sloppy reading in (131b) is marginal.

(131) a. I remember that Toyota is investigating a parts supplier which has been doing business with Toyota for a long time, but I don't remember which other automobile company is investigating a parts supplier which has been doing business with Toyota.

b. I remember that Toyota is investigating a parts supplier which has been doing business with Toyota for a long time, but I don't remember [which other automobile company]\text{\_} is investigating the parts supplier which has been doing business with [that automobile company]\text{\_}.

By the same logic as above, I conclude that there is evidence that confirms the negative prediction in (821).
Table 11 (partly repeated): A prediction regarding the availability of the sloppy reading in cm contrast sluicing

<table>
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<th>2nd conjunct</th>
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<td></td>
<td>A c-c's B at LF</td>
<td>A c-c's B at LF</td>
</tr>
<tr>
<td></td>
<td>A precedes B at PF</td>
<td>B</td>
</tr>
<tr>
<td>1.</td>
<td>yes</td>
<td>FD ok?</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>ID ok?</td>
</tr>
<tr>
<td></td>
<td>a-</td>
<td>Yes</td>
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4.4.2.5. Negative predictions IV (no c-command or precedence)

Let us now turn to cases where the antecedent does not c-command or precede the dependent term, as schematized in (132).

(132) a. 1st conjunct:

```
  IP
  /\      /
 NP  I'
   \     /
 ...B... VP  I
    \   /
   NP   V
    \ /
     A
```

Note that this is a case where the coreferential reading based on FD or co-I-indexation is not available in the first conjunct, to begin with; hence, we need to use cases where the apparent coreferential reading obtains through the use of the non-individual-denoting so-words in the sense of Ueyama 1998: appendix D. Briefly put, Ueyama suggests that so-words like so-ko-o bengosi 'its attorney' and so-ko-no kogaisya 'its subsidiary' can be understood as something like "the attached attorney" and "the subsidiary." Thus, the coreference readings that we seem to get in (133) and (134), for example, are not based upon formal relations between the antecedent NP
and the dependent term *soko*. These examples are "more or less comparable with those in [(135)], rather than those in [(136)]" (Ueyama 1998: 209).

(133) (=Ueyama 1998: appendix D (72))

a. (?)So-ko-no bengosi-ga *Toyota*-o uttaeta.
   
   that-place-GEN attorney-NOM Toyota-ACC sued

   'Its attorney sued *Toyota*.'

b. (?)So-ko syussin-no hito-ga so-no daigaku-no
   
   that-place source-GEN person-NOM that-GEN university-GEN
   
   naizyoo-o bakurosita.

   inside:story-ACC exposed

   'Its {graduate/former employee} exposed the inside story of that university.'

(134) (=Ueyama 1998: appendix D (73))

[So-ko-no ko-gaisya-to torihiki-o siteiru kaisya]-ga
   
   that-place-GEN child-company-with business-ACC do company-NOM

   Toyota-o uttaeta.

   Toyota-ACC sued

   '[A company which is doing business with its subsidiary] sued *Toyota*.'

(135) (=Ueyama 1998: appendix D (74))

a. A/The (retained) attorney sued Toyota.

b. A {graduate/former employee} exposed the inside story of that university.

c. [A company which is doing business with a subsidiary] sued Toyota.
(136) a. Its attorney sued Toyota.
    
b. Its {graduate/former employee} exposed the inside story of that university.
    
c. [A company which is doing business with its subsidiary] sued Toyota.

In these cases, neither FD nor ID is established, and hence, in the theory pursued here the sloppy reading is predicted to be unavailable as indicated in (82d). Consider (137) and (138).

(137) [[[soko-no koozyoo]-ni buhin-o noonyuu siteiru] meekaa]-ga
    that:place-GEN factory-to parts-ACC is:supplying manufacturer-NOM

    Toyota-o uttaeta no]-wa oboeteiru] ga,
    -ACC sued that -TOP remember but

    [ip [cp [np hoka-no dono zidoosya gaisya]-o ka]-wa oboeteinai] [other-gen which auto company-ACC Q -TOP remember:not]

'I remember that the manufacturer which has been supplying parts to its factory sued Toyota, but I don't remember which other automobile company.'

(138) [soko-no sotugyoosei]-ga USC-o kibusiku hihan siteita no wa
    that:place-GEN graduate-NOM -ACC fiercely was:criticizing that TOP

    oboeteiru ga, [hoka-no dono daigaku]-o ka]-wa oboeteinai] [remember but other-gen which university-ACC Q -TOP remember:not]

'I remember that its graduates were criticizing USC fiercely, but I don't remember which other university.'
Coreference obtains between *Toyota* and *soko* 'that place' in (137) and between *USC* and *soko* in (138), but the sloppy reading does not obtain. (137) does not yield the sloppy reading in (139a), and (138) does not give rise to the reading in (140a). The only possible readings are the strict readings in (139b) and (140b).

(139) a. I remember that the manufacturer which has been supplying parts to its factory sued Toyota, but I don't remember [which other automobile company] the manufacturer which has been supplying parts to its factory sued.

b. I remember that the manufacturer which has been supplying parts to Toyota's factory sued Toyota, but I don't remember which other automobile company the manufacturer which has been supplying parts to Toyota's factory sued.

(140) a. I remember that USC's graduates were fiercely criticizing USC, but I don't remember [which other university] its graduates were criticizing fiercely.

b. I remember that USC's graduates were fiercely criticizing USC, but I don't remember which other university USC's graduates were criticizing fiercely.
Thus, the prediction in (82d) is borne out. Note that the unavailability of the sloppy reading in (137) and (138) indicates that coreference that obtains in the first conjunct due to the non-individual-denoting so-word cannot be the basis for the sloppy reading.

Now consider (141) and (142), which are minimally different from (137) and (138), respectively.

(141) [[[soko-no koozyoo]-ni buhin-o noonyuu siteiru] meekaa]-o

that:place-GEN factory-to parts-ACC is:supplying manufacturer-ACC

Toyota-ga uttaeta no]-wa oboeteiru] ga,

-NOM sued that -TOP remember but

\[\]

25 Other potential cases where the antecedent does not c-command the dependent term at LF and the former does not precede the latter at PF are those that involve scrambling, as schematically illustrated in (i).

(i) 1st conjunct:

\[
\]

(ii) is an example with the structure in (i).

(ii) 2??[IP [VP [CP [NP soko-no basukettobooru tiimu]-o that:place-GEN basketball:team -ACC

[NP UConn-o sotugyoosita hito]-ga hihansiteita no]-wa oboeteiru]] ga,

-ACC graduated person-NOM criticized C -TOP remember but

[IP [VP [CP [NP hoka-no dono daigaku]-o sotugyoosita hito]-ga other-GEN which university-ACC graduated person-NOM

ka]-wa oboeteinai]]

Q -TOP remember:not

'(lit.) I remember that, its basketball team, a person who graduated from UConn were criticizing _, but I don't remember [a person who graduated from which other university] were criticizing its basketball team.'

In this configuration, however, the coreferential reading is not available in the first conjunct, to begin with, and hence, the availability of the sloppy reading cannot be tested.
'I remember that Toyota sued the manufacturer which has been supplying parts to that place's factory, but I don't remember which other automobile company.'

'I remember that USC were criticizing its graduates fiercely, but I don't remember which other university.'

The differences between (137) and (141) and between (138) and (142) are the case-markers on the argument NPs of the verb *uttaeta* 'sued' in (141) and the verb *hihan siteita* 'was criticizing' in (142). The nominative-marked NPs in (137) and (138) are marked with the accusative marker in (141) and (142), and the accusative-marked NPs in (137) and (138) are marked with the nominative marker in (141) and (142). Although the differences are minimal, (141) and (142) give rise to the sloppy reading, unlike their counterparts in (137) and (138). (141) and (142) can be instances of Surface OS, where the object NP is raised at PF, and thus the first conjuncts can be represented as (143b) at LF.
(143) a. 1st conjunct at Spell-Out:

```
NP-NOM I'
   |  
A VP I
   
NP-ACC V
```

```
...soko...
```

b. 1st conjunct after CR:

```
NP-NOM IP
   |  
A t I'
   
VP I
   
NP-ACC V
```

```
...soko... FD (t, soko)
```

FD can be established between the CR trace of NP-NOM and *soko* there because the CR trace of NP-NOM c-commands *soko*. The IP in the box is copied into the second conjunct along with FD and the structure in (144) obtains in the second conjunct.
Since the antecedent and the dependent term enter into Formal Dependency in the first
and the second conjuncts, the (FD-based) sloppy reading is available.

Note also that (137) and (138) contrast with (145) and (146), respectively, where
the antecedent resides in the sentence-initial A-position. The schematic structure of
the latter two is given in (147).

(145) [[Toyota-o [[[soko-no koozyoo]-ni buhin-o noonyuu siteiru]
-ACC that:place-GEN factory-to parts-ACC is:supplying
meekaa]-ga uttaeta no]-wa oboeteiru] ga,
manufacturer-NOM sued that -TOP remember but
[IP [CP [NP hoka-no dono zidoosya gaisya]-o ka]-wa oboeteinai]
other-GEN which auto company-ACC Q -TOP remember:not
'(lit.) I remember that Toyota, the manufacturer which has been supplying
parts to that place's factory sued, but I don't remember which other
automobile company.'
(146) USC-o [soko-no sotugyoosei]-ga kibisiku hihan siteita no wa

-ACC that:place-GEN graduate-NOM fiercely was:criticizing that TOP

oboteiru ga, [hoka-no dono daigaku]-o ka]-wa oboetineai]

remember but other-GEN which university-ACC Q -TOP remember:not

'(lit.) I remember that USC, its graduates were criticizing fiercely, but I don't remember which other university.'

(147) 1st conjunct at Spell-Out:

These are cases of Deep DL, where the antecedent sits in the sentence-initial A-position. From there, the antecedent is CRed, and FD(t, soko) can be established

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26 I use 'XP' to denote the maximal projection that hosts the sentence-initial A-position assumed in Ueyama's Deep OS-type. It is analogous to the subject position in the tough construction in English. (i-a) and (i-b) are instances of the tough construction, whose schematic representations are given in (ii-a) and (ii-b), respectively. Note that in (ii), BVA(NP₁, his₁) is possible.

(i) (= Hoji 2006: (7))
  a. even the most obedient tiger is difficult for his trainer to control ec (when so many people are around)
  b. at least one male student was fairly easy for his teacher to praise ec in public

(ii) (= Hoji 2006: (8))
  a. NP₁ be adjective [cP OP₁ [c for [IP his₁ trainer [t to [control t₁ ] ] ] ]]
  b. NP₁ be adjective [cP OP₁ [c for [IP his₁ teacher [t to [praise t₁ in public]][]]]]

I will leave the issue of what category the XP exactly is for future research.
because the CR trace c-commands *soko*. Thus, the sloppy reading is expected to be available, which is indeed the case with (145) and (146).

Let us turn to the negative prediction given in (82f). This is a case where the antecedent does not c-command or precede the intended dependent term which is an *a*-word. (148) and (149), for example, have the schematic structure in (150).

(148) \[[[[asoko-no koozyoo]-ni buhin-o noonyuu siteiru] meekaa]-ga

\[that:place-GEN factory-to parts-ACC is:supplying manufacturer-NOM\]

Toyota-o uttaeta no]-wa oboeteiru] ga,

-ACC sued that -TOP remember but

\[[IP [CP [NP [NP hoka-no dono zidoosya gaisya]-o ka]-wa oboeteinai] other-GEN which auto company-ACC Q -TOP remember:not\]

'I remember that the manufacturer which has been supplying parts to that place's factory sued Toyota, but I don't remember which other automobile company.'

(149) \[asoko-no sotugyoosei]-ga USC-o kibisiku hihan siteita no wa

\[that:place-GEN graduate-NOM -ACC fiercely was:criticizing that TOP\]

oboeteiru ga, [hoka-no dono daigaku]-o ka]-wa oboeteinai]

remember but other-GEN which university-ACC Q -TOP remember:not

'(lit.) I remember that that place's graduates were criticizing USC fiercely, but I don't remember which other university.'
Although the coreferential reading is available in the first conjuncts, these cases do not yield the sloppy reading, as predicted. (148) does not give rise to the sloppy reading in (151).

(151) I remember that the manufacturer which has been supplying parts to its factory sued Toyota, but I don't remember [which other automobile company] the manufacturer which has been supplying parts to its factory sued.

(149) does not yield the sloppy reading in (152).

(152) I remember that its graduates were criticizing USC fiercely, but I don't remember [which other university] its graduates were criticizing.

Hence, the negative prediction in (82f) is borne out. It is then concluded from (82c), (82f), (82i), and (82l) that the sloppy reading is not available in any configurations, if the intended dependent term is an a-word.
4.4.3. Untestable cases

The availability of the sloppy reading in (82e) and (82k) is not testable because the coreferential reading in the first conjunct is unavailable, as indicated in (153) and (154).

(153) (=Ueyama 1998: ch.4 (38b))

?*[Kyonen [β so-no kyuudan]-ga kaikosita hito]-ga

last:year that-GEN baseball:team-NOM fired person-NOM

[α Kyozin]-o uttaeta rasii.

Giants-ACC sued they:say

'They say that [a person whom [β that baseball team] fired last year] has sued [α the Giants].'

(154) (=Ueyama 1998: ch.4 (42b))

?*[β So-no boeki-gaisya]-ga mukasi uttaeta koto-ga aru

that-GEN trading-company-NOM before sued fact-NOM exist

bengosi]-o [α Tabata toyuu boeki-gaisya]-ga mata uttaeta rasii.

attorney-ACC Tabata COMP trading-company-NOM again sued they:say

'They say that [α a trading company named Tabata] has sued [an attorney whom [β that trading company] sued before] again.'

4.4.4. Summary

In this section we have tested the hypothesis in (80) by verifying the positive and negative predictions it makes with respect to the availability of the sloppy reading.
The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (Co-I-indexation-based sloppy reading)

The negative predictions and positive expectations are summarized in (82), repeated here. We have seen that the predictions and expectations are confirmed.

Table 11 (repeated): Negative predictions and positive expectations regarding the availability of the sloppy reading in cm contrast sluicing

<table>
<thead>
<tr>
<th></th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>f.</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>h.</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

We have seen in the preceding discussion that the negative predictions in (82c), (82d), (82e), (82f), (82i), (82k), and (82l) have not been disconfirmed and that the positive expectations in (82a), (82b), (82g), (82h), and (82j) have been confirmed.
As I mentioned at the outset of this section, the falsifiability of our hypothesis lies in the negative predictions it makes. Note again that if there is one instance where the sloppy reading is available under the conditions specified in (82c), (82d), (82f), (82i), and (82l), then the hypothesis I am pursuing here will be in principle falsified.

Interesting predictions are made regarding the availability of the mix reading pattern. If the mix reading pattern reviewed in section 4.4.2.2.4 is exhibited only in cases where the antecedent c-commands the dependent terms, as argued in Hoji 2003a, it is predicted to be unavailable in cases where the antecedent does not c-command the dependent terms like (82g, h), although the simple sloppy reading is available there as we saw above. I leave the verification of the prediction for future research.

Note in this connection that I have not addressed the issue of the Spec-binding cases discussed in Hoji 2003a: sec.7.5. According to Hoji, the NP in Spec of the subject NP behaves as if it c-commands what the subject c-commands with respect to the Mix-reading-pattern test, as in (155).

(155) (= Hoji 2003a: (128))

a. John₁'s roommate said that he₁ had hit his₁ roommate, and Bill₂'s roommate did, too.
   (i)  <said that he₂ had his₂ roommate> (Mix 1)
   (ii) *<said that he₁ had his₂ roommate> (Mix 2)

b. John₁'s roommate said that his₁ roommate had hit him, and Bill₂'s roommate did, too.
(i)  <said that his\textsubscript{2} roommate had hit him\textsubscript{1}> (Mix 1)

(ii)  <said that his\textsubscript{1} roommate had hit him\textsubscript{2}> (Mix 2)

(155a) gives rise to the Mix 1 reading but not the Mix 2 reading while (155b) yields both the Mix 1 and the Mix 2 readings. This will be left as an outstanding issue in this work.

### 4.5. The sloppy reading in non-cm contrast sluicing

#### 4.5.1. Cases where the cm counterparts yield the sloppy reading

Let us now turn to non-cm contrast sluicing. First, consider non-cm counterparts of the cm contrast sluicing cases which give rise to the sloppy reading. (156)-(161) correspond to (3), (4), (20), (21), (145), and (146), respectively. These examples have the properties in (82a), i.e., the antecedent c-commands and precedes the dependent term which is small so-word.

(156)  boku-wa [Toyota-ga sakunen [soko-no bengosi]-o uttaeta] no wa
I-TOP -NOM last:year that:place-GEN attorney-ACC sued that TOP
oboeteiru ga, hoka-no dono kaisya ka wa oboeteinai.
remember but other-GEN which company Q TOP remember:not
'I remember that Toyota sued its attorney last year, but I don't remember which other company.'

(157)  [IP (boku-wa) [CP [NP Toyota-ga [NP naganen soko-to torihiki-ga
I-TOP -NOM long:year that:place-with business-NOM

---

(i)  <said that his\textsubscript{2} roommate had hit him\textsubscript{1}> (Mix 1)

(ii)  <said that his\textsubscript{1} roommate had hit him\textsubscript{2}> (Mix 2)
'I remember that Toyota is investigating a parts supplier which has been doing business with it for a long time, but I don't remember which other automobile company.'

'I remember the government has made Taiyo Bank stop doing business with its affiliate companies right after the scandal, but I don't remember which other bank.'
danzita no wa oboetairu ga,

concluded that TOP remember but

[hoka-no dono zidoosya gaisya] ka wa oboeteinai.

other-GEN which auto:company Q TOP remember:not

'I remember that the prosecutor concluded Toyota to be as guilty as the supplier that had been supplying it with defective parts for a long time, but I don't remember which other automobile company.'

(160) Toyota-o [soko-to torihiki-ga aru buhinmeekaa]-ga

-ACC that:place-with business-NOM have parts:manufacturer-NOM

uttaeta no]-wa oboeteiru] ga,

sued that -TOP remember but

[IP [CP [NP hoka-no dono kaisya] ka]-wa oboeteinai]

other-GEN which company Q -TOP remember:not

'(lit.) I remember that Toyota, the parts supplier which has been doing business with it sued, but I don't remember which other automobile company.'

(161) USC-o [soko-no sotugyoosei]-ga kibisiku hihan siteita no wa

-ACC that:place-GEN graduate-NOM fiercely was:criticizing that TOP

oboeteiru ga, [hoka-no dono daigaku] ka]-wa oboeteinai]

remember but other-GEN which university Q -TOP remember:not

'(lit.) I remember that USC, its graduates were criticizing fiercely, but I don't remember which other university.'
In all of these examples, the sloppy reading is readily available.

Let us turn to cases that have the properties in (82g), i.e., the antecedent does not c-command, but precedes, the dependent term which is a small so-word. (162)-(164) are non-cm counterparts of (24), (29), and (30), respectively.

(162)  [Toyota-o tantoo siteiru soosain]-ga

-ACC charge is:taking investigator-NOM

[NP naganen soko-to torihiki-ga aru buhin meekaa]-o

long:year that:place-with business-NOM have parts maker-ACC

sirabeteita no]-wa oboeteiru ga,

was:investigating that TOP remember but

[IP [CP [NP hoka-no dono zidoosya gaisya]-o

other-GEN which automobile company-ACC

tantoo siteita soosain] ka]-wa oboeteinai].

charge is:taking investigator Q TOP remember:not

'(lit.) I remember that the investigator who is in charge of Toyota is investigating the parts supplier which has been doing business with it, but I don't remember [the investigator who is in charge of which other automobile company].'

(163)  (boku-wa) [[Teikoku Databank]-ga

I-TOP Teikoku Databank -NOM

[Sumitomo Ginkoo-de hataraita koto-ga aru tyoosain]-ni

Sumitomo Bank-at worked event-NOM have investigator-DAT
(soko-no zaimu zyookyoo)-o tyoosa saseteita no]-wa
that:place-GEN financial situation-ACC investigate caused nml -TOP
oboeteiru ga, [[hoka-no dono ginkoo]-de hataraita koto-ga aru
remember but other-GEN which bank-at worked event-NOM exist
tyoosain ka] wa oboetainai.
investigator Q TOP remember:not
'(lit.) I remember that Teikoku Databank had an investigator who had
worked at Sumitomo Bank investigate its financial situation, but I don't
remember [an investigator who had worked at which other bank.'

(164) kensatu-ga [Toyota-de hinsitukanri-o tantoo siteita syain]-o
prosecutor-NOM -at quality:control-ACC in:charge:of employee-ACC
[naganen soko-ni kekkan buhin-o noonyuu siteita gyoosya]-to
long:year that:place-to defective parts-ACC supplied supplier-with
doozai da to danzita no wa oboetairu ga,
equally:guilty COP that concluded that TOP remember but
[[hoka-no dono zidoosya gaisya]-de hinsitukanri-o
other-GEN which auto company-at quality:control-ACC
tantoo siteita syain] ka wa oboetainai.
in:charge:of employee Q TOP remember:not
'(lit.) I remember the prosecutor concluded the employee who was in charge
of quality control at Toyota to be as guilty as the supplier that supplied
defective parts to it for a long time, but I don't remember [the employee who was in charge of quality control at which other company].'

These examples also yield the sloppy reading, just as their cm counterparts do.

Replacing the smallNP by largeNP does not affect the availability of the sloppy reading in the examples above, where the antecedent either c-commands or precedes the dependent term or both. The sloppy reading remains to be available even if we change soko 'that place' to sono zidoosya gaisya 'that automobile company' in (156), (157), (159), (160), (162), and (164). It continues to obtain even if soko is replaced by sono ginkoo 'that bank' in (158) and (163) and by sono daigaku 'that university' in (161). Hence, it is confirmed that non-cm sluicing under the condition in (82b) and (82h) gives rise to the sloppy reading.

Let us turn to non-cm counterparts that have the properties in (82j), i.e., the antecedent c-commands, but does not precede, the dependent term which is a small so-word. (165) and (166) are non-cm counterparts of (36) and (42).

(165)  [IP (boku-wa) [CP [NP naganen soko-to torihiki-ga aru
        I-TOP long:year that:place-with business-NOM have
        buhin meekaa]-o Toyota-ga sirabeteita no]-wa oboeteiru] ga,
        parts maker-ACC -NOM was:investigating that TOP remember but
        [IP [CP [NP hoka-no dono zidoosya gaisya] ka]-wa oboeteinai].
        other-GEN which automobile company Q TOP remember:not
'(lit.) I remember that the parts supplier which has been doing business with it for a long time, Toyota is investigating _, but I don't remember which other automobile company.'

(166) (boku-wa) [[soko-no keiretugaisya]-to-no torihiki]-o seihu-ga

I- TOP that:place-GEN affiliate compay-with-GEN deal-ACC government-NOM

[Taiyoo Ginkoo]-ni [husyoozi no tyokugo] teisi saseta]

Taiyo Bank -DAT scandal GEN right:after stop caused

no wa oboeteiru ga,

that-TOP remember but

[hoka-no dono ginkoo] ka-wa oboeteinai.

other-GEN which bank Q-TOP remember:not

'I remember the government has made Taiyo Bank stop doing business with its affiliate companies right after the scandal, but I don't remember which other bank.'

Again, the sloppy reading is available, which confirms that non-cm sluicing under the condition in (82j) gives rise to the sloppy reading.

### 4.5.2. Cases where the cm counterparts do not yield the sloppy reading

Now let us turn to cases where cm contrast sluicing does not yield the sloppy reading, as in (82c, d, f, i, l).\(^{27}\) The first set of examples are under the condition in (82c), i.e., the antecedent c-commands and precedes the intended dependent term

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\(^{27}\) In (82c, k), the coreferential reading is unavailable in the first conjunct, and hence the availability of the sloppy reading is not testable under these conditions, as we have seen in the previous section.
which is an $a$-word. (167) and (168) are non-cm counterparts of (104) and (107), respectively. Although their cm counterparts do not yield the sloppy reading, these examples do yield it.

(167) kensatu-ga Toyota-o [naganen asoko-ni kekkan buhin-o
prosecutor-NOM -ACC long:years that:place-to defective parts-ACC
noonyuu siteita gyoosya]-to doozai da to
supplying supplier-with equally:guilty COP that
danzita no wa oboetairu ga,
concluded that TOP remember but
[hoka-no dono zidoosya gaisya] ka wa oboeteinai.
other-GEN which auto:company Q TOP remember:not
'I remember that the prosecutor concluded Toyota to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time, but I don't remember which other automobile company.'

(168) [IP (boku-wa) [CP [NP Toyota-ga [NP naganen asoko-to torihiki-ga
I-TOP -NOM long:year that:place-with business-NOM
aru buhin meekaa]-o sirabeteita no]-wa oboeteiru] ga,
have parts maker-ACC was:investigating that TOP remember but
[IP [CP [NP hoka-no dono zidoosya gaisya] ka]-wa oboeteinai].
other-GEN which automobile company Q TOP remember:not
'(lit.) I remember that Toyota is investigating a parts supplier which has been doing business with that place for a long time, but I don't remember which other automobile company.'

The next set of examples have the properties in (82i), i.e., the antecedent precedes, but does not c-command, the dependent term which is an a-word. (169) and (170) are non-cm counterparts of (125) and (127). The sloppy reading is available in these non-cm examples, although it is not in their cm counterparts.

(169)  [Toyota-o tantoo siteiru soosain]-ga
-ACC charge is:taking investigator-NOM
[NP naganen asoko-to torihiki-ga aru buhin meekaa]-o
long:year that:place-with business-NOM have parts maker-ACC
sirabeteita no]-wa oboeteiru] ga,
was:investigating that TOP remember but
[IP [CP [NP [NP hoka-no dono zidoosya gaisya]-o
other-GEN which automobile company-ACC
tantoo siteita soosain] ka]-wa oboeteinai].
charge is:taking investigator Q TOP remember:not

'(lit.) I remember that the investigator who is in charge of Toyota is investigating the parts supplier which has been doing business with that place, but I don't remember [the investigator who is in charge of which other automobile company].'
'(lit.) I remember the prosecutor concluded the employee who was in charge of quality control at Toyota to be as guilty as the supplier that supplied defective parts to that place for a long time, but I don't remember [the employee who was in charge of quality control at which other company].'

The third type of examples have the properties in (82l), i.e., the antecedent c-commands, but does not precede, the intended dependent term which is an a-word. Consider (171), which is the non-cm counterpart of (130). The sloppy reading is available in (171).
'(lit.) I remember that the parts supplier which has been doing business with that place for a long time, Toyota is investigating _, but I don't remember which other automobile company.'

The fourth set of examples has the properties in (82d), i.e., the antecedent neither c-commands nor precedes the dependent term which is smallNP. (172) and (173) are non-cm counterparts of (137) and (138), respectively. Although their cm counterparts do not give rise to the sloppy reading, these examples do.

(172) [[[soko-no koozyoo]-ni buhin-o noonyuu siteiru] meekaa]-ga
that:place-GEN factory-to parts-ACC is:supplying manufacturer-NOM
Toyota-o uttaeta no]-wa oboeteiru] ga,
-ACC sued that -TOP remember but
[IP [CP [NP hoka-no dono zidoosya gaisya] ka]-wa oboeteinai]
other-GEN which automobile company Q -TOP remember:not
'I remember that the manufacturer which has been supplying parts to that place's factory sued Toyota, but I don't remember which other automobile company.'

(173) [soko-no sotugyoosei]-ga USC-o kibisiku hihan siteita no wa
that:place-GEN graduate-NOM -ACC fiercely was:criticizing that TOP
oboeteiru ga, [hoka-no dono daigaku] ka]-wa oboeteinai]
remember but other-GEN which university Q -TOP remember:not
'I remember that its graduates were criticizing USC fiercely, but I don't remember which other university.'

The final set of examples differ from (172) and (173) only in the choice of the dependent term. They have an $a$-word instead of smallNP. The structural conditions are the same: the antecedent neither c-commands nor precedes the intended dependent term. The sloppy reading is available, and it is confirmed that non-cm sluicing gives rise to the sloppy reading under the condition in (82f) as well.

(174) [asoko-to torihiki-ga aru buhinmeekaa]-ga
that:place-with business-NOM have parts:manufacturer-NOM
Toyota-o uttaeta no]-wa oboeteiru] ga,
-ACC sued that -TOP remember but
[IP [CP [NP hoka-no dono kaisya] ka]-wa oboeteinai]
other-GEN which company Q -TOP remember: not
'(lit.) I remember that the parts supplier which has been doing business with that place sued Toyota, but I don't remember which other automobile company.'

(175) [asoko-no sotugyoosei]-ga USC-o kibisiku hihan siteita no wa
that:place-GEN graduate-NOM -ACC fiercely was: criticizing that TOP
oboeteiru ga, [hoka-no dono daigaku] ka]-wa oboeteinai]
remember but other-GEN which university Q -TOP remember: not
'(lit.) I remember that that place's graduates were criticizing USC fiercely, but I don't remember which other university.'
4.5.3. Summary

The following table summarizes the availability of the sloppy reading in non-cm contrast sluicing. The sloppy reading is available, whether or not the antecedent c-commands the dependent term, whether or not the antecedent precedes the dependent term, and whether the dependent term is a *so*-word or an *a*-word.

Table 12: The availability of the sloppy reading in non-cm contrast sluicing

<table>
<thead>
<tr>
<th>(176)</th>
<th>A c-c's B at LF</th>
<th>A precedes B at PF</th>
<th>B</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small <em>so</em>-</td>
<td>ok</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>large <em>so</em>-</td>
<td>ok</td>
</tr>
<tr>
<td>c.</td>
<td>yes</td>
<td>yes</td>
<td><em>a</em>-</td>
<td>ok</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>small <em>so</em>-</td>
<td>ok</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>no</td>
<td>large <em>so</em>-</td>
<td>n/a</td>
</tr>
<tr>
<td>f.</td>
<td>no</td>
<td>yes</td>
<td><em>a</em>-</td>
<td>ok</td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>yes</td>
<td>small <em>so</em>-</td>
<td>ok</td>
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<tr>
<td>h.</td>
<td>no</td>
<td>yes</td>
<td>large <em>so</em>-</td>
<td>ok</td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>no</td>
<td><em>a</em>-</td>
<td>ok</td>
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<tr>
<td>j.</td>
<td>yes</td>
<td>no</td>
<td>small <em>so</em>-</td>
<td>ok</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>no</td>
<td>large <em>so</em>-</td>
<td>n/a</td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>no</td>
<td><em>a</em>-</td>
<td>ok</td>
</tr>
</tbody>
</table>

What is significant about the results summarized above is that the sloppy reading is available in cases where it is not available in their cm counterparts. The sloppy reading is available in non-cm contrast sluicing even if the intended dependent term is an *a*-word, as in (176c, i, l), and even if there is no c-command or precedence relation between the antecedent and the dependent term, as in (176d). It is even available in cases where there is no relevant c-command or precedence relation and where the intended dependent term is an *a*-word, as in (176f). These results show that the sloppy reading is available in non-cm contrast sluicing, regardless of the structural
relation (c-command and precedence) between the antecedent and the lexical properties of the dependent term.

As we have seen in chapter 2, non-cm contrast sluicing can have the representation given in (177).

(177) 2nd conjunct:

\[
\begin{array}{c}
\text{IP} \\
\text{NP} \quad \text{I'} \\
\text{VP} \quad \text{I} \\
\text{CP} \quad \text{V} \\
\text{IP} \quad \text{C} \\
\text{pro} \quad \text{I'} \quad \text{Q} \\
\text{VP} \quad \text{I} \\
\text{wh-phrase} \quad \text{V} \\
\text{<remnant>} \quad \text{(Copula)}
\end{array}
\]

Pro acts as a deep anaphor and refers to a property available in the preceding context. Take (178) for example.

(178) boku-wa [Toyota-ga sakunen [asoko-no bengosi]-o uttaeta] no wa

I-TOP -NOM last:year that:place-GEN attorney-ACC sued that TOP

oboeteiru ga, hoka-no dono kaisya ka wa oboeteinai.

remember but other-GEN which company Q TOP remember:not
'(lit.) I remember that Toyota sued that place's attorney last year, but I don't remember which other company.'

The *pro* can refer to the property of being a company such that it sued its attorney last year, and the second conjunct then means something like "I don't remember which other company the property of being a company such that it sued its attorney last year holds of," thus giving rise to the sloppy-like reading which is not based on a parallel structure that obtains in the case of surface anaphora like cm contrast sluicing.

The second conjunct of (178) is equivalent to (179), which has an overt pronominal element in place of *pro*.

(179) ... [IP sore-ga [VP [CP [NP hoka-no dono kaisya] ka]-wa oboeteinai]].

'It - NOM          other-GEN which company  Q - TOP  remember: not

'I don't remember which other company that is.'

Note that nothing prevents non-cm contrast sluicing from being analyzed analogously with cm contrast sluicing. If a speaker has this tendency, it is not surprising that for such speakers the availability of the sloppy reading in non-cm contrast sluicing parallels with that in cm contrast sluicing. Note also that the availability of the sloppy-like reading in a copula-sentence analysis of non-cm contrast sluicing is contingent upon how easily one can form the relevant concept from the preceding context, and thus judgmental fluctuation is expected, just as in the case of the overt version like (179).
4.6. The sloppy reading in cm regular sluicing

4.6.1. Peculiarities of cm regular sluicing

It is noted in Takahashi (1994) that the sloppy reading is available in regular sluicing with a configuration in (180), as illustrated in (181).

(180) [NP₂ V [... dependent term₂ ...correlate...]]

[NP₃ V [wh-phrase]]

<remnant>

(181) a. UConn-ga [soko-no basukettobooru tiimu-ga dare-o

-NOM that:place-GEN basketball team-NOM who-ACC

sukautosita ka] happyoosita

scouted Q announced

'UConn announced who its basketball team scouted.'


-too who-ACC Q announced

'Duke also announced who.'

(Takahashi 1994: (12))

\[28\] I use the term "regular sluicing" to refer to the type of sluicing which has a correlate that is not a Name. Compare it with contrast sluicing, where the correlate is a Name.

Notice that the configuration in (180) is distinct from that in (1), repeated here.

(1) I remember that [ correlate₂ [... dependent term₂ ...]],

but I don't remember [wh-phrase].

<remnant>

The correlate serves as the antecedent for the dependent term in (1), but such is not the case in (180). In the latter, the antecedent is outside the IP that gets copied. This difference in configuration seems to affect how easily one can get the multiple-remnant representation that is discussed in this section.
He points out that (181b) gives rise to the interpretations in both (182a) (the sloppy reading) and (182b) (the strict reading).

(182) a. Duke also announced who Duke's basketball team had scouted.

          b. Duke also announced who UConn's basketball team had scouted.

(183) is another example of cm regular sluicing where both the sloppy and the strict readings are available.


          -NOM that:place-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.’

          (Fukaya & Hoji 1999: (4))

(184) a. Nissan announced which company Nissan had sued.

          b. Nissan announced which company Toyota had sued.

Now consider the structures of cm regular sluicing cases like (181) and (183). Notice that the antecedent in both cases above c-commands the dependent term soko 'that place'. The schematic structure of the first conjunct of (181), for example, is given in (185).
Takahashi claims for cm regular sluicing that the sloppy reading is unavailable if the antecedent does not c-command the dependent term as in cases like (186).

(186) (= Takahashi 1994: (15))

A: \[\text{IP} \left[ \text{NP UConn-ACC} \right. \text{sotu} \text{yoosita hito]-wa} \left. \right[ \text{VP} \left[ \text{CP} \right. \text{soko-no} \text{UConn-ACC} \text{graduated} \text{person-TOP} \right. \text{that}\text{.place-GEN} \text{basuketto} \text{booru tiimu]-ga dare-o sukautosita ka} \text{sitteiru][].} \]

basketball team-ACC who-ACC scouted know

'The people who graduated from UConn know who its basketball team scouted.'

B: \[\text{IP} \left[ \text{NP Duke-ACC} \right. \text{sotu} \text{yoosita hito]-mo} \left. \right[ \text{VP} \left[ \text{CP} \right. \text{dare-o ka} \text{sitteiru][].} \]

Duke-ACC graduated person-also who-ACC know

'The people who graduated from Duke also know who.'

The schematic structure of the first conjunct is given in (187).
He claims that (186) does not give rise to the sloppy reading "the people who graduated from Duke also know who Duke's basketball team scouted." However, I would like to challenge his judgment and claim that the sloppy reading is readily available in (186). (188) is another example where the relevant c-command relation does not hold but the sloppy reading seems to obtain.

(188) A: [Toyota-de kansa-o tantoositeiru kaikeesi]-ga
   -at audit-ACC is:doing accountant-NOM
   [[soko-to torihiki-ga aru buhin meekaa]-ga
    that:place-with deal-NOM have parts maker-NOM
doko-kara sikan'enzyo-o uketeita ka] siritagatteiru.
    where-from financial:suppport-ACC received Q want:to:know

 'The accountant who is making an audit at Toyota wants to know where the parts supplier that does business with it received a financial support from.'

B: [Nissan-de kansa-o tantoositeiru kaikeesi]-mo
   -at audit-ACC is:doing accountant-NOM
The accountant who is making an audit of Nissan also wants to know where from.

(188B) seems to yield the sloppy reading in (189).

(189) The accountant who makes an audit of Nissan also wants to know where the parts manufacturer that has business with it has received financial support from.

The facts above are expected in our account because there are two bases of the sloppy identity reading as claimed in (80), repeated here.

(80) The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (Co-I-indexation-based sloppy reading)

But peculiarities arise when we look at cases where the intended dependent term is a Name or an a-word. As pointed out in Fukaya & Hoji 1999, even with a Name or an a-word as the dependent term, cm regular sluicing seems to give rise to the sloppy reading, as in (190).
(190) A: UConn-ga [UConn/asoko-no basukettobooru tiimu-ga -NOM that.place-GEN basketball team-NOM
dare-o sukautosita ka] happyoosita
who-ACC scouted Q announced
'UConn announced who its basketball team scouted.'

-too who-ACC Q announced
'Duke also announced who.'

(190) differs from (181) only in the choice of the dependent term: the former has a Name or an a-word as the intended dependent term while the latter has a so-word instead. (190b) still seems to yield the reading in (182a), repeated here.

(182) a. Duke also announced who Duke’s basketball team had scouted.
Likewise, (191), which corresponds to (183), gives rise to the sloppy reading in (184b), although the dependent term is replaced by a Name or an a-word.

(191) A: Toyota-ga [Toyota-/asoko-ga [dono kaisya]-o uttaeta ka]
-NOM that:place-NOM which company-ACC sued Q
happyoosita.
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.'
(184) b. Nissan announced which company Nissan had sued.

Furthermore, even in cases which satisfy neither the c-command nor the non-D-indexation requirement, the sloppy reading is available in cm regular sluicing. Consider (192) and (193).

(192) (Cf. (186).)

A: \[IP [NP UConn-o sotugyoosita hito]-wa [VP [CP [NP UConn/asoko-no UConn-ACC graduated person-TOP that:place-GEN

basukettobooru tiimu]-ga dare-o sukautosita ka sitteiru]].

basketball team-NOM who-ACC scouted Q know

'The people who graduated from UConn know who its basketball team scouted.'

B: \[IP [NP Duke-o sotugyoosita hito]-mo [VP [CP dare-o ka] sitteiru]].

Duke-ACC graduated person-also who-ACC Q know

'The people who graduated from Duke also know who.'

(193) (Cf. (188).)

A: [Toyota-de kansa-o tantoositeiru kaikeesi]-ga

-at audit-ACC is:doing accountant-NOM

[[Toyota/asoko-to torihiki-ga aru buhin meekaa]-ga

that:place-with deal-NOM have parts maker-NOM

doko-kara sikin'enzyo-o uketeita ka] siritagatteiru.

where-from financial:support-ACC received Q want:to:know
'The accountant who is making an audit of Toyota wants to know where the parts supplier that does business with it received a financial support from.'

B: [Nissan-de kansa-o tantoositeiru kaikeesi]-mo  
    -at audit-ACC is:doing accountant-NOM  
    [doko-kara ka] siritagatteiru.  
    where-from Q want:to:know  

'The accountant who is making an audit of Nissan also wants to know where from.'

In (192) and (193), the dependent term is a Name or an *a*-word. Under the assumption above, they are predicted not to give rise to sloppy readings, but they actually do, contrary to the prediction. I record the results in the table in (194).

<table>
<thead>
<tr>
<th>(194)</th>
<th>A c-commands B</th>
<th>B is non-D-index</th>
<th>The sloppy reading</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>ok</td>
<td>(181), (183)</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>no</td>
<td>ok</td>
<td>(190), (191)</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>yes</td>
<td>ok</td>
<td>(186), (188)</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>ok</td>
<td>(192), (193)</td>
</tr>
</tbody>
</table>

Cm regular sluicing gives rise to the sloppy reading even if the antecedent does not c-command the dependent term (cf. (194c, d)) and/or even if the dependent term is D-indexed (cf. (194b, d)). Given the facts summarized in (194), one may doubt the validity of our hypothesis in (80), repeated here.
The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (Co-I-indexation-based sloppy reading)

In the following subsection, I will suggest that the peculiarities of cm regular sluicing arise from a distinct syntactic structure cm regular sluicing can have.

4.6.2. A speculative analysis

Let us return to the example in (181), repeated here.

(181) A: UConn-ga [soko-no basukettobooru tiimu-ga dare-o
-NOM that:place-GEN basketball team-NOM who-ACC

sukautosita ka] happyoosita

scouted Q announced

'UConn announced who its basketball team scouted.'


-too who-ACC Q announced

'Duke also announced who.'

(Takahashi 1994: (12))
As pointed out by Takahashi (1994), (181B) gives rise to the readings in (182), repeated here, when the first sentence has the reading that UConn announced who UConn's basketball team had scouted.

(182) a. Duke also announced who Duke’s basketball team had scouted.

   b. Duke also announced who UConn’s basketball team had scouted.

Notice that there is a third reading available in (181B) in addition to these.  

(195) Duke also announced who the basketball team at some other specific university (e.g., MIT or Harvard) had scouted.

In order to account for the availability of the third reading as well as the peculiarities of cm regular sluicing summarized in (194), I would like to suggest that cm regular sluicing like (181B) can have the representation in (196), as well as that in (197).

---

29 The availability of the third reading was brought to my attention by Hajime Hoji (personal communication, April, 2006).
(196) 2\textsuperscript{nd} conjunct at Spell-Out:

```
(196) 2\textsuperscript{nd} conjunct at Spell-Out:
```

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(197)
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(197)
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(197)
Note that in (196) *pro* is base-generated in the IP-adjoined position along with the wh-phrase. This is a case of multiple remnants like (198), where *Mark-ni* 'to Mark' and *dare-o* 'who-ACC' are the remnants.\(^{30}\)

(198)  

\[
\begin{align*}
\text{John-ga} & \quad \text{Bill-ni} & \quad \text{Susan-o} & \quad \text{syookai sita no]-wa sitteiru ga,} \\
\text{NOM} & \quad \text{-DAT} & \quad \text{-ACC} & \quad \text{introduced that -TOP know but} \\
\text{Mark-ni} & \quad \text{dare-o} & \quad \text{ka} & \quad \text{siranai.} \\
\text{-DAT} & \quad \text{who-ACC Q} & \quad \text{know: not}
\end{align*}
\]

'(lit.) I know that John introduced Susan to Bill, but I don't know who (John introduced) to Mark.'

Since *pro* in (196) is phonetically null, (181B) appears to be a single-remnant case. In order to license the two remnants, the two correlates (\[*soko-no basukettobooru tiimu]-ga* 'its basketball team' and *dare-o* 'who-ace') in the first conjunct raise and adjoin to the same IP, as in (199b).

---

\(^{30}\) The fact that cases with mixed remnants like (198) (where a wh-phrase and a non-wh-phrase are the remnants) are acceptable also lends support for the claim that sluicing and stripping are manifestation of the same syntactic phenomenon, as suggested in Hoji & Li 1994 and Fukaya and Hoji 1999. See also Nishiyama et al. 1995.
(199) a. 1st conjunct at Spell-Out:

```
  IP
    UConn_2-NOM I'
      VP I
        CP V
          IP Q announced
            NP I'
              [its basketball team]-NOM
                VP I
                  [its basketball team]-NOM
                    who-ACC scouted
```

b. 1st conjunct after LF CR:

```
  IP
    Duke_2-also I'
      VP I
        CP V
          IP Q announced
            NP IP
              [its basketball team]-NOM
                who-ACC t_4
                  t_3 scouted
```
Then the IP in the box is copied onto the empty IP in the second conjunct, and the representation in (200) results.

(200)  2\textsuperscript{nd} conjunct after LF Copy:

\[
\begin{array}{c}
\text{IP} \\
\text{Duke}_2\text{-also} \\
\text{I'} \\
\text{VP} \\
\text{I} \\
\text{CP} \\
\text{V} \\
\text{IP} \\
\text{Q} \text{ announced} \\
\text{NP} \\
\text{IP} \\
\text{pro} \\
\text{who} \\
\text{t}_4 \text{-ACC} \\
\text{IP} \\
\text{t}_3 \text{ scouted} \\
\end{array}
\]
The case-marker on a remnant signals which trace in the copied IP the remnant is to be associated with. Thus, who-ACC is associated with \( t_3 \) and pro with \( t_4 \).\(^{31} \) The result of this derivation is equivalent to the null object construction in (201B).

(201) A: UConn-ga [soko-no basukettooboru tiimu-ga dare-o
-NOM that:place-GEN basketball team-NOM who-ACC
sukautosita ka] happyoosita
scouted Q announced
'UConn announced who its basketball team scouted.'

B: Duke-mo [pro dare-o sukautosita ka] happyoosita
-also who-ACC scouted Q announced
'(lit.) Duke also announced who pro had scouted.'

Nothing prevents the pro from referring to an individual that is available in the discourse. If it refers to UConn's basketball team, the strict reading in (182b) results. If it refers to Duke's basketball team, what seems to be the sloppy reading in (182a)

\(^{31} \) The order of the remnants does not suffice to yield the needed associations. Compare (i-a) and (i-b).

(i) a. John-wa dareka-ni nanika-o watasita rasii ga,
- TOP someone-DAT something-ACC handed seem but
boku-wa [dare-ni nani-o ka] siranai.
I-TOP who-DAT what-ACC Q know:not
'It seems that John handed someone something, but I don't know what.'
b. John-wa dareka-ni nanika-o watasita rasii ga,
- TOP someone-DAT something-ACC handed seem but
boku-wa [nani-o dare-ni ka] siranai.
I-TOP what-ACC who-DAT Q know:not
'It seems that John handed someone something, but I don't know what.'

Although (i-a) is generally preferred, (i-b) is also acceptable. Note that in (i-b) the first remnant is associated with the second trace, and the second remnant is associated with the first trace, as in (ii).

(ii) boku-wa [nani-o\(_2\) dare-ni\(_1\) \([t_1, t_2] \) watasita] ka] siranai.
I-TOP what-ACC who-DAT handed Q know:not
obtains. It can also refer to some other university's basketball team, and, if that is the case, the third reading in (195) results.

Let us return to cases observed in the previous subsection. The second conjunct in (186) can be analyzed as analogous to (202).

(186) (= Takahashi 1994: (15))

A: \([\text{IP} [\text{NP} \text{UConn-o sotuguosita hito]-wa} \ [\text{VP} [\text{CP} [\text{NP} \text{soko-no UConn-ACC graduated person-TOP that:place-GEN basukettobooru tiimu]-ga dare-o sukautosita ka] sitteiru}]].\]

'bThe people who graduated from UConn know who its basketball team scouted.'

B: \([\text{IP} [\text{NP} \text{Duke-o sotuguosita hito]-mo} \ [\text{VP} [\text{CP dare-o ka] sitteiru}]].\]

'bThe people who graduated from Duke also know who.'

(202) B: \([\text{IP} [\text{NP} \text{Duke-o sotuguosita hito]-mo} \ [\text{VP} [\text{CP pro dare-o sukautosita ka] sitteiru}]].\]

'(lit.) The people who graduated from Duke also know who pro scouted.'

Nothing keeps the pro from being interpreted as Duke's basketball team, and thus the apparent sloppy reading results.
Similarly, in (190), where the intended dependent term is a Name or an *a*-word, the second conjunct can be analyzed as analogous to (203).

(190) A: UConn-ga [UConn/asoko-no basukettobooru tiimu-ga
-NOM that.place-GEN basketball team-NOM
dare-o sukautosita ka] happyoosita

who-ACC scouted Q announced
'UConn announced who its basketball team scouted.'


-too who-ACC Q announced
'Duke also announced who.'


-too who-ACC scouted Q announced
'Duke also announced who *pro* had scouted.'
Since nothing prevents the pro from referring to Duke's basketball team, the apparent sloppy reading results. Thus, under the current proposal, what seems to be the sloppy reading in cases like (181) is indeed the "sloppy-like reading" in the terms of Hoji 1998a, and that it is why the sloppy reading arises even if the intended dependent term is a Name or an a-word.

4.6.3. A consequence of the speculative analysis

Now this analysis of cm regular sluicing raises an issue for our analysis of contrast sluicing in the previous sections. If the multiple remnant strategy is available for cm regular sluicing, there is no reason why it should not be available for cm contrast sluicing. Thus, it should be possible for the second conjunct of (204), for example, to be analyzed as in (205).

(204)  boku-wa [Toyota-ga sakunen [asoko-no bengosi]-o uttaeta] no wa
       l-TOP -NOM last:year that:place-GEN attorney-ACC sued that TOP

32 Hoji (1998a) investigates the nature of the sloppy reading in the null object construction (NOC) and concludes that what appears to be the sloppy reading available in NOC is not the genuine sloppy reading. He claims that the genuine sloppy reading involves bound variable anaphora but that the sloppy-like reading arises because of the properties of the null argument in NOC. One of the positive expectations of his theory is that "the lexical properties of the 'bindee' are irrelevant to the availability of such readings" (sec. 4.1). In (i) and (ii), the "sloppy" reading is readily available, and thus the expectation is confirmed.

     John-NOM John-ACC recommended
     'John recommended John.'
     B: Bill-mo ec; suisensita.
     Bill-also recommended
     'Bill also recommended ec.'

     John-NOM John-GEN car-ACC washed
     'John washed John's car.'
     B: Bill-mo ec aratta.
     'Bill washed ec.'
I remember that Toyota sued that place's attorney last year, but I don't remember which other company.'

(205) 2nd conjunct after IP Copying:

With a case-marker indicating which trace its bearer is to be associated with, *[which other company]*-*NOM* is associated with t₄, and *pro* with t₃. Thus, (204) can be taken to be analogous to the null object construction in (206).

(206)  boku-wa [Toyota-ga sakunen [asoko-no bengosi]-o uttaeta] no wa

I-TOP -NOM last:year that:place-GEN attorney-ACC sued that TOP
oboeteiru ga,
remember but

\[ \text{[IP [CP [NP hoka-no dono kaisya]-ga} \ pro \ uttaeta \ ka] \ wa \ oboeteinai].} \]
\otherGEN \ which \ company-NOM \ sued \ Q \ TOP \ remember:not

'(lit.) I remember that Toyota sued that place's attorney last year, but I don't remember which other company sued him.'

Nothing prevents the possibility of what Hoji (1998a: sec. 3.2) calls the concept use of the null argument in this case. He demonstrates that the null argument also behaves like an indefinite, functionally speaking. Thus, the second conjunct in (206) can have the interpretation equivalent to that of (207) with the \pro \ being interpreted as an indefinite \bengosi \ 'an attorney'.

(207) \[ \text{[IP [CP [NP hoka-no dono kaisya]-ga bengosi-o uttaeta ka] wa} \]
\otherGEN \ which \ company-NOM \ attorney-ACC \ sued \ Q \ TOP \ oboeteinai].
\remember:not

'I don't remember which other company sued an attorney.'

With (207) following the first conjunct in (206), as given in (208), the reading in (209) is available.

(208) \text{boku-wa [Toyota-ga sakunen [asoko-no bengosi]-o uttaeta] no wa}
\text{l-TOP -NOM last:year that:place-GEN attorney-ACC sued that TOP oboeteiru ga,}
\remember but
(lit.) I remember that Toyota sued that place's attorney last year, but I don't remember which other company sued an attorney.

(I remember that Toyota sued Toyota's attorney last year, but I don't remember which other company sued that company's attorney."

The sluicing example in (204), having the representation equivalent to the null object construction in (206), is expected to also give rise to the reading in (209), contrary to what was claimed in section 4.4.2.2. This in fact seems to be the case with some speakers. Note also that a distributive reading where more than one company (besides Toyota) is involved seems to be available in the second conjunct (i.e., the covariant reading between [NP hoka-no dono kaisya]-ga 'which other company-NOM' and bengosi-o 'attorney-ACC'). This might seem to be a case of a negative prediction being disconfirmed, but I would like to maintain that this turns out not to be a problem for our analysis if we look at the empirical facts more closely.

As observed in Hoji 2006, relational terms like hitori musume 'sole daughter' give rise to the sloppy reading even if it is not modified by a phrase containing a dependent term, such as soitu-no 'that guy's', which can covary with a QP. (210b) allows the sloppy reading possible in (210a).
(210) (=Hoji 2006: (68a-b))

a. Subete-no dansei member-ga soitu-no hitori musume-o
   every-GEN male member-NOM that:guy-GEN 1-CL daughter-ACC
   hometeita.
   was:praising
   'every male member was praising {that/the} guy's only daughter'

b. Subete-no dansei member-ga hitori musume-o hometeita.
   every-GEN male member-NOM 1-CL daughter-ACC was:praising
   'every male member was praising (the) only daughter'

Compare (210) with (211), which are different from (210) only in the choice of the
head of the object NP. Note that the non-relational term hooseki 'jewelry' is used in
(211).

(211) a. Subete-no dansei member-ga soitu-no hooseki-o hometeita.
   every-GEN male member-NOM that:guy-GEN jewelry-ACC was:praising
   'every male member was praising {that/the} guy's jewelry'

b. Subete-no dansei member-ga hooseki-o hometeita.
   every-GEN male member-NOM jewelry-ACC was:praising
   'every male member was praising (the) jewelry'

Although the covariant reading between subete-no dansei member 'every male
member' and (soitu-no) hitori musume '(that guy's) sole daughter' is available in both
(a) and (b) examples of (210), the covariant reading between subete-no dansei member
'every male member' and (soitu-no) hooseki '(that guy's) jewelry' is readily available in
(211a) but quite marginal in (211b). This suggests the possibility that relational terms can give rise to the sloppy reading without formal relations such as FD, because of its inherent property of having a relation to something; see Hoji 2006: sec.1.1.6 for further discussion. Non-relational terms, on the other hand, do not give rise to the sloppy reading unless a formal relation is established. Hence, non-relational terms enable us to conduct more reliable tests in the investigation of formal properties.

Given that bengosi 'attorney' in this case can be taken to mean komon bengosi 'one's own corporate attorney', bengosi can be regarded as a relational term. Let us then examine a case where pro in (205) cannot be taken to be a relational term. Consider (212).

(212)  
\[
(\text{IP (boku-wa)} \ [\text{CP [NP Toyota-ga [NP sakunen asoko-no hihankizi-o kaita syuukansi]-o uttaeta no]-wa oboeteiru]} ga),
\]
\[
\text{wrote weekly-ACC sued that TOP remember but}\]
\[
[\text{IP [CP [NP hoka-no dono zidoosya gaisya]-ga ka]-wa oboeteinai]}.]
\]

'(lit.) I remember that Toyota sued the weekly magazine that wrote a criticism about that place last year, but I don't remember which other automobile company.'

The second conjunct can be analyzed as equivalent to (213) under the analysis proposed in the previous subsection.
(213) \[ \text{IP} \left[ \text{CP} \left[ \text{NP hoka-no dono zidoosya gaisya]-ga} \right. \right. \text{pro uttaeta ka]-wa} \right. \]
\[ \text{other-GEN which automobile company-NOM sued Q TOP oboeteinai].} \]
\[ \text{remember: not} \]

'(lit.) I don't remember which other automobile company sued \text{pro}.'

The \text{pro} in (213) can be taken to mean \text{syuuksansi} 'a weekly', but it is not a relational term. In contrast to (204), (212) does not give rise to the sloppy reading if a distributive reading is at issue where more than one automobile company (besides Toyota) is involved. To the extent that the null object construction in (213) gives rise to the sloppy-like reading, the sluicing example in (212) can give rise to what appears to be the sloppy reading, when a distributive reading is not at stake. But I claim that because of the complexity of the concept which \text{pro} has to recover from the context (the weekly magazine that wrote a criticism of it), what appears to be the sloppy reading is harder to get than it is in cases where a less complicated concept like 'its attorney' is to be pragmatically recovered.

Thus, what has been observed for cm contrast sluicing in the previous sections remains to be valid even if the analysis for cm regular sluicing proposed in this subsection is allowed for sluicing in general. As discussed in Hoji 1998a, what appears to be the sloppy reading in the null object construction is indeed the sloppy-like reading, which arises based on the referential use of the null argument or the concept use of the null argument, and not based on FD or co-I-indexation. That is why what appears to be the sloppy reading arises even with an \text{a-word} as the
dependent term. (214) below, which combines (190) and (203) above, is an example which gives rise to the sloppy-like reading through the referential use of the null argument, and (206), repeated here, is an example which gives rise to the sloppy-like reading through the concept use of the null argument.

(214) A: UConn-ga [asoko-no basuketto-booru tiimu-ga
-NOM that.place-GEN basketball team-NOM
dare-o sukautosita ka] happyoosita
who-ACC scouted Q announced
'UConn announced who its basketball team scouted.'

B: Duke-mo [pro dare-o sukautosita ka] happyoosita.
-too who-ACC scouted Q announced
'Duke also announced who pro had scouted.'

(206) boku-wa [Toyota-ga sakunen [asoko-no bengosi]-o uttaeta] no wa
I-TOP -NOM last:year that:place-GEN attorney-ACC sued that TOP
oboeteiru ga,
remember but
[IP [CP [NP hoka-no dono kaisya]-ga pro uttaeta ka] wa oboeteinai].
other-GEN which company-NOM sued Q TOP remember:not
'(lit.) I remember that Toyota sued that place's attorney last year, but I don't remember which other company sued him.'

We have seen above that sluicing can have the representation which is analogous to the null object construction. Thus, what appears to be the sloppy reading in sluicing with an a-word as the dependent term arises also based on either
the referential use or the concept use of the null argument. As we have seen above, if we eliminate the possibilities of the referential use and the concept use of a null argument, thereby forcing the sloppy reading under discussion to be the one based on FD or co-I-indexation, it is unavailable in cm contrast sluicing. The former possibility has been eliminated by using a non-referential expression like *which other company* as the antecedent, and the latter possibility has been eliminated by considering cases where the distributive reading is at issue and where no relational term is involved. Note that the *so*-word counterpart of (212) gives rise to the sloppy reading even if the distributive reading is at stake.

(215) (Cf. (212).)

\[
\begin{array}{l}
\text{[IP (boku-wa) [CP [NP Toyota-ga [NP sakunen soko-no hihankizi-o kaita syuukansi-o uttaeta no]-wa oboeteiru] ga, wrote weekly-ACC sued that TOP remember but [IP [CP [NP hoka-no dono zidoosya gaisya]-ga ka]-wa oboeteinai].}
\end{array}
\]

'(lit.) I remember that Toyota sued the weekly magazine that wrote a criticism about it last year, but I don't remember which other automobile company.'

As seen in section 4.4, the genuine sloppy reading obtains only based on FD or co-I-indexation. Recall (80).
The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts.  (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct.  (co-I-indexation-based sloppy reading)

The fact that the relevant distributive reading is not available in (212) indicates that the pro in question cannot have an internal structure like \[ NP \text{sakunen soko-no hihankizi-o kaita syuukansi]-o} \] 'a weekly magazine that wrote a criticism about it last year'. For, if it could, parallel FD or parallel co-I-indexation would be available, and (212) would give rise to the BVA reading which is possible in the non-elliptical counterpart in (216). 33 

33 Note in this connection that there is empirical evidence that we cannot maintain the NP ellipsis analysis of the null object construction proposed in Kim 1999, Saito 2004, and Whitman & Moriyama 2004, which allow NP deletion.  Consider (i).

(i)  
\[
\begin{align*}
\text{IP} \quad \text{(boku-wa)} &\quad \text{CP} \quad \text{NP} \quad \text{Toyota-ga} \quad \text{NP} \quad \text{sakunen soko-no hihankizi-o} \\
\text{I-TOP} &\quad \text{-NOM} \quad \text{last:year that:place-GEN criticism-ACC} \\
\text{kaita syuukansi]-o} &\quad \text{utaeta no]-wa oboeteiru] ga,} \\
\text{wrote weekly-ACC} &\quad \text{sued that TOP remember but} \\
\text{IP} &\quad \text{CP} \quad \text{NP} \quad \text{hoka-no dono zidoosya gaisya}-ga \quad \text{pro} \quad \text{utaeta ka]-wa oboeteinai}]. \\
\text{other-GEN which automobile company-NOM} &\quad \text{sued Q TOP remember:not} \\
\text{'(lit.)} &\quad \text{I remember that Toyota sued the weekly magazine that wrote a criticism about it last year, but I don't remember which other automobile company sued pro.'}
\end{align*}
\]

(i) does not give rise to the distributive reading discussed in the main text, unlike its sluicing counterpart in (ii) and its counterpart with a full-fledged object in (iii).

(ii)  
\[
\begin{align*}
\text{IP} \quad \text{(boku-wa)} &\quad \text{CP} \quad \text{NP} \quad \text{Toyota-ga} \quad \text{NP} \quad \text{sakunen soko-no hihankizi-o} \\
\text{I-TOP} &\quad \text{-NOM} \quad \text{last:year that:place-GEN criticism-ACC} \\
\text{kaita syuukansi]-o} &\quad \text{utaeta no]-wa oboeteiru] ga,} \\
\text{wrote weekly-ACC} &\quad \text{sued that TOP remember but}
\end{align*}
\]
'I remember that Toyota sued the weekly magazine that wrote a criticism about that place last year, but I don't remember which other automobile company sued the weekly magazine that wrote a criticism about it.'

If NP ellipsis is allowed in the null object construction, (i) would pattern with (iii), but in fact the sloppy reading is not available in (i) while it is available in (iii). This observation casts doubt on the plausibility of the NP ellipsis analysis.
But we have observed that the distributive reading is not available with an *a*-word as the dependent term in the first conjunct.

### 4.7. Some outstanding issues

In the preceding discussion, I have left the following four issues open.

(217) a. What distinguishes between the \( \text{largeNP} \) and the \( \text{smallNP} \)?

b. What distinguishes between A-type and B-type QPs?

c. How does the CR trace in the copied IP receive interpretation?

d. How is the dependent term in co-I-indexation-based sloppy reading interpreted?

In this section I will speculate on these issues.

#### 4.7.1. Distinction between the \( \text{largeNP} \) and the \( \text{smallNP} \)

Let us start with the distinction between the \( \text{largeNP} \) and the \( \text{smallNP} \). I used them only as descriptive terms above, and, following Ueyama 1998, I do not intend to attribute the distinction to some lexical features like \([+/- \text{ large}]\). I would like to address the issue of what lies behind the distinction theoretically. Ueyama assumes the mapping rule of the dependent term in FD.\(^{34}\)

\(^{34}\) See section 4.3 for the summary of Ueyama's theory.
Mapping rule of $\beta$ in FD($\alpha,\beta$):

$\text{NP} \Rightarrow \text{SR}(\alpha)$ if the NP is $\beta$ in FD($\alpha,\beta$)

According to this rule, if $\alpha$ in FD($\alpha,\beta$) is a QR trace of a QP, it is mapped to $v_{bn}$ in Semantic Representation, and $\beta$ is also mapped to $v_{bn}$, as in (219).

Then the QRed QP binds both variables, resulting in bound variable anaphora. As pointed out by Ueyama (1998: 243), "the mapping rule in [(218)] in effect ignores the lexical and other properties of $\beta$ in FD($\alpha,\beta$) altogether. It is therefore reasonable to consider [(218)] as involving 'deletion' in some sense." Then she attributes the \underline{largeNP}/\underline{smallNP} distinction in the availability of BVA readings with a certain type of QPs to a principle of recoverability of deletion, which "states that an element can be deleted only if it is fully determined by a structurally related phrase containing its lexical features or if it is a 'designated element', where these notions have to be made precise" (Chomsky 1986:70). Now compare (220) and (221).

FD with a \underline{smallNP}:

a. \text{LF:} ... $t_{l-1}$ ... so-ko ... FD( $t_{l-1}$, so-ko )

b. \text{SR:} ... $v_{b1}$ ... $v_{b1}$ ...
FD with a large NP:

a. LF: ... t\textsubscript{t-1} ... so-no zidoosya-gaisya ...

\[ \text{FD( } t\textsubscript{t-1} , \text{ so-no zidoosya-gaisya )} \]

b. SR: ... v\textsubscript{b1} ... v\textsubscript{b1} ...

Notice that more semantic contents are deleted in the case of a large NP. This is why it is more difficult to have a large NP as the dependent term in the case of FD-based BVA.

I-indexed NPs, on the other hand, are assumed to undergo the following mapping rule.

Mapping rules of an I-indexed NP whose semantic category is \( e \):

(i) If it is a (QR) trace, NP\textsubscript{I-n} \( \Rightarrow \) v\textsubscript{bn}

(ii) Otherwise, NP\textsubscript{I-n} \( \Rightarrow \) v\textsubscript{fn} : SR(N)

*That automobile company*, for example, is mapped as follows.

\[ \text{[that automobile company]} \text{I-n} \Rightarrow v\textsubscript{fn} : \text{automobile-company} \]

Note that there is no deletion of the semantic contents of the dependent term involved in the mapping of an I-indexed NP. Hence, the establishment of ID is possible with a large NP, unlike the case of FD. Note in this connection that "the distinction between small NPs and large NPs is basically determined based on the 'amount of semantic content on N', which cannot be defined in syntactic terms in nature" (Ueyama 1998: 243).

Given that the distinction between large NP and small NP is not rigid, one may wonder how falsifiability of the theory is attained. Because only what is taken to be a
small NP can enter into BVA based on FD, the correlation between (224a) and (224b) is expected with a given dependent term $\beta$, as pointed out in Hoji et al. 1999: sec.4.

(224) a. BVA($\alpha, \beta$) is not available with a QP identified as A-type$^{35}$

b. BVA($\alpha, \beta$) is not available in the reconstruction configuration as in

$$[\text{ip } [\text{np ... } \beta...]-\text{cm } \alpha-\text{nom v}]$$ (irrespective of the type of the 'antecedent' QP)

Falsifiability in fact lies in this correlation. If the correlation does not hold, the theory is falsified. For example, if a given dependent term $\beta$ enters into BVA with a QP identified as an A-type but does not exhibit reconstruction effects with any type of QP, the theory is falsified.

4.7.2. Distinction between A-type and B-type QPs

Following Ueyama (1998: ch. 3), I used the terms A-type and B-type QPs only as descriptive terms above. The distinction between them is not intended to be attributed to some lexical feature, such as [+/- A-type]. It is thus assumed that there are no fixed sets of A-type or B-type QPs in the lexicon. In this subsection, I would like to address the issue of how they can be distinguished. In order to identify the two types of QPs, however, we must first identify two types of dependency. I assume, following Ueyama 1998, that there are only two types of dependency: FD and co-I-indexation.$^{36}$ Then these two types of dependency can be identified by utilizing the two conditions in (225).

$^{35}$ See the following subsection for how to identify A-type and B-type QPs.

$^{36}$ Ueyama attempted to show their existence in BVA contexts, and the present chapter can be regarded as an attempt to demonstrate their existence in sloppy-reading contexts.
(225) Let \( \alpha \) and \( \beta \) be a pair of a QP and a non-D-indexed dependent term.

a. \( \alpha \) c-commands \( \beta \) at LF.

b. \( \alpha \) precedes \( \beta \) at PF.

\( \text{BVA}(\alpha, \beta) \) is based on co-I-indexation only if it obtains with (225b) satisfied and (225a) not satisfied. Then the QP \( \alpha \) is identified as a B-type QP. On the other hand, \( \text{BVA}(\alpha, \beta) \) is based on FD only if it obtains with (225a) satisfied and (225b) not satisfied. Then the QP \( \alpha \) is identified as an A-type QP.\(^{37,38}\)

One may wonder if BVA tests may not be usable as syntactic tests if the two types of QPs are identified this way and the distinction is not rigid. However, although there is some variation among speakers, there is a strong tendency as follows: \( \text{BVA}(\alpha, \beta) \) with a QP listed in (55b) as \( \alpha \) obtains with (225b) satisfied and with (225a) not satisfied, and \( \text{BVA}(\alpha, \beta) \) with a QP listed in (55a) as \( \alpha \) obtains with (225a) satisfied and with (225b) not satisfied.

(55) (=Ueyama 1998:ch.3 (12))

a. A-type QPs:

\[
\begin{align*}
\text{NP-sae} & \quad \text{'even NP'} \\
\text{kanarinokazu-no NP} & \quad \text{'most of the NPs'} \\
10 \text{ izyoo-no NP} & \quad \text{'ten or more NPs'} \\
55\% \text{-no NP} & \quad \text{'55% of the NPs'}
\end{align*}
\]

\(^{37}\) I am suppressing what Ueyama calls quirky binding. See Ueyama 1998: appendix D.

\(^{38}\) Note in this connection that nothing prevents B-type QPs from entering into BVA based on FD, although A-type QPs cannot enter into BVA based on co-I-indexation.
NP1 to NP2 (to) ‘NP1 and NP2’

NP1 ka NP2 (ka) ‘either NP1 or NP2’

b. B-type QPs:

do-no NP ‘which NP’

do-no NP-mo ‘every NP’

(subete-no NP ‘every NP’)

Since the distinction between A-type and B-type QPs are not rigid, as in the case of that between smallNPs and largeNPs, one may also wonder how falsifiability is attained in a theory involving two types of dependency that makes a crucial reference to the distinction between A-type and B-type QPs. Falsifiability can in fact be attained by investigating a correlation of judgments as follows.

(226) a. BVA(α, β) is not available if the trace of α is not in an A-position c-commanding β at LF.

b. BVA(α, β) is not available if the trace of α is in the local domain of β in the sense of Binding Condition B.39

The predicted correlation is that, for a given pair of α and β, if (226a) holds for a speaker, (226b) should also hold for the same speaker, and if (226a) does not hold for a speaker, (226b) should not hold for the same speaker either.

As seen in this and the previous subsections, the distinctions between largeNP and smallNP and between A-type and B-type QPs are not rigid distinctions. They are

39 See Hoji 2003a for some complications that are suppressed here.
determined distributionally. This may make one wonder if a theory involving these concepts can be falsifiable. In both cases, however, falsifiability can be attained by correlation of judgments; see Hoji 2003b for more extensive discussion on falsifiability and correlation of judgments.

4.7.3. The interpretation of the CR trace in the copied IP

The third issue is how the traces in the structure in (18) and (19), repeated here, are interpreted.

(18) 1st conjunct after CR at LF:

```
IP
  NP [IP
    |  A  t  I'
    VP  I
      NP  V
      ..soko...  FD (t, soko)
```

(19) 2nd conjunct after IP Copying:

```
IP
  NP [IP
    |  wh-phrase-CM  t  I'
    VP  I
      NP  V
      ..soko...  FD (t, soko)
```
Let us assume, with Ueyama's (1998: sec.5.1.2), that QR consists of the sub-operations in (227); cf. Heim & Kratzer 1998: ch. 7.

(227) (=Ueyama 1998: ch.5 (8), adapted)

Sub-operations of QR:

(i) dislocate an NP $\alpha$ (the semantic category of $\alpha$ being $<<e,t>,t>$),

(ii) adjoin the I-index of $\alpha$ to its c-commanding domain, and

(iii) leave a trace (whose semantic category is $e$) with the same I-index with $\alpha$.

(18) is then roughly represented as in (228).

(228) a. before QR: $[$IP A$_{1-1}$ [... soko ...] V$]$ FD (t, soko)

b. after QR: $[$IP A $[$ 1-1 $[$IP t$_{1-1}$ [... soko ...] V$]$]$ FD (t, soko)

If we also assume the mapping rules in (218), (229) and (230), the LF representation in (228b) is mapped to the Semantic Representation in (231c). The QR trace is bound by the $\lambda$-operator, which ensures the interpretation of the trace.

(218) (=Ueyama 1998: ch.5 (53))

Mapping rule of $\beta$ in FD($\alpha,\beta$):

NP $\Rightarrow$ $\textbf{SR}(\alpha)$ if the NP is $\beta$ in FD($\alpha,\beta$)

(229) (=Ueyama 1998: ch.5 (10))

$\text{t}_{1-n}$ (which is stranded by the sub-operation (ii) of QR [see (227-ii), TF])

$\Rightarrow \lambda v_{bn}$

(230) (=Ueyama 1998: ch.5 (11))

$\text{t}_{1-n} \Rightarrow v_{bn}$
In the foregoing discussion, I suggested that it is the IP in the box in (18) that gets copied into the second conjunct, as in (19), but this raises a question as to how the trace gets an interpretation in the second conjunct. Nothing ensures the connection between the remnant and the trace. In order to get the correct interpretation, the representation in (232) is needed.

(232) \[wh\text{-phrase-CM} \ (\lambda v_b [ \text{Verb} (v_b, [... v_b ...])])\]

This representation becomes available if we assume that the \(\lambda\)-predicate in (231c) is copied. That is, it may be the case that what gets copied is not an IP at LF, but a \(\lambda\)-predicate in Semantic Representation.

**4.7.4 Interpretation of the dependent term in the co-I-indexation-based sloppy reading**

The fourth issue is how the dependent term in a co-I-indexation-based sloppy reading, as in (87b), repeated here, is interpreted.
The following is how *soko* is interpreted in Ueyama's system.  *Soko*\textsubscript{1,3} turns into a free variable in Semantic Representation, and its interpretation will be obtained as in (233), where $\Sigma(v_{bn})$ and $K(A,B)$ means (234) and (235), respectively.\footnote{The proposal in (233)-(235) can be considered to be a slightly articulated version of Evans 1980.}

\begin{equation}
(233) \quad (=\text{Ueyama 1998: ch.5 (41)})
\end{equation}

Interpretation of a free variable:

$v_{fn}$ is understood to refer to the individual(s) that verify $K(\Sigma(v_{bn}), v_{fn})$ with respect to $v_{bn}$.
\( \Sigma(v_{bn}) = \text{the domain which includes } v_{bn} \text{ and the operator which binds it} \)

\( \Omega(A,B) = \text{the biggest domain (i) whose semantic category is } t \text{ and (ii) which dominates } A \text{ but not } B. \)

In the case of (24), repeated here, Toyota in the first conjunct is raised within the relative clause that contains it, and the structure in (236a) results. Likewise, in the second conjunct, after the copying of an IP from the first conjunct, \([\text{hoka-no dono zidoosya gaisya}] \) 'which other automobile company' is raised within the relative clause that contains it, and the structure in (236b) obtains.

(24) \[ \text{Toyota-o} \text{ tantoo siteiru soosain]-ga} \]

\[ \text{--ACC is:in:charge:of investigator-NOM} \]

\[ \text{[NP naganen soko} \text{to torihiki-ga aru buhin meekaa]-o} \]

\[ \text{long:year that:place-with business-NOM have parts maker-ACC} \]

\[ \text{sirabeteita no]-wa oboeteiru] \text{ ga,} \]

\[ \text{was:investigating that TOP remember but} \]

\[ \text{[IP [CP [NP [NP hoka-no dono zidoosya gaisya]-o} \]

\[ \text{other-GEN which automobile company-ACC} \]

\[ \text{tantoo siteita soosain]-ga ka]-wa oboeteinai].} \]

\[ \text{charge is:taking investigator-NOM Q TOP remember:not} \]

'(lit.) I remember that the investigator who is in charge of Toyota is investigating the parts supplier which has been doing business with soko
(that place/it) for a long time, but I don't remember [the investigator who is
in charge of which other automobile company].'

(236) a. \[IP [NP [IP Toyota\-ACC I-3 [IP pro t_{1-3} is:in:charge:of]] investigator]-NOM_{1-2}
[IP t_{1-2} [NP [IP ... sokoI-3-with is:doing:business] parts:supplier]-ACC
was:investigating]]

'... the investigator who is in charge of Toyota_3 is investigating the parts
supplier which has been doing business with it_3 for a long time'

b. \[IP [NP [IP which:other automobile:company-ACC I-3
[IP pro t_{1-3} is:in:charge:of]] investigator]-NOM_{1-2}
[IP t_{1-2} [NP [IP ... sokoI-3-with is:doing:business] parts:supplier]-ACC
was:investigating]]

'(lit.)... the investigator who is in charge of [which other automobile
company]_3 is investigating the parts supplier which has been doing business
with it_3 for a long time'

With the mapping rules in (237), the relative clauses of (236) are mapped to the
semantic representations in (238), where pro refers to "the investigator."

(237) (=Ueyama 1998: ch. 5(26), slightly modified)

Mapping rules of an I-indexed NP whose semantic category is e:

\begin{enumerate}
\item If it is a (QR) trace, \(NP_{t-n} \Rightarrow \nu_{bn}\)
\item Otherwise, \(NP_{t-n} \Rightarrow \nu_{fn}\)
\end{enumerate}

(238) a. \(\ldots\)Toyota \(\nu_{b3}\) (pro is in charge of \(\nu_{b3}\))

b. \(\ldots\) [which other automobile company] \(\lambda \nu_{b3}\) (pro is in charge of \(\nu_{b3}\))
Then, (234) gives the following domains for the bound variable $v_{b3}$ in (238a-b).

(239) a. $\Sigma(v_{b3}) = \lambda v_{b3} \ (pro \ is \ in \ charge \ of \ v_{b3})$

b. $\Sigma(v_{b3}) = \lambda v_{b3} \ (pro \ is \ in \ charge \ of \ v_{b3})$

(235) gives the following domains.

(240) a. $K(\Sigma(v_{b3}), v_{f3}) = \{\text{Toyota}_{I-3} [pro (=\text{the investigator}) \ is \ in \ charge \ of \ t_{I-3}]\}$

b. $K(\Sigma(v_{b3}), v_{f3}) = \{\text{which other automobile company}_I \cdot 3 [pro (=\text{the investigator}) \ is \ in \ charge \ of \ t_{I-3}]\}$

Then from (233) the referent of the free variable will be determined as follows.

(241) a. the individual that verifies "$\{\text{Toyota}_{I-3} [pro (=\text{the investigator}) \ is \ in \ charge \ of \ t_{I-3}]\"$

b. the individual that verifies "$\{\text{which other automobile company}_I \cdot 3 [pro (=\text{the investigator}) \ is \ in \ charge \ of \ t_{I-3}]\"

In the first conjunct, the referent of $soko \ 'that \ place'$ is the individual that verifies "the investigator is in charge of Toyota", and thus it is understood to be the same as that of $Toyota$. Likewise, in the second conjunct, the referent of $soko \ 'that \ place'$ is the individual that verifies "which other automobile company the investigator is in charge of," and it is understood to be the same as that of $[hoka-no \ dono \ zidoosya \ gaisya]$ 'which other automobile company'.


4.8. Summary

In this chapter, I have investigated the sloppy identity reading in Japanese sluicing. Drawing on Ueyama's (1998) theory of anaphoric relations, I have demonstrated that there are two bases for the sloppy reading in cm contrast sluicing. I have also shown that the analysis of the cm contrast sluicing given in chapter 2 can account for the availability of the sloppy reading in Japanese sluicing. I have then shown that the sloppy reading is more freely available in non-cm contrast sluicing than in cm contrast sluicing and claimed that the wider availability of the sloppy reading in non-cm contrast sluicing can be accounted for if we assume that the non-cm sluicing can be represented as a copula structure with a null pronominal situated in the subject position, which can refer to a property available in the discourse. Finally, I discussed the peculiarities of cm regular sluicing and claimed that the peculiarities can be accounted for if we assume that it has a multiple-remnant structure with phonetically null pro being one of the remnants.
Chapter 5
The Sloppy Reading in Stripping in Japanese

5.1. Introduction

In chapter 4, I investigated the availability of the sloppy reading in Japanese sluicing and demonstrated that the hypothesis in (1) can account for the distribution of the availability of the sloppy reading in cm contrast sluicing in Japanese.¹

(1) (=chapter 4 (80))

The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (co-I-indexation-based sloppy reading)

In this chapter, I will turn to stripping in Japanese and show (i) that the hypothesis in (1) captures the distribution of the sloppy reading in cm stripping as well, (ii) that the

¹ Following the terminology in chapter 4, I will refer to the NP that is intended to act as the "sloppy pronoun" (e.g., soko 'that place') as the dependent term, and to the NP that the dependent term is supposed to co-vary with as the antecedent in the following discussion. In tree diagrams and tables below, the antecedent is represented as "A," and the dependent term is represented as "B," when the choice of a specific lexical item is not at issue.
non-cm stripping exhibits wider availability of the sloppy reading than cm stripping, just as in the case of non-cm contrast sluicing, and (iii) that the analysis of the cm and non-cm sluicing in Japanese adopted in chapter 2 can capture the facts regarding the sloppy reading in Japanese stripping as well. I will thus provide further evidence for the position taken in Hoji & Li 1994 and Fukaya & Hoji 1999 that sluicing and stripping are two different manifestations of the same syntactic phenomenon in Japanese.

As in the case of cm contrast sluicing, we can exhaust the possibilities of relations between the antecedent (A) and the dependent term (B) and of the nature of the dependent term from the following three perspectives.

(2)  

a. Whether or not A c-commands B at LF.

b. Whether or not A precedes B at PF.

c. Whether B is a non-D-indexed small NP, a non-D-indexed large NP, or a D-indexed NP.

Then the following chart exhausts the combinations of the three factors in (2), what is predicted to be unavailable and what is expected to be available under the current proposal in regard to the availability of the sloppy reading.
Table 14: Negative predictions and positive expectations regarding the availability of the sloppy reading in cm stripping

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small SO- a-</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>large SO- *</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>no</td>
<td>small SO- a-</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>yes</td>
<td>large SO- a-</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>yes</td>
<td>small SO- a-</td>
</tr>
<tr>
<td>f.</td>
<td>no</td>
<td>yes</td>
<td>large SO- a-</td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>yes</td>
<td>small SO- a-</td>
</tr>
<tr>
<td>h.</td>
<td>no</td>
<td>yes</td>
<td>large SO- a-</td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>yes</td>
<td>small SO- a-</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>yes</td>
<td>large SO- a-</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>yes</td>
<td>small SO- a-</td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>yes</td>
<td>large SO- a-</td>
</tr>
</tbody>
</table>

With the hypothesis in (1), the sloppy reading is expected to obtain in (3a), (3b), (3g), (3h), and (3j), and it is predicted to be unavailable in (3c), (3d), (3e), (3f), (3i), (3k), and (3l), as indicated in the table.\(^2\) Note again that, since our hypothesis is that there is no other formal basis for the sloppy reading in the case of cm stripping than those in (1), the falsifiability of the hypothesis lies in the negative predictions it makes as in (3c), (3d), (3f), (3i), and (3l). If there is one instance where the sloppy reading is available under the conditions specified there, then our hypothesis will be in principle falsified.\(^3\) On the other hand, our hypothesis is not falsified even if the sloppy reading

---

\(^2\) As in the case of sluicing, coreference does not obtain between the intended antecedent and the intended dependent term in the first conjunct in the case of (3e) and (3k). Thus, the availability of the sloppy reading cannot be tested in these cases.

\(^3\) As I will discuss in section 5.2.2.1, there is a structure available for some cases of cm stripping which gives rise to what appears to be the sloppy reading. I will claim that the sloppy reading arises analogously to non-cm stripping, and thus such cases do not exhibit the properties predicted by our
is not available in cases where it is expected to obtain as in (3a), (3b), (3g), (3h), and (3j), because what our hypothesis expects is that the sloppy reading is not impossible in those cases and there can be some pragmatic factors involved that make the sloppy reading difficult to obtain.

In chapter 4 we observed that cm regular sluicing exhibits peculiar properties that do not fit in the distributional pattern of the availability of the sloppy reading in cm contrast sluicing. This type of sluicing gives rise to the sloppy reading even if the dependent term is a D-indexed NP. I will investigate a type of stripping that has a structure parallel to that of cm regular sluicing and show that sluicing and stripping behave in the same manner in this regard as well.

In section 5.2 I will verify the positive and negative predictions summarized in (3). In the subsection on the negative predictions, I will observe that we encounter a problem with respect to the availability of the sloppy reading in cases with an a-word as the dependent term, as in the case of cm contrast sluicing. I will then demonstrate that the problem will be overcome by the analysis proposed for cm contrast sluicing and that the negative predictions regarding the availability of the sloppy reading are in fact borne out. In section 5.3, I will investigate the properties of non-case-marked stripping and show that the sloppy reading is available even in cases where its cm counterparts do not give rise to it, as in the case of contrast sluicing. In section 5.4, I will examine a type of stripping that has a structure parallel to that of cm regular hypothesis.
sluicing investigated in chapter 4. Section 5.5 discusses some outstanding issues, and section 5.6 summarizes the chapter.

### 5.2. Cm stripping

#### 5.2.1. The positive predictions

##### 5.2.1.1. C-command and precedence

Let us begin with (3a): the antecedent both c-commands and precedes the dependent term in the first conjunct, and the dependent term is a small *so*-word, as schematically illustrated in (4).

(4)  a. 1st conjunct:

Consider (5) and (6).

---

4. Mo 'also' cannot appear with a nominative marker, as indicated in (iB) and (iB').

(i)  A: John-ga kita.
     nom came
     'John came.'
     B: *Mary-ga-mo da yo.
     -nom-also cop
     '(It's) Mary.'
     B': *Mary-ga mo kita.
        -nom-also came
     B'': Mary-mo da yo.
        also cop
     '(It's) Mary.'

Since having the case-marker is crucial in our discussion, I avoid cases of a remnant with the
In (5), not only the strict reading in (7b) but also the sloppy reading in (7a) arises.
(7)  a. Representative Tanaka introduced to Nissan a student who wants to join Nissan.

   b. Representative Tanaka introduced to Nissan a student who wants to join Toyota.

Likewise, (6) gives rise to the sloppy reading in (8a), along with a rather unnatural strict reading in (8b).

(8)  a. The plaintiff firmly believes Nissan to be as guilty as the supplier that had been supplying Nissan with defective parts for a long time

   b. The plaintiff firmly believes Nissan to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time

Hence, the positive expectation in (3a) is confirmed.

Let us see how the sloppy reading arises in cm stripping in our system. Take (5) for example. The first conjunct has the structure in (9a) before Spell-Out. At LF the correlate *Toyota-ni 'Toyota-DAT' raises and adjoins to an IP, as illustrated in (9b). At this point, FD(t, *soko*) can be established because the conditions in (10) are met.

(9)  a. 1st conjunct before Spell-Out:

```
          IP
         /    \
Rep. T-NOM   I'
         /   \
VP       I
         /   \Toyota-DAT V'
         |   
         NP V
         |     ...
         soko... introduced
```
b. 1\textsuperscript{st} conjunct after CR:

\[
\begin{array}{c}
\text{IP} \\
\text{Toyota-DAT} \quad \text{IP} \\
\text{Rep. T-NOM} \quad \text{I'} \\
\text{VP} \quad \text{I} \\
\text{t} \quad \text{V'} \\
\text{NP} \quad \text{V} \\
...soko... \text{ introduced} \quad \text{FD}(t, \text{soko})
\end{array}
\]

(10) (= Ueyama (1998:ch.3 (65))

a. Structural condition on FD:

*FD(\alpha,\beta) if \alpha does not c-command \beta at LF.

b. Lexical condition on FD:

*FD(\alpha,\beta) if \beta is a large NP.

The second conjunct is base-generated as in (11a). Then, the IP in the box in (9), along with FD(t, soko), is copied onto the empty IP in (11a), yielding the structure in (11b).
(11) a. 2nd conjunct before LF:

```
(12) a. 2nd conjunct before LF:

```

b. 2nd conjunct after IP Copying:

```
(12) b. 2nd conjunct after IP Copying:

```

The IP in the box with the FD is eventually translated into the \( \lambda \)-predicate \( \lambda x \) (Representative Tanaka introduced to x a student who wants to join x) at Semantics, yielding the sloppy reading. See section 4.7.3. of chapter 4.
The strict reading, on the other hand, obtains through co-I-indexation. Let us see how the reading arises, using the schematic representation in (12). I assume that the relevant NPs can enter into a Numeration with the I-indices, as indicated below.

(12) A: \([\text{IP} \ldots [\text{CORRELATE}_{I-3} [\ldots \text{so-word}_{I-3} \ldots] \text{V}]]\)

B: \(\text{REMNANT}_{I-4}\)-also \(\text{COP}\).

(12A) looks like (13A) after LF CR. The resulting lower IP is copied into the second sentence, and (12B) looks like (13B) at LF.

(13) A: \([\text{IP} \text{CORRELATE}_{I-3} [\text{IP} \ldots [t [\ldots \text{so-word}_{I-3} \ldots] \text{V}]]]\)

B: \(\text{REMNANT}_{I-4}\)-also \([\text{IP} \ldots [t [\ldots \text{so-word}_{I-3} \ldots] \text{V}]] \text{COP}\).

The \textit{so-word} in (13B) seeks an NP which has the same I-index in the preceding context. If the correlate also has the I-index \(I-3\) as indicated above, then the \textit{so-word} in the second utterance takes as its referent the same referent as the correlate, and the strict reading arises. To see how exactly an I-indexed \textit{so-word} is interpreted in Ueyama's system, see section 4.7.4 of chapter 4.

5.2.1.2. Precedence but no c-command

Let us now turn to (3g). This is a case where the antecedent does not c-command but precedes the dependent term, and the dependent term is a \textit{small} \textit{so-word}, as schematically illustrated in (14).

(14) a. 1st conjunct:

```
  \[\ldots A \ldots\]
  \[\ldots \text{soko} \ldots\]
```
Consider (15) and (16).


that:place-GEN personnel manager -ACC introduced

'Representative Tanaka introduced to a student who wants to join Toyota that place's personnel manager.'

B: [Nissan-ni hairitagatteiru gakusei]-ni mo da.

-DAT want:to:join student -DAT-also COP

'To a student who wants to join Nissan as well.'


'The plaintiff firmly believes the employee who was in charge of quality control at Toyota to be as guilty as the supplier that supplied defective parts to Toyota for a long time'

B: [Nissan-de hinsitukanri-o tantoo siteita syain]-o mo da.

-at quality:control-ACC in:charge:of employee-ACC also COP

'The employee who was in charge of quality control at Nissan as well.'
(15B) gives rise to the sloppy reading in (17a) as well as the strict reading in (17b).

(17)  
\begin{enumerate}
    \item Representative Tanaka introduced to a student who wants to join Nissan Nissan's personnel manager.
    \item Representative Tanaka introduced to a student who wants to join Nissan Toyota's personnel manager.
\end{enumerate}

(16B) yields the sloppy reading in (18a) in addition to the pragmatically odd strict reading in (18b).

(18)  
\begin{enumerate}
    \item The plaintiff firmly believes the employee who was in charge of quality control at Nissan to be as guilty as the supplier that supplied defective parts to Nissan for a long time'
    \item The plaintiff firmly believes the employee who was in charge of quality control at Nissan to be as guilty as the supplier that supplied defective parts to Toyota for a long time'
\end{enumerate}

Thus, the positive expectation in (3g) is confirmed.

Let us see how the sloppy reading is yielded in cases where the antecedent does not c-command the dependent term. Take (15B) for example. The first conjunct has the structure given in (19) at Spell-Out. Assuming that both Toyota and soko 'that place/it' have the I-index I-3 in the numeration, then ID(Toyota, soko) is established as soon as they are merged into the structure, according to Ueyama's theory. This structure with ID(Toyota, soko) feeds into PF, and since the condition in (20), repeated below, is met, the derivation does not crash.
(19) 1st conjunct at Spell-Out:

```
IP
   \--- Rep. T-NOM \--- I'
       \--- VP \--- I
           \--- NP \--- V'
               \--- ...Toyota_{1,3}-DAT... NP \--- V
                   \--- ...soko_{1,3...} introduced \--- ID(Toyota, soko)
```

(20) (= Ueyama's (1998:ch.3 (66))

Structural condition on ID:

a. *ID(α,β) if α does not precede β at PF.

b. Lexical condition on ID:

*ID(α,β) if α is an A-type QP.

On the LF side, the correlate [Toyota-ni hairitagatteiru gakusei]-ni 'a student who wants to join Toyota' in the first conjunct raises and adjoins to an IP, as illustrated in (21).
The second conjunct has the structure in (22a). Then, the IP in the box in (21) is copied onto the empty IP in (22a), yielding the structure in (22b).

(22) a. 2\textsuperscript{nd} conjunct at Spell-Out:
b. 2\textsuperscript{nd} conjunct after IP Copying:

\begin{center}
\begin{tikzpicture}
  \node (ip) {IP};
  \node (vp) [below of=ip] {VP};
  \node (vp') [below of=vp] {VP'};
  \node (vp''') [below of=vp'] {VP'''};
  \node (vp''') [below of=vp'''] {VP'''};
  \node (np) [left of=ip] {NP};
  \node (i) [right of=ip] {I};
  \node (i') [right of=i] {I'};
  \node (i''') [right of=i'] {I'''};
  \node (i''') [right of=i'''] {I''''};
  \node (v) [below of=vp] {V};
  \node (v') [below of=vp'] {V'};
  \node (v''') [below of=vp'] {V'''};
  \node (v''') [below of=vp'''] {V'''};
  \node (v''') [below of=vp'''] {V'''};
  \node (cp) [right of=np] {Copula};
  \node (cp') [below of=cp] {Rep.T-NOM};
  \node (cp'') [below of=cp'] {I'};
  \node (cp''') [below of=cp''] {...Nissan\textsubscript{1,3}-DAT...};
  \node (cp''') [below of=cp'''] {...soko\textsubscript{1,3}... introduced};
  \node (cp''') [below of=cp'''] {...};
  \node (cp''') [below of=cp'''] {...}
\end{tikzpicture}
\end{center}

*Soko\textsubscript{1,3}* seeks an NP which has the same I-index in the preceding context. If *Nissan-ni\textsubscript{1,3} 'Nissan-DAT'* also has the I-index I-3 in the numeration, *soko\textsubscript{1,3}* takes as its referent the same referent as *Nissan-ni*.\textsuperscript{5}

The schematic representations in (23) are what is obtained after the derivation above. (23A) indicates the first conjunct after CR, and (23B), the second conjuncts after IP Copying.

(23)  
A: \([\text{IP} \ [\text{NP} \ ... \ \text{CORRELATE}_{1,3} \ ... \ ]] \ [\text{IP} \ ... \ [\ t \ [\ ... \ \text{so-word}_{1,3} \ ... \ ] \ V \ ]]\]

B: \text{REMNANT}_{1,3} \text{-also} \ [\text{IP} \ [\ t \ [\ ... \ \text{so-word}_{1,3} \ ... \ ] \ V \ ]\] \text{COP}.

---

\textsuperscript{5} See section 4.7.4 of chapter 4 to see how exactly *soko* is interpreted in Ueyama's system.
Note that the correlate in the first sentence has the same I-index as the so-word in the second sentence. If the so-word takes the referent of the correlate as its referent, instead of the referent of the remnant, then the strict reading arises.

5.2.1.3. C-command but no precedence

Let us turn to (3j). In this case, the antecedent c-commands the dependent term at LF, but the former does not precede the latter at PF, and the dependent term is a small so-word, as schematized in (24).

(24) a. 1st conjunct:

```
NP
   ...
   ...
...soko...
```

A
   ...
   ...

\(\ldots t_{NP}\ldots\)

This configuration can be obtained if we utilize Surface OS-type in Ueyama's term. Consider (25) and (26), which are scrambling versions of (5) and (6), respectively.

(25) A: [soko-ni hairitagatteiru gakusei]-o [Tanaka giin]-wa

that:place-DAT want:to:join student-ACC Tanaka representative-TOP

Toyota-ni syookaisita.

-DAT introduced

'Representative Tanaka introduced to Toyota a student who wants to join it.'

B: Nissan-ni-mo da.

-DAT-also COP

'Nissan as well.'
(26) (Cf. (6).)

A: [:naganen soko-ni kekkan buhin-o noonyuu siteita gyoosya]-to long:years that:place-to defective parts-ACC supplying supplier-with doozai da to] genkoku-wa Toyota(-no-koto)-o omoikondeiru equally:guilty COP that plaintiff-TOP -ACC firmly:believe

'(lit.) To be as guilty as the supplier that had been supplying Toyota with defective parts for a long time, the plaintiff firmly believes Toyota.'

B: Nissan-o mo da

-ACC also COP

'Nissan as well.'

In (25) and (26), the dependent term appears before the antecedent, but the sloppy readings in (27) and (28) are available.

(27) Representative Tanaka introduced to Nissan a student who wants to join Nissan.

(28) The plaintiff firmly believes Nissan to be as guilty as the supplier that had been supplying Nissan with defective parts for a long time.

Hence, the positive expectation in (3j) is confirmed.

According to Ueyama's analysis of the so-called scrambling, which I summarized in chapter 1, the first conjunct in (25) and (26) can be an instance of the surface OS type. (25A), for example, can have the structure in (29) after PF movement.
(29) 1st conjunct at PF after PF movement:

```
            IP
           /\  
          NP IP
         /\   /
        NP I'
       /  
      Rep. T- TOP VP I
      /  
     Toyota-DAT V'
     /    
    t V    introduced
```

The sentence-initial NP in (25A) can be moved to that position at PF, as indicated in (29). Since this movement takes place at PF after Spell-Out, the NP is situated in the position occupied by the trace in the tree diagram at LF, where the dependent term within the NP is c-commanded by its antecedent; see (30).

(30) 1st conjunct at LF before CR:

```
            IP
           /\  
          NP I'
         /  
      Rep. T- TOP VP I
      /  
     Toyota-DAT V'
     /    
    NP V    introduced
   /      
  ...soko... introduced
```

Under our analysis, CR applies to this structure, raising the antecedent NP and adjoins it to the matrix IP. With the relevant FD established, the structure in (31) results.
Then the IP in the box is copied onto the empty IP in the second conjunct, and the structure (32) obtains. Since there are parallel FD relations in the first and the second conjuncts the sloppy reading is expected to be available.

(32) 2\textsuperscript{nd} conjunct after IP Copying:
The strict reading arises through co-I-indexation, just as in the cases we have seen in section 5.2.1.1.

**5.2.1.4. large NP as the dependent term**

Let us turn to the other positive expectations summarized in (3). (3b) and (3h) indicate that the sloppy reading continues to be available even if the small so-word (soko 'that place') is replaced by a large so-word (e.g., sono zidoosya gaisya 'that automobile company'). (33) and (34) are distinct from (5) and (6), respectively, only in the choice of the dependent term. The former has a large NP, and the latter has a small NP, as the dependent term.

(33) A: [Tanaka giin]-wa Toyota-ni

Tanaka representative-TOP -DAT

[[sono zidoosya gaisya]-ni hairitagatteiru gakusei]-o syookaisita.

that:automobile company-DAT want:to:join student-ACC introduced

'Representative Tanaka introduced to Toyota a student who wants to join that automobile company.'

B: Nissan-ni-mo da.

-DAT-also COP

'Nissan as well.'

(34) A: genkoku-wa Toyota-o [naganen [so-no zidoosya gaisya]-ni

plaintiff-TOP -ACC long:years that-GEN auto company -to
The plaintiff firmly believes Toyota to be as guilty as the supplier that had been supplying that automobile company with defective parts for a long time.'

B: Nissan-o-mo da.

-NACC also COP

'Nissan as well.'

The B utterances in (33) and (34) give rise to the sloppy reading in (35a) and (35b), respectively, and hence the positive expectation in (3b) is confirmed.

(35) a. Representative Tanaka introduced to Nissan a student who wants to join Nissan.

b. The plaintiff firmly believes Nissan to be as guilty as the parts supplier that supplied Nissan with defective parts for a long time.

Let us turn to the positive expectation in (3h). This is a case where the antecedent precedes, but does not c-command, the dependent term and where the dependent term is a \( \text{large} \) \text{so-word}. (36) and (37) differ from (15) and (16) only in the choice of the dependent term: the former has a \( \text{large} \) \text{so-word} while the latter has a \( \text{small} \) \text{so-word}. 
A: Tanaka representative-

[Tanaka Giin]-wa [Toyota-ni hairitagatteiru gakusei]-ni

want:to:join student DAT

[[sono zidoosyagaisya]-no zinzibutyoo]-o syookaisita.

that:place-GEN personnel manager ACC visit introduced

'The personnel manager of Toyota was introduced to a student who wants to join Toyota that automobile company's personnel manager.'

B: [Nissan-ni hairitagatteiru gakusei]-ni mo da.

-DAT want:to:join student -DAT also COP

'To a student who wants to join Nissan as well.'

A: genkoku-ga [Toyota-de hinsitukanri-o tantoo siteita syain]-o

plaintiff-NOM at quality:control-ACC in:charge:of employee-ACC

[naganen [so-no zidoosya gaisya]-ni kekkan buhin-o noonyuu siteita

long:year that-GEN auto company-to defective parts-ACC supplied

gyoosya]-to doozai da to omoikondeiru

supplier-with equally:guilty COP that firmly:believe

'The plaintiff firmly believes the employee who was in charge of quality control at Toyota to be as guilty as the supplier that had supplied defective parts to that company for a long time.'

B: [Nissan-de hinsitukanri-o tantoo siteita syain]-o-mo da.

-at quality:control-ACC in:charge:of employee-ACC also COP

'The employee who was in charge of quality control at Nissan as well.'

(36) and (37) yield the sloppy readings in (38a) and (38b), respectively.
(38)  a. Representative Tanaka introduced to a student who wants to join Nissan
Nissan's personnel manager.

b. The plaintiff firmly believes the employee who was in charge of quality
control at Nissan to be as guilty as the supplier who had supplied defective
parts to Nissan for a long time.

The availability of the sloppy reading in (33), (34), (36) and (37) confirms the positive
expectations in (3b) and (3h). From what we have seen in sections 5.2.1, we can
conclude that the sloppy reading is possible, regardless of whether the dependent term
is a \text{large} NP or a \text{small} NP, if the antecedent c-commands and/or precedes the dependent
term.

\textbf{5.2.2. Negative predictions}

\textbf{5.2.2.1. A-words as the dependent term}

Let us now turn to the negative predictions, summarized in (3), with respect to the
lexical property of the dependent term, i.e., cases where the dependent term is an
\textit{a}-word.

Given that \textit{a}-words are D-indexed and cannot enter into BVA as the dependent
term, we predict (39) under the hypotheses in (1) and (40).

(39)  The sloppy reading is unavailable if an \textit{a}-word is used as the intended
dependent term.
(1) (=chapter 4 (80))

The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (co-I-indexation-based sloppy reading)

(40) Cm stripping is an instance of surface anaphora.

Let us now examine if the prediction in (39) is borne out.

5.2.2.1.1. Predictions disconfirmed

Consider first the a-word counterpart of (5).\(^6\)

(41) (Cf. (5).)

A: [Tanaka giin]-wa Toyota-ni

Tanaka representative-TOP -DAT

[asoko-ni hairitagatteiru gakusei]-o syookaisita.

that:place-DAT want:to:join student-ACC introduced

'Representative Tanaka introduced to Toyota a student who wants to join it.'

\(^6\) I would like to thank Maki Irie, whose informal survey (in the spring of 2006) of the acceptability of the examples like (41) got me to start looking into this issue more closely.
Contrary to our prediction given in (3c), the sloppy reading seems to continue to be available for many speakers.

Consider also the \( a \)-word version of (15) in (42).

\[(42)\quad \text{A: } [\text{Tanaka Giin}-\text{wa} \ [\text{Toyota-ni hairitagatteiru gakusei}]\text{-ni} \]
\[\quad \begin{array}{ll}
\text{Tanaka representative-TOP} & \text{-DAT want:to:join student -DAT} \\
[\text{asoko-no zinzibyoo}]\text{-o} & \text{syookaisita.} \\
\text{that:place-GEN personnel manager -ACC introduced} \\
\text{'Representative Tanaka introduced a student who wants to join Toyota that place's personnel manager.'} \\
\end{array}
\]

\text{B: } [\text{Nissan-ni hairitagatteiru gakusei}]\text{-ni mo da.} \\
\text{-DAT want:to:join student -DAT-also COP} \\
\text{'To a student who wants to join Nissan as well.'}

The sloppy reading is predicted to be unavailable in our theory, as indicated in (3i), but speakers seem to find the sloppy reading available in this case, too.

Let us consider the \( a \)-version of (25).

\[(43)\quad \text{A: } [\text{asoko-ni hairitagatteiru gakusei}]\text{o} [\text{Tanaka giin}-\text{wa} \\
\quad \begin{array}{ll}
\text{that:place-DAT want:to:join student-ACC} & \text{Tanaka representative-TOP} \\
\text{Toyota-ni} & \text{syookaisita.} \\
\text{-DAT introduced} \\
\end{array}
\]
'Representative Tanaka introduced to Toyota a student who wants to join it.'

B: Nissan-ni-mo da.

-DAT-also COP

'Nissan as well.'

Again, the sloppy reading is predicted to be unavailable in our theory, but it appears to obtain in this case, too.

In chapter 4, we saw that the availability of the copula structure gives rise to the sloppy-like reading in some cases of cm sluicing. In what follows, I will argue that the same holds of cm stripping as well and demonstrate that with a closer examination of empirical materials, the negative predictions made by our hypothesis are indeed borne out.

5.2.2.1.2. The copula analysis of cm stripping

As in the case of cm sluicing, I would like to suggest that the sloppy readings in the above examples arise from the possibility of cm stripping having the structure in (44a), an overt version of which is given in (44b).

(44) a. [pro NP-cm mo da]

also COP

b. [sore-wa NP-cm mo da]

that-TOP also COP

'that is (true of) NP as well.'

The pro in (44a) refers to a property available in the discourse, and (44a) can mean something like "such a property holds of NP." Thus, I maintain that the "sloppy
reading" observed in this case is not the genuine sloppy reading based on FD or co-I-indexation. I suggest that the second utterance in (41), for example, can be analyzed as (45).⁷

(45) pro Nissan-ni-mó da.

-\textsc{dat}-\textsc{also}\ COP

'(That's) Nissan as well.'

Then the pro refers to the property of being a company such that Representative Tanaka introduced to it a student who wanted to join it, and the stripping example can mean such a property holds of Nissan as well.

In the next two subsections, I will examine the following two types of cases: (i) cases in which the copula analysis as in (44a) seems untenable, and (ii) cases with a more stringent type of sloppy reading, which the copula analysis does not seem to be able to give rise to. As in the case of cm sluicing, the first set of data involves case-markers other than the dative, and the second set involves mix readings. I will then show that the negative predictions made by our hypothesis are in fact borne out, just as in the case of cm contrast sluicing.

⁷ One may wonder how the case-marker on the remnant in (45) is to be licensed. I would like to point out that some stripping instances do not even require a linguistic antecedent, as in (i); cf. Hankamer & Sag 1976).

(i) [In a restaurant. Asking a waiter who brought some beers to bring beer to your table.]  
Sumimasen, kono teeburu-ni mo.  
Excuse:me this table-to also  
'Excuse me. To this table, too.'

Case-markers that have an illocutionary force can thus be licensed without being associated with a position in the \(\text{\textsc{de}}\)-domain of a verb. The ni-marker in (i) and (45) is one of such case-markers. In the following subsections, I will focus on cases where such licensing is highly marginal.
5.2.2.1.3. Cases where the copula structure is marginal

As in the case of cm sluicing, the overt option in (44b) does not seem to be available with some types of case-markers. For example, it seems to be marginal in the case of the accusative marker. Compare (46) with (47).

(46) A: John-wa Mary-o sonkeisiteiru.
       -TOP   -ACC admire

'John admires Mary.'

B: Susan-o mo da yo.
       -ACC also COP

'Susan as well.'

B': *sore-wa Susan-o mo da yo
       that-TOP -ACC also COP

'(lit.)That's Susan as well.'

(47) A: Demotai-wa Nyuu Yooku-ni osikaketa
       demonstrators-TOP New York-to thronged

'The demonstrators thronged to New York.'

B: Wasinton-ni mo da yo.
       Washington-to also COP

'To Washington as well.'

B': sore-wa Wasinton-ni mo da yo
       that-TOP Washington-to also COP

'(lit.)That's to Washington D.C. as well.'
The copula structure with overt *sore* subject is marginal in the case of the accusative marker as in (46), while it is acceptable in the case of the postposition *ni* ‘to’ as in (47). Note also that the copula structure with overt *sore* subject is marginal with the dative marker in the ergative construction, as indicated in (48).8

(48) (based on Hoji 1990: ch.5 (177))

A: Smith san-ni-wa nihongo-ga dekimasu yo

Mr. Smith-DAT(-TOP) Japanese-NOM is:capable:of

'Mr. Smith can speak Japanese.'

B: Musuko san-ni-mo desu (yo)

son-DAT-also is

'His son, too.'

B’: ?*sore-wa musuko san-ni-mo desu (yo)

that-TOP son -DAT-also be

Assuming that the covert element behaves in a parallel fashion to its overt counterpart, we hypothesize that the copula analysis with the *pro* subject is also marginal with the accusative case-marker and the dative case-marker in the ergative construction. Given this and the hypothesis that the *pro* subject is the source of the sloppy-like reading in the copula structure, it is predicted that the sloppy reading is marginal in cm stripping with an *a*-word as the dependent term, if the remnant is marked with the accusative marker or the dative marker in the case of ergative construction. In the

8 I am grateful to Hajime Hoji (p.c. May 2006) for bringing this case to my attention.
following discussion, I will focus on the accusative marker because judgments seem clearer to me with the accusative marker.

First, consider the a-word version of (6), given in (49), which has a remnant with the accusative case-marker.

(49) A: genkoku-wa Toyota-o [naganen asoko-ni kekkan buhin-o
plaintiff-TOP -ACC long:years that:place-to defective parts-ACC
noonyuu siteita gyoosya]-to doozai da to omoikondeiru
supplying supplier-with equally:guilty COP that believe:firmly
'The plaintiff firmly believe Toyota to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time.'

B: Nissan-o mo da

-ACC also COP

'Nissan as well.'

In this case, the sloppy reading in (8a) is hard to obtain, as predicted.

(8) a. The plaintiff firmly believes Nissan to be as guilty as the supplier that had been supplying Nissan with defective parts for a long time

Next, let us consider (50), the a-word counterpart of (16). Notice that the remnant is marked with the accusative case. Notice also that the antecedent precedes the intended dependent term at PF, but the former does not c-command the latter at LF.

(50) A: genkoku-ga [Toyota-de hinsitukanri-o tantoo siteita syain]-o
plaintiff-NOM -at quality:control-ACC in:charge:of employee-ACC
The plaintiff firmly believes the employee who was in charge of quality control at Toyota to be as guilty as the supplier that supplied defective parts to Toyota for a long time."

B: [Nissan-de hinsitukanri-o tantoo siteita syain]-o mo da.

'The employee who was in charge of quality control at Nissan as well.'

(50) gives rise to the strict reading in (51b), but the sloppy reading in (51a) is hard to obtain, as predicted.

(51) a. The plaintiff firmly believes the employee who was in charge of quality control at Nissan to be as guilty as the supplier that supplied defective parts to Nissan for a long time.

b. The plaintiff firmly believes the employee who was in charge of quality control at Nissan to be as guilty as the supplier that supplied defective parts to Toyota for a long time.

Now let us turn to (52), the a-word counterpart of (26). In this case, the antecedent c-commands the dependent term at LF, but the former does not precede the latter at PF. Recall that this is a configuration of Surface OS-type in Ueyama's term, where the dislocated element has been moved at PF.
(52) (Cf. (26).)

A: [naganen asoko-ni kekkan buhin-o noonyuu siteita gyoosya]-to
long:years that:place-to defective parts-ACC supplying supplier-with

doozai da to genkoku-wa Toyota(-no koto-)o omoikondeiru
equally:guilty COP that plaintiff-TOP -ACC firmly:believe

'(lit.) To be as guilty as the supplier that had been supplying Toyota with
defective parts for a long time, the plaintiff firmly believes Toyota.'

B: Nissan-o mo da

-'Nissan as well.'

(52) gives rise to the strict reading in (8b), but the sloppy reading in (8a) is marginal, as predicted.

(8) a. The plaintiff firmly believes Nissan to be as guilty as the supplier that had
been supplying Nissan with defective parts for a long time.

b. The plaintiff firmly believes Nissan to be as guilty as the supplier that had
been supplying Toyota with defective parts for a long time.

In this subsection, we have reduced the possibility of the copula analysis by using
a remnant with the accusative marker. By doing so, we have reduced the possibility
of the sloppy-like reading that arises through the interpretation of the pro residing in
the subject position of the copula structure. We have seen that the "sloppy reading" is
marginal if the intended dependent term is D-indexed (e.g., a-words). If the sloppy
reading based upon FD or co-I-indexation were available even with D-indexed
dependent terms, it would be expected to be as readily available in (49), (50), and (52) as in (6), (16), and (26), respectively, where the dependent term is non-D-indexed. But the fact is that it is marginal in (49), (50), and (52). As in the case of cm sluicing, I maintain that the correlation between the marginality of the sloppy reading and the marginality of the overt copula structure in these examples indicates that the sloppy reading in (49), (50), and (52), if it arises at all, cannot be based upon formal properties. I thus conclude that there is evidence that supports our hypothesis in (1), which makes the predictions in (3c, i, l), repeated here.

Table 14 (partly repeated): Negative predictions regarding the availability of the sloppy reading in cm stripping

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
</tr>
<tr>
<td>c.</td>
<td>Yes</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>i.</td>
<td>No</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>l.</td>
<td>Yes</td>
<td>no</td>
<td>a-</td>
</tr>
</tbody>
</table>

Note that the complication regarding the availability of the copula structure has made it difficult to demonstrate that the negative predictions are borne out. In the next subsection, I will show that the negative prediction in (39), repeated here, is in fact borne out by utilizing mix readings.

(39) The sloppy reading is unavailable if an a-word is used as the intended dependent term.
5.2.2.1.4. The mix reading

First, recall from chapter 4 that Japanese exhibits the mix reading paradigm in cm comparatives and cm sluicing. (53) and (54), for example, give rise to the readings in (55a-c) and (56a-d), respectively.

(53) [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.'

(54) [Bill-ni yori mo saki-ni] sensei-wa John-ni
     -DAT than earlier teacher-TOP -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.'

(55) a. The teacher made John\textsubscript{2} say he\textsubscript{2} hit his\textsubscript{2} roommate earlier than the teacher made Bill\textsubscript{3} say he\textsubscript{2} hit his\textsubscript{2} roommate.

b. The teacher made John\textsubscript{2} say he\textsubscript{2} hit his\textsubscript{2} roommate earlier than the teacher made Bill\textsubscript{3} say he\textsubscript{3} hit his\textsubscript{3} roommate.

c. The teacher made John\textsubscript{2} say he\textsubscript{2} hit his\textsubscript{2} roommate earlier than the teacher made Bill\textsubscript{3} say he\textsubscript{3} hit his\textsubscript{2} roommate.

b. *The teacher made John\textsubscript{2} say he\textsubscript{2} hit his\textsubscript{2} roommate earlier than the teacher made Bill\textsubscript{3} say he\textsubscript{2} hit his\textsubscript{3} roommate.
(56) a. The teacher made John\(_2\) say his\(_2\) roommate hit him\(_2\) earlier than the teacher made Bill\(_3\) say his\(_2\) roommate hit him\(_2\).

b. The teacher made John\(_2\) say his\(_2\) roommate hit him\(_2\) earlier than the teacher made Bill\(_3\) say his\(_3\) roommate hit him\(_3\).

c. The teacher made John\(_2\) say his\(_2\) roommate hit him\(_2\) earlier than the teacher made Bill\(_3\) say his\(_3\) roommate hit him\(_2\).

d. The teacher made John\(_2\) say his\(_2\) roommate hit him\(_2\) earlier than the teacher made Bill\(_3\) say his\(_2\) roommate hit him\(_3\).

Recall also that the use of deep anaphora (e.g., *soo su 'do so*) in the *than*-clause in (53) and (54) results in the unavailability of mix readings altogether. (57) lacks the readings in (55c-d), and (58) lacks the reading in (56c-d).

(57) [Bill-ni soo saseru yori-mo saki-ni] sensei-wa John-ni
DAT so do:make 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.'

(58) [Bill-ni soo saseru yori mo saki-ni] sensei-wa John-ni
DAT so do:make than earlier teacher-TOP 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.'
The facts observed in (57) and (58) indicate that deep anaphora can give rise to the ATB strict and the ATB sloppy readings but cannot yield the mix readings.

Now consider (59) and (60).

(59) A: seihu-wa Toyota-ni [soko-ga [soko-no sitauke]-o uttaeta to]
     government-TOP -DAT it-NOM its subsidiary -ACC sued that
     happyoo saseta.
     announce made

     'The government made Toyota announce that it had sued its subsidiary.'

B: Nissan-ni-mo da.
     -DAT-also COP

     'Nissan as well.'

(60) A: seihu-wa Toyota-ni [[soko-no sitauke]-ga soko-o uttaeta to]
     government-NOM -DAT its subsidiary-NOM it-ACC sued that
     happyoo saseta
     announce made

     'The government made Toyota announce that its subsidiary had sued it.'

B: Nissan-ni-mo da.
     -DAT-also COP

     'Nissan as well.'

In (59), where the first dependent term c-commands the second, the readings in (61a, b, c) arise, but not the reading in (61d). In (60), where the first dependent term does not c-command the second, all four readings in (62) are available. This is exactly the
pattern of judgments observed in the case of Japanese cm comparatives, as seen in (53) and (54).

(61) a. The government made Toyota₂ announce that it₂ had sued its₂ subsidiary; the government also made Nissan₃ announce that it₃ had sued its₃ subsidiary. (ATB strict)
b. The government made Toyota₂ announce that it₂ had sued its₂ subsidiary; the government also made Nissan₃ announce that it₃ had sued its₃ subsidiary. (ATB sloppy)
c. The government made Toyota₂ announce that it₂ had sued its₂ subsidiary; The government also made Nissan₃ announce that it₃ had sued its₂ subsidiary. (Mix 1)
d. *The government made Toyota₂ announce that it₂ had sued its₂ subsidiary; the government also made Nissan₃ announce that it₂ had sued its₃ subsidiary. (Mix 2)

(62) a. The government made Toyota₂ announce that its₂ subsidiary had sued it₂; the government also made Nissan₃ announce that its₂ subsidiary had sued it₂. (ATB strict)
b. The government made Toyota₂ announce that its₂ subsidiary had sued it₂; the government also made Nissan₃ announce that its₃ subsidiary had sued it₃. (ATB sloppy)
c. The government made Toyota announce that its subsidiary had sued it;
the government also made Nissan announce that its subsidiary had sued it.
(Mix 1)
d. The government made Toyota announce that its subsidiary had sued it;
the government also made Nissan announce that its subsidiary had sued it.
(Mix 2)

Recall that I claimed above that the copula analysis as indicated in (44a), repeated here,
is available in cm stripping with a dative-marked remnant as in (41) and that the
interpretation of the null pro, which resides in the subject position gives rise to the
sloppy-like reading.

(44) a. [pro NP-cm mo da]
also COP

(41) (Cf. (5).)
A: [Tanaka giin]-wa Toyota-ni
Tanaka representative-TOP -DAT
[asoko-ni hairitagatteiru gakusei]-o syookaisita.
that:place-DAT want:to:join student-ACC introduced
'Representative Tanaka introduced to Toyota a student who wants to join it.'

B: Nissan-ni-mo da.
-DAT-also COP
'Nissan as well.'
As I claimed in chapter 4, the unavailability of the mix readings in (57) and (58) indicates that deep anaphora, which pro is an instance of, cannot give rise to mix readings. Given this and the hypothesis that the sloppy reading in cases where the intended dependent term is an a-word arises through the interpretation of pro in the copula structure, it is predicted that if we replace the so-words by a-words in (59) and (60), the Mix 1 and the Mix 2 readings cease to be available. Consider (63) and (64).

(63) A: seihu-wa Toyota-ni [asoko-ga [asoko-no sitauke]-o
government-TOP -DAT that:place-NOM that:place-GEN subsidiary -ACC
uttaeta to] happyoo saseta.
sued that announce made
'(lit.) The government made Toyota announce that that place had sued that place's subsidiary.'
B: Nissan-ni-mo da.
-DAT-also COP
'Nissan as well.'

(64) A: seihu-wa Toyota-ni [[asoko-no sitauke]-ga asoko-o
government-NOM -DAT that:place-GEN subsidiary-NOM that:place-ACC
uttaeta to] happyoo saseta
sued that announce made
'(lit.) The government made Toyota announce that that place's subsidiary had sued that place.'
B: Nissan-ni-mo da.

-DAT also COP

'Nissan as well.'

The prediction is borne out, as in the case of cm sluicing. (63) and (64) do not yield the Mix 1 or the Mix 2 reading. Since the intended dependent terms in (63) and (64) are *a*-words, they cannot enter into FD or bear an I-index even if a structure from the first conjunct is reconstructed at the ellipsis site. Thus, (63) and (64) do not give rise to the mix readings, stringent types of sloppy readings.

As in the case of cm sluicing, I suggest that the availability of the ATB sloppy reading in (63) and (64) is also due to the availability of the copula analysis in (44a). In (63), the *pro* assumed in the subject position is interpreted as referring to the property of being a company such that the government made it announce that it had sued its subsidiary. In (64) the *pro* is construed as referring to the property of being a company such that the government made it announce that its subsidiary had sued it.

In the case of mix readings, on the other hand, I speculate that such concept formation for the 'value' of *pro* is not available because of the complication of the concept necessary to give rise to those readings.\(^9\)

---

\(^9\) Such concept formation alluded to in the main text seems not to be totally impossible for some speakers, as pointed out to me by Hajime Hoji (p.c., November 2006), but, if a speaker manages to form such a concept, the mix readings no longer show sensitivity to the c-command relations between the two dependent terms. If the concept formation in question is not dependent upon a fully articulated LF structure, it is outside the Computational System (CS)--as it is broadly construed so as to include "Semantics" (an algorithm that maps LF to Semantic Representation)--and we cannot expect to be able to deduce the impossibility of such concept formation from our theory of CS, as also pointed out by Hajime Hoji. Thus, we should not, in principle, be surprised if such concept formation turns out not to
5.2.2.1.5. Summary

In this section, we have seen that empirical materials first appeared to disconfirm negative predictions made by the hypothesis in (1), repeated below, with respect to the lexical properties of the dependent term, but that a closer examination reveals that the predictions are indeed borne out. This has been demonstrated by investigating cases with an accusative-marked remnant and mix readings, more stringent types of sloppy reading.

(1) (=chapter 4 (80))

The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (co-I-indexation-based sloppy reading)

5.2.2.2. No c-command or precedence

Let us now turn to cases where the antecedent does not c-command or precede the dependent term in the first conjunct, as schematized in (65).\(^\text{10}\)

\[^{10}\text{Note that this is a case where the coreferential reading based on FD or co-I-indexation is not available.}\]
In such cases, neither FD nor ID is established, and hence, in the theory pursued here the sloppy reading is predicted to be unavailable as indicated in (3d), if we focus on cases where the copula analysis is hard to obtain. In this section I will use cases where the remnant is marked with the accusative case-marker because the copula analysis introduced above seems to be hard to obtain in cm stripping with an accusative-marked remnant. Consider (66) and (67).

(66) A: [Tanaka bengosi]-wa [[[soko-no sitauke gaisya]-ni
Tanaka attorney-TOP that:place-GEN subsidiary-DAT
Toyota-o uttae saseta
-ACC sue caused
'Attorney Tanaka had its subsidiary sue Toyota.'

B: Nissan-o mo da.
-ACC also COP
'Nissan as well.'
(67) A: sikaisya-wa [soko-no raibaru tiimu]-ni Dojaazu-o hihan saseta

MC-TOP that:place-GEN rival team-DAT Dodgers-ACC criticize caused

'The MC had its rival team criticize the Dodgers.'

B: Yankizu-o mo da

Yankees-ACC also COP

'The Yankees as well.'

Note that the copula analysis is marginal in these cases. Consider (68).

(68) a. sore-wa Nissan-o mo da.

that-TOP -ACC also COP

'(lit.) That's Nissan as well.'

b. sore-wa Yankizu-o mo da

that-TOP Yankees-ACC also COP

'(lit.) That's the Yankees as well.'

(68a) as a response to (66A) and (68b) as a response to (67A) are marginal. Assuming that a covert element behaves in the same way as its overt counterpart, I conclude that the copula analysis with pro is difficult to get in these cases.

Coreference obtains between Toyota and soko 'that place' in the first utterance of (66) and between the Dodgers and soko in the first utterance of (67), but the sloppy reading does not obtain. (66) does not yield the sloppy reading in (69a), and (67) does not give rise to the reading in (70a). The the strict readings in (69b) and (70b), on the other hand, are readily available.
(69)  a. Attorney Tanaka had Nissan's subsidiary sue Nissan as well.
      b. Attorney Tanaka had Toyota's subsidiary sue Nissan as well.

(70)  a. The MC had the Yankees' rival team criticize the Yankees as well.
      b. The MC had the Dodgers' rival team criticize the Yankees as well.

Thus, the prediction in (3d) is borne out. Note again that the unavailability of the sloppy reading in (66) and (67) indicates that coreference that obtains in the first conjunct due to the non-individual-denoting so-word cannot be the basis for the sloppy reading.

Consider (71) and (72), which are the a-word counterparts of (66) and (67) with the structure in (73).

(71) (Cf. (66).)
A: [Tanaka bengosi]-wa [[[asoko-no sitauke gaisya]-ni
          Tanaka attorney-TOP that:place-GEN subsidiary-DAT
          Toyota-o uttae saseta
          -ACC sue caused

'Attorney Tanaka had that place's subsidiary sue Toyota.'

B: Nissan-o mo da.
   -ACC also COP

'Nissan as well.'

(72) (Cf. (67).)
A: sikaisya-wa [asoko-no raibaru tiimu]-ni Dojaazu-o hihan saseta
   MC-TOP that:place-GEN rival team-DAT Dodgers-ACC criticize caused
'The MC had that place's rival team criticize the Dodgers.'

B: Yankiizu-o mo da

Yankees-ACC also COP

'The Yankees as well.'

(73) 1st conjunct:

```
  IP
    I'
      VP    I
        VP   V
          NP   V' caused
            ...asoko... NP   V
              |          A
```

Although the coreferential reading is available in the first conjuncts, the sloppy reading does not arise in these cases. (71) and (72) do not give rise to the sloppy readings in (74) and (75).

(74) The attorney had Nissan's subsidiary sue Nissan.

(75) The MC had the Yankees' rival team criticize the Yankees.

This indicates that the negative prediction in (3f) is borne out if we avoid cases where the copula analysis is possible.

Note that (66) and (67) contrast with (76) and (77), respectively, where the antecedent resides in the sentence-initial position. The schematic structure of the latter two is given in (78).
A: Toyota-o [Tanaka bengosi]-wa [[[soko-no sitauke gaisya]-ni

-ACC Tanaka attorney-TOP that:place-GEN subsidiary-DAT

uttae saseta

sue caused

'Toyota, Attorney Tanaka had its subsidiary sue.'

B: Nissan-o mo da.

-ACC also COP

'Nissan as well.'

(77) (Cf. (67).)

A: Dojaazu-o sikaisya-wa [soko-no raibaru tiimu]-ni hihan saseta

Dodgers-ACC MC-TOP that:place-GEN rival team-DAT criticize caused

'The Dodgers, the MC had its rival team criticize.'

B: Yankiizu-o mo da

Yankees-ACC also COP

'The Yankees as well.'
These are cases of Deep OS, where the antecedent sits in a sentence-initial A-position. From there, the antecedent is CRRed, and FD(t, *soko*) can be established, because the CR trace c-commands *soko*. Thus, the sloppy reading is expected to be available, which is indeed the case in (76) and (77). Note that the *a*-word counterparts of (76) and (77) are predicted to fail to yield the sloppy reading. Because the remnant is marked with the accusative case-marker, the copula structure is marginal. This indeed is the case.

(79) (Cf. (76).)

A: Toyota-o [Tanaka bengosi]-wa [[[asoko-no sitauke gaisya]-ni

-ACC Tanaka attorney-TOP that:place-GEN subsidiary-DAT

---

11 I continue to use 'XP' to denote the maximal projection that hosts the sentence-initial A-position assumed in Ueyama's Deep OS-type. See also footnote 27 in chapter 4.
uttae saseta
sue caused
'Toyota, Attorney Tanaka had its subsidiary sue_.'
B: Nissan-o mo da.
-ACC also COP
'Nissan as well.'

(80) (Cf. (77).)
A: Dojaazu-o sikaisya-wa [asoko-no raibaru tiimu]-ni hihan saseta
Dodgers-ACC MC-TOP that:place-GEN rival team-DAT criticize caused
'The Dodgers, the MC had its rival team criticize_.'
B: Yankiizu-o mo da
Yankees-ACC also COP
'The Yankees as well.'

Now consider (81) and (82), which are minimally different from (66) and (67), respectively.

(81) (Cf. (66).)
A: [Tanaka bengosi]-wa [[[soko-no sitauke gaisya]-o
Tanaka attorney-TOP that:place-GEN subsidiary-ACC
Toyota-ni uttae saseta
-DAT sue caused
'Attorney Tanaka had Toyota sue its subsidiary.'
B: Nissan-ni mo da.

'Datsu also COP

'Nissan as well.'

(82) (Cf. (67).)

A: sikaisya-wa [soko-no raibaru tiimu]-o Dojaazu-ni hihan saseta

MC-TOP that:place-GEN rival team-ACC Dodgers-DAT criticize caused

'The MC had its rival team criticize the Dodgers.'

B: Yankiizu-ni mo da

Yankees-DAT also COP

'The Yankees as well.'

The differences between (66) and (81) and between (67) and (82) are the case-markers on the argument NPs of the verb. The dative-marked NPs in (66) and (67) are marked with the accusative marker in (81) and (82), and the accusative-marked NPs in (66) and (67) are marked with the dative marker in (81) and (82). Note also that the case-marker on the remnant is changed accordingly. Although the differences are minimal, (66)/(67) and (81)/(82) exhibit a clear difference in the availability of the sloppy reading. The sloppy reading arises in (81) and (82), unlike (66) and (67).

There can be two sources for the sloppy reading in these cases. First, (81) and (82) can be instances of Surface OS, where the accusative-marked NP is raised at PF, and thus the first conjuncts can be represented as (83).
(83) a. 1st conjunct at Spell-Out:

```
  IP
   /\ 
  NP  I'
   /   
 VP   I
   /    
 VP V
   /     
 A-DAT V' caused
   / 
 NP-ACC V
```

b. 1st conjunct after LF CR:

```
  IP
   /\ 
  A-DAT IP
   /   
 NP  I'
   /   
 VP   I
   /    
 VP V
   /     
 t V' caused
   / 
 NP-ACC V
```

FD can be established between the CR trace of NP-DAT and *soko* because the CR trace of NP-DAT c-commands *soko*. The IP in the box is then copied into the second conjunct along with FD and the structure in (84) obtains in the second conjunct.
Since the antecedent and the dependent term enter into FD in the first and the second conjuncts, the FD-based sloppy reading is available.

Second, since the case-marker on the remnant is the dative marker and this is not the ergative construction, the copula analysis is also expected to be available. In this analysis, (81B) and (82B) can be analyzed as analogous to (85a-b).

(84) 2\textsuperscript{nd} conjunct after IP Copying:

Since the antecedent and the dependent term enter into FD in the first and the second conjuncts, the FD-based sloppy reading is available.

Second, since the case-marker on the remnant is the dative marker and this is not the ergative construction, the copula analysis is also expected to be available. In this analysis, (81B) and (82B) can be analyzed as analogous to (85a-b).

(85) a: sore-wa Nissan-ni mo da.

that-TOP -DAT also COP

'Nissan as well.'

b: sore-wa Yankiizu-ni mo da

that-TOP Yankees-DAT also COP

'The Yankees as well.'

\textsuperscript{12} See section 5.2.2.1.3.
If this second option is available, (81) and (82) are expected to yield the sloppy reading even with an $a$-word as the dependent term because the "sloppy reading" is not based upon FD or co-I-indexation. Consider (86) and (87).

(86) A: [Tanaka bengosi]-wa [[[asoko-no sitauke gaisya]-o

Tanaka attorney-TOP that:place-GEN subsidiary-ACC

Toyota-ni uttae saseta

-DAT sue caused

'Attorney Tanaka had Toyota sue its subsidiary.'

B: Nissan-ni mo da.

-DAT also COP

'Nissan as well.'

(87) A: sikaisya-wa [asoko-no raibaru tiimu]-o Dojaazu-ni hihan saseta

MC-TOP that:place-GEN rival team-ACC Dodgers-DAT criticize caused

'The MC had its rival team criticize the Dodgers.'

B: Yankiizu-ni mo da

Yankees-DAT also COP

'The Yankees as well.'

(86) and (87) give rise to the sloppy reading even with an $a$-word as the dependent term, which confirms that the copula analysis is indeed available in these cases.

5.2.3. Summary

In this section we have tested the hypothesis in (1) by verifying the positive and negative predictions it makes with respect to the availability of the sloppy reading,
which are summarized in (3), repeated here. We have seen that the predictions are born out if we eliminate the possibility of the copula analysis.

(1) The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (Co-I-indexation-based sloppy reading)

Table 14 (repeated): Negative predictions and positive expectations regarding the availability of the sloppy reading in cm stripping

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>large</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>no</td>
<td>a-</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>yes</td>
<td>small</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>yes</td>
<td>large</td>
</tr>
<tr>
<td>f.</td>
<td>no</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>g.</td>
<td>yes</td>
<td>no</td>
<td>small</td>
</tr>
<tr>
<td>h.</td>
<td>yes</td>
<td>no</td>
<td>large</td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>no</td>
<td>a-</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>no</td>
<td>small</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>no</td>
<td>large</td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>no</td>
<td>a-</td>
</tr>
</tbody>
</table>

We have seen in the preceding discussion that the negative predictions in (3c), (3d), (3f), (3i), and (3l) are borne out and that the positive expectations in (3a), (3b), (3g), (3h), and (3j) have been confirmed. As I mentioned at the outset of this section,
falsifiability of our hypothesis lies in the negative predictions it makes. If the sloppy reading is readily available under the conditions specified in (3c), (3d), (3f), (3i), and (3l) even in cases where the overt copula analysis is marginal, then the hypothesis I am pursuing here will be in principle falsified.

5.3. Non-cm stripping

In this section, I will examine the availability of the sloppy reading in non-case-marked stripping. What is significant about the results of this section is that the sloppy reading arises in non-case-marked stripping cases even though their case-marked counterparts do not yield it.\(^\text{13}\) This constitutes further evidence for the claim I made in chapter 3 based on my observations regarding island sensitivity, i.e., non-case-marked stripping can be analyzed as a copula structure with pro situated in the subject position. In what follows, I will first examine those significant cases where the case-marked counterparts do not give rise to the sloppy reading, and then I will go over cases where the case-marked counterparts do give rise to the sloppy reading in order to make our discussion complete. In the summary section, I will review how the copula analysis of non-cm stripping can account for the facts observed in this section.

\(^{13}\) Note that what our theory expects is that the sloppy reading is not impossible in non-cm stripping, and difficulty in concept formation may make the sloppy reading harder to obtain.
5.3.1. Cases where the cm counterparts do not yield the sloppy reading

5.3.1.1. A D-indexed NP as the dependent term

First, let us examine the non-cm counterparts of (49), (50), and (52), where the dependent term is an $a$-word. Consider (88)-(90).

(88) A: genkoku-wa Toyota-o [naganen asoko-ni kekkan buhin-o
plaintiff-TOP -ACC long:years that:place-to defective parts-ACC
noonyuu siteita gyoosya]-to doozai da to omoikondeiru
supplying supplier-with equally:guilty COP that believe:firmly
'The plaintiff firmly believes Toyota to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time.'
B: Nissan mo da
also COP
'Nissan as well.'

(89) A: genkoku-ga [Toyota-de hinsitukanri-o tantoo siteita syain]-o
plaintiff-NOM -at quality:control-ACC in:charge:of employee-ACC
[naganen asoko-ni kekkan buhin-o noonyuu siteita gyoosya]-to
long:year that:place-to defective parts-ACC supplied supplier-with
doozai da to omoikondeiru
equally:guilty COP that firmly:believe
'The plaintiff firmly believes the employee who was in charge of quality control at Toyota to be as guilty as the supplier that supplied defective parts to Toyota for a long time.'
B: [Nissan-de hinsitukanri-o tantoo siteita syain] mo da.

-at quality:control-ACC in:charge:of employee also COP

'The employee who was in charge of quality control at Nissan as well.'

(90) A: [[naganen asoko-ni kekkan buhin-o noonyuu siteita gyoosya]-to long:years that:place-to defective parts-ACC supplying supplier-with doozai da to] genkoku-wa Toyota(-no koto)-o omoikondeiru equally:guilty COP that plaintiff-TOP -ACC firmly:believe

'(lit.) To be as guilty as the supplier that had been supplying Toyota with defective parts for a long time, the plaintiff firmly believes Toyota.'

B: Nissan mo da

also COP

'Nissan as well.'

The sloppy reading is available in these examples. The antecedent c-commands and precedes the dependent term in (88). The antecedent precedes, but does not c-command, the dependent term in (89). The antecedent c-commands, but does not precede, the dependent term in (90). It is thus confirmed that non-cm counterparts of (3c), (3i), and (3l) give rise to the sloppy reading.
Table 14 (partly repeated): Negative predictions regarding the availability of the sloppy reading in cm stripping 1

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
<td>FD</td>
</tr>
<tr>
<td>c.</td>
<td>Yes</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>i.</td>
<td>No</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>l.</td>
<td>Yes</td>
<td>no</td>
<td>a-</td>
</tr>
</tbody>
</table>

5.3.1.2. No c-command or precedence

Next, consider examples that have the properties specified in (3d) and (3f).

Table 14 (partly repeated): Negative predictions regarding the availability of the sloppy reading in cm stripping 2

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
<td>FD</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>small</td>
</tr>
<tr>
<td>f.</td>
<td></td>
<td></td>
<td>a-</td>
</tr>
</tbody>
</table>

First, consider (3d): the antecedent neither c-commands nor precedes the dependent term which is a non-D-indexed small NP. (91) and (92) are non-cm counterparts of (66) and (67), respectively. Although their cm counterparts do not give rise to the sloppy reading, these examples do.

(91) (Cf. (66).)

A: [Tanaka bengosi]-wa [[[[soko-no sitauke gaisya]-ni

Tanaka attorney-TOP that:place-GEN subsidiary-DAT

Toyota-o uttae saseta

-ACC sue caused
'Attorney Tanaka had its subsidiary sue Toyota.'

B: Nissan mo da.

also COP

'Nissan as well.'

(92) (Cf. (67).)

A: sikaisya-wa [soko-no raibaru tiimu]-ni Dojaazu-o hihan saseta

MC-TOP that:place-GEN rival team-DAT Dodgers-ACC criticize caused

'The MC had its rival team criticize the Dodgers.'

B: Yankiizu mo da

Yankees also COP

'The Yankees as well.'

Let us turn to (3f). Consider (93) and (94).

(93) A: [Tanaka bengosi]-wa [[[asoko-no sitauke gaisya]-ni

Tanaka attorney-TOP that:place-GEN subsidiary-DAT

Toyota-o uttae saseta

-ACC sue caused

'Attorney Tanaka had its subsidiary sue Toyota.'

B: Nissan mo da.

also COP

'Nissan as well.'

(94) A: sikaisya-wa [asoko-no raibaru tiimu]-ni Dojaazu-o hihan saseta

MC-TOP that:place-GEN rival team-DAT Dodgers-ACC criticize caused
'The MC had its rival team criticize the Dodgers.'

B: Yankizu mo da

Yankees also COP

'The Yankees as well.'

These examples differ from (91) and (92) only in the choice of the dependent term. They have an $a$-word instead of $^\text{small}NP$. The structural conditions are the same: the antecedent neither c-commands nor precedes the dependent term. The sloppy reading is available, and it is confirmed that non-cm stripping gives rise to the sloppy reading under the condition in (3f) as well.

In this subsection we have confirmed that the sloppy reading is available in non-cm counterparts under the conditions specified in (3d) and (3f).

5.3.2. Cases where the cm counterparts yield the sloppy reading

The objective of this subsection is to confirm that the sloppy reading is also available in the non-cm counterparts of the cm stripping cases which give rise to the sloppy reading.

First, consider (95) and (96), which correspond to (5) and (6), respectively.

These examples have the properties indicated in (3a), i.e., the antecedent c-commands and precedes the dependent term which is a $^\text{small}so$-word.
Table 14 (partly repeated): A positive expectation regarding the availability of the sloppy reading in cm stripping 1

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
<td>FD</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small</td>
</tr>
</tbody>
</table>

(95) A: [Tanaka giin]-wa Toyota-ni

Tanaka representative-TOP -DAT

[soko-ni hairitagatteiru gakusei]-o syookaisita.

that:place-DAT want:to:join student-ACC introduced

'Representative Tanaka introduced to Toyota a student who wants to join it.'

B: Nissan-mo da.

-also COP

'Nissan as well.'

(96) A: genkoku-wa Toyota-o [naganen soko-ni kekkan buhin-o plaintiff-TOP -ACC long:years that:place-to defective parts-ACC noonyuu siteita gyoosya]-to doozai da to omoikondeiru supplying supplier-with equally:guilty COP that firmly:believe

'The plaintiff firmly believes Toyota to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time

B: Nissan mo da

also COP

'Nissan as well.'
In these examples, the sloppy reading is readily available.

Let us turn to cases that have the properties specified in (3g), i.e., the antecedent does not c-command, but precedes, the dependent term which is a small SO-word.

Table 14 (partly repeated): A positive expectation regarding the availability of the sloppy reading in cm stripping 2

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>g.</td>
<td>no</td>
<td>yes</td>
<td>g.</td>
</tr>
</tbody>
</table>

(97) and (98) are non-cm counterparts of (15) and (16), respectively.

(97) A: [Tanaka Giin]-wa [Toyota-ni hairitagatteiru gakusei]-ni

Tanaka representative-TOP -DAT want:to:join student -DAT

[soko-no zinzibutyoo]-o syookaisita.

that:place-GEN personnel manager -ACC introduced

'Representative Tanaka introduced to a student who wants to join Toyota

visit that place's personnel manager.'

B: [Nissan-ni hairitagatteiru gakusei] mo da.

-DAT want:to:join student also COP

'To a student who wants to join Nissan as well.'

(98) A: genkoku-ga [Toyota-de hinsitukanri-o tantoo siteita syain]-o

plaintiff-NOM -at quality:control-ACC in:charge:of employee-ACC

[naganen soko-ni kekkan buhin-o noonyuu siteita gyoosya]-to

long:year that:place-to defective parts-ACC supplied supplier-with
doozai da to omoikondeiru

equally:guilty COP that firmly:believe

'The plaintiff firmly believes the employee who was in charge of quality control at Toyota to be as guilty as the supplier that supplied defective parts to Toyota for a long time.'

B: [Nissan-de hinsitukanri-o tantoo siteita syain] mo da.

-at quality:control-ACC in:charge:of employee also COP

'The employee who was in charge of quality control at Nissan as well.'

These examples also yield the sloppy reading, just as their cm counterparts do.

Replacing the small NP by a large NP does not affect the availability of the sloppy reading in the examples above. The sloppy reading remains to be available even if we replace soko 'that place' by sono zidoosya gaisya 'that automobile company' in (95)-(98). Hence, it is confirmed that non-cm stripping under the conditions specified in (3b) and (3h) gives rise to the sloppy reading.

Table 14 (partly repeated): A positive expectation regarding the availability of the sloppy reading in cm stripping 3

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A preceeds B at PF</td>
<td>B</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>large so-</td>
</tr>
<tr>
<td>h.</td>
<td>no</td>
<td>yes</td>
<td>large so-</td>
</tr>
</tbody>
</table>

Let us turn to non-cm counterparts that have the properties in (3j), i.e., the antecedent c-commands, but does not precede, the dependent term which is a small so-word.
Table 14 (partly repeated): A positive expectation regarding the availability of the sloppy reading in cm stripping 4

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
<td>FD</td>
</tr>
<tr>
<td>j. yes</td>
<td>no</td>
<td>small so-</td>
<td>FD</td>
</tr>
</tbody>
</table>

(99) and (100) are non-cm counterparts of (25) and (26), respectively.

(99) A: [soko-ni hairitagatteiru gakusei]-o [Tanaka giin]-wa

that:place-DAT want:to:join student-ACC Tanaka representative-TOP

Toyota-ni syookaisita.

-DAT introduced

'Representative Tanaka introduced to Toyota hire a student who wants to join it.'

B: Nissan-mo da.

-also COP

'Nissan as well.'

(100) A: [[naganen soko-ni kekkan buhin-o noonyuu siteita gyoosya]-to

long:years that:place-to defective parts-ACC supplying supplier-with doozai da to] genkoku-wa Toyota(-no koto)-o omoikondeiru equally:guilty COP that plaintiff-TOP -ACC firmly:believe

'(lit.) To be as guilty as the supplier that had been supplying Toyota with defective parts for a long time, the plaintiff firmly believes Toyota.'
B: Nissan mo da
also COP

'Nissan as well.'

Again, the sloppy reading is available, which confirms that non-cm stripping under the condition in (3j) gives rise to the sloppy reading.

Finally, let us turn to cases where the copula analysis was possible in cm stripping. Recall that (41), (42) and (43) give rise to the sloppy reading even with an a-word as the dependent term, contrary to our predictions in (3c, i, l), because of the availability of the copula analysis.

Table 14 (partly repeated): Negative predictions regarding the availability of the sloppy reading in cm stripping

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
</tr>
<tr>
<td>c. yes</td>
<td>yes</td>
<td>a-</td>
<td>*</td>
</tr>
<tr>
<td>i. no</td>
<td>yes</td>
<td>a-</td>
<td>*</td>
</tr>
<tr>
<td>l. yes</td>
<td>no</td>
<td>a-</td>
<td>*</td>
</tr>
</tbody>
</table>

(101), (102), and (103) are the non-cm counterparts of (41), (42) and (43), respectively.

(101) A: [Tanaka giin]-wa Toyota-ni
Tanaka representative-TOP -DAT
[asoko-ni hairitagatteiru gakusei]-o syookaisita.
that:place-DAT want:to:join student-ACC introduced

'Representative Tanaka introduced to Toyota a student who wants to join it.'
B: Nissan-mo da.

-also COP

'Nissan as well.'

(102) A: [Tanaka Sensei]-wa [Toyota-ni hairitagatteiru gakusei]-ni

Tanaka teacher-TOP -DAT want:to:join student -DAT

[asoko-no zinzibutyoo]-o syookaisita.

that:place-GEN personnel manager -ACC introduced

'Professor Tanaka introduced to a student who wants to join Toyota that place's personnel manager.'

B: [Nissan-ni hairitagatteiru gakusei] mo da.

-DAT want:to:join student -also COP

'A student who wants to join Nissan as well.'

(103) A: [asoko-ni hairitagatteiru gakusei]-o [Tanaka giin]-wa

that:place-DAT want:to:join student-ACC Tanaka representative-TOP

Toyota-ni syookaisita.

-DAT introduced

'Representative Tanaka introduced to Toyota a student who wants to join that place.'

B: Nissan-mo da.

-also COP

'Nissan as well.'

The non-cm counterparts also give rise to the sloppy reading.
In this subsection, we have seen that the sloppy reading is also available in the non-cm counterparts of the cm stripping examples that give rise to the sloppy reading.

### 5.3.3. Summary

The following table summarizes the availability of the sloppy reading in non-cm contrast sluicing.

**Table 15: The availability of the sloppy reading in non-cm stripping**

<table>
<thead>
<tr>
<th></th>
<th>A c-c's B at LF</th>
<th>A precedes B at PF</th>
<th>B</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small <em>so</em></td>
<td>ok</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>large <em>so</em></td>
<td>ok</td>
</tr>
<tr>
<td>c.</td>
<td>yes</td>
<td>yes</td>
<td><em>a</em></td>
<td>ok</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>small <em>so</em></td>
<td>ok</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>no</td>
<td>large <em>so</em></td>
<td>n/a</td>
</tr>
<tr>
<td>f.</td>
<td>yes</td>
<td>yes</td>
<td><em>a</em></td>
<td>ok</td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>yes</td>
<td>small <em>so</em></td>
<td>ok</td>
</tr>
<tr>
<td>h.</td>
<td>no</td>
<td>yes</td>
<td>large <em>so</em></td>
<td>ok</td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>no</td>
<td><em>a</em></td>
<td>ok</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>no</td>
<td>small <em>so</em></td>
<td>ok</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>no</td>
<td>large <em>so</em></td>
<td>n/a</td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>no</td>
<td><em>a</em></td>
<td>ok</td>
</tr>
</tbody>
</table>

What is significant about the results summarized above is that the sloppy reading is available in cases where it is not available in their cm counterparts. Compare (104) with the chart on the availability of the sloppy reading in cm stripping in (3), repeated here.
Table 14 (repeated): Negative predictions and positive expectations regarding the availability of the sloppy reading in cm stripping

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small SO-</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
<td>large SO-</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>no</td>
<td>a-</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>small SO-</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>yes</td>
<td>large SO-</td>
</tr>
<tr>
<td>f.</td>
<td>no</td>
<td>yes</td>
<td>a-</td>
</tr>
<tr>
<td>g.</td>
<td>yes</td>
<td>no</td>
<td>small SO-</td>
</tr>
<tr>
<td>h.</td>
<td>yes</td>
<td>no</td>
<td>large SO-</td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>no</td>
<td>a-</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>no</td>
<td>small SO-</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>no</td>
<td>large SO-</td>
</tr>
<tr>
<td>l.</td>
<td>yes</td>
<td>no</td>
<td>a-</td>
</tr>
</tbody>
</table>

The sloppy reading arises in non-cm contrast sluicing even if the dependent term is an *a*-word, as in (104c, i, l), and even if there is no c-command or precedence relation between the antecedent and the dependent term, as in (104d). It is even available in cases where there is no relevant c-command or precedence relation and the intended dependent term is an *a*-word, as in (104f). These results show that the sloppy reading is available in non-cm stripping, regardless of the structural relation (c-command and precedence) between the antecedent and the dependent term and regardless of the lexical properties of the dependent term.

As we have seen in chapter 3, non-cm stripping can have the representation given in (105).
Pro acts as a deep anaphor and refers to a property available in the preceding context. In the case of (96), for example, the pro assumed to be in the subject position can refer to the property of being the company such that the plaintiff firmly believes it to be as guilty as the supplier that had been supplying it with defective parts for a long time, and the second conjunct then means something like "The property holds of Nissan as well," thus giving rise to the sloppy-like reading which is not based on FD or co-I-indexation.

(96) A: genkoku-wa Toyota-o [naganen soko-ni kekkan buhin-o
plaintiff-TOP -ACC long:years that:place-to defective parts-ACC
noonyuu siteita gyoosya]-to doozai da to omoikondeiru
supplying supplier-with equally:guilty COP that firmly:believe
'The plaintiff firmly believes Toyota to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time.'

B: Nissan mo da

also COP

'Nissan as well.'

The second conjunct of (96) can be equivalent to (106), which has an overt pronominal element in place of pro.

(106) ... [IP sore-wa Nissan mo da]

that-TOP also COP

'That is (true of) Nissan as well.'

Recall that I proposed the same analysis for a subset of cm stripping. Compare (105) with (44a), repeated here.

(44) a. [pro NP-cm mo da]

also COP

b. [sore-wa NP-cm mo da]

that-TOP also COP

'that's (true of) NP as well.'

The difference is that the copula analysis is always available in the case of non-cm stripping while it is not always available in the case of cm stripping. It is hard to obtain in the case of accusative-marked remnants, for example, and thus such cases exhibit properties predicted by the hypothesis in (1).
Also note that nothing prevents non-cm stripping from being analyzed analogously with cm stripping. If a speaker has this tendency, it is not surprising that for such speakers the availability of the sloppy reading in non-cm stripping parallels with that in cm stripping. Note also that the availability of the sloppy-like reading in a copula structure of non-cm stripping and a subset of cm stripping is contingent upon how easily one can form the relevant concept from the preceding context, and thus judgmental fluctuation is expected, just as in the case of the overt version like (106) and (44b).

5.4. The sloppy reading in a special type of stripping

In chapter 4, we have seen that cm regular sluicing exhibits peculiar properties with respect to the availability of the sloppy reading. Those cases have the configuration in (107).

(107) a. 1st conjunct:

[ NP₂ [... dependent term₂ ...wh-phrase.. Q] V]

<antecedent> <correlate>

b. 2nd conjunct:

[NP₃ [wh-phrase Q] V]

<remnant>

An example is given in (108).

(108) A: UConn-ga [soko-no basukettobooru timu-ga dare-o

-NOM that:place-GEN basketball team-NOM who-ACC
I claimed that this type of sluicing gives rise to the sloppy reading even if the antecedent does not c-command the dependent term and/or even if the dependent term is D-indexed, as summarized in (109).

Table 16: The availability of the sloppy reading in cm regular sluicing

<table>
<thead>
<tr>
<th></th>
<th>A c-commands B</th>
<th>B is non-D-index</th>
<th>The sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>ok</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>no</td>
<td>ok</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>yes</td>
<td>ok</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>ok</td>
</tr>
</tbody>
</table>

In order to account for these facts, I suggested that cm regular sluicing can have the representation in (110) at Spell-Out.
This in effect means that cm regular sluicing can be equivalent to the construction as in (111B).

(111) A: UConn-ga [soko-no basukettobooru tiimu-ga dare-o
                 -NOM that:place-GEN basketball team-NOM who-ACC
sukautosita ka] happyoosita
scouted Q announced

'UConn announced who its basketball team scouted.'

B: Duke-mo [pro dare-o sukautosita ka] happyoosita
                 -also who-ACC scouted Q announced

'(lit.) Duke also announced who pro had scouted.'

In what follows, I will show stripping exhibits the same properties as sluicing in this respect.
Consider (112).

(112) A: USC-ga [soko-no yakyuu tiimu-ga nihonzin-o]

-NOM that:place-GEN baseball team-NOM Japanese-ACC

sukautosita to] happyoosita

scouted Q announced

'USC announced that its baseball team had scouted a Japanese.'

B: UCLA-mo [nihonzin-o da to] happyoosita

-TOP Japanese-ACC COP that announced

'UCLA announced that (it is) a Korean.'

(112) has the configuration given in (113). Note that it parallels the configuration of its sluicing counterpart in (107).

(113) a. 1\textsuperscript{st} conjunct:

[ NP\textsubscript{2} [... dependent term\textsubscript{2} ... NP-CM ... that] V]

<antecedent> <correlate>

b. 2\textsuperscript{nd} conjunct:

[ NP\textsubscript{3} [NP-CM COP that] V]

<antecedent> <remnant>

(107) a. 1\textsuperscript{st} conjunct:

[ NP\textsubscript{2} [... dependent term\textsubscript{2} ...wh-phrase.. Q] V]

<antecedent> <correlate>

b. 2\textsuperscript{nd} conjunct:

[NP\textsubscript{3} [wh-phrase Q] V]

<remnant>
(112B) gives rise to the sloppy reading in (114a) along with the strict reading in (114b).

(114) a. UCLA also announced that UCLA's baseball team had scouted a Japanese.
    b. UCLA also announced that USC's baseball team had scouted a Japanese.

Let us consider cases where the intended antecedent does not c-command the dependent term as in (115).

(115) A: [IP [NP USC-o sotugyoosita hito]-wa [VP [CP [NP soko-no USC-ACC graduated] person-TOP that:place-GEN yakyuu tiimu]-ga nihon zin-o sukautosita to] itteita]].

basketball team-NOM Japanese-ACC scouted that said

'The person who graduated from USC said that its baseball team had scouted a Japanese.'

B: [IP [NP UCLA-o sotugyoosita hito]-mo UCLA-ACC graduated person also [VP [CP nihonzin-o da to] itteita]].

Japanese-ACC COP that said

'The person who graduated from UCLA also said (it was) a Japanese.'

(115B) also gives rise to the sloppy reading in (116a) as well as the strict reading in (116b).

(116) a. The person who graduated from UCLA said that UCLA's baseball team had scouted a Japanese.
b. The person who graduated from UCLA said that USC's baseball team had scouted a Japanese.

Even if *soko* 'that place' is replaced by an *a*-word *asoko* 'that place', the sloppy reading continues to be available. (117) and (118) are *a*-word counterparts of (112) and (115), respectively.

(117) A: USC-ga [asoko-no yakyuu tiimu-ga nihonzin-o
-NOM that:place-GEN baseball team-NOM Japanese-ACC

sukautosita to] happyoosita

scouted that announced

'USC announced that its basketball team had scouted a Japanese.'

B: UCLA-mo [nihonzin-o da to] happyoosita
-TOP Japanese-ACC COP that announced

'UCLA announced that (it is) a Japanese.'

(118) A: [IP [NP USC-o sotugyoosita hito]-ga [VP [CP [NP asoko-no
USC-ACC graduated person-TOP that:place-GEN

yakyuu tiimu]-ga nihon zin-o sukautosita to] itteita]]

basketball team-NOM Japanese-ACC scouted that said

'The people who graduated from USC said that its baseball team scouted a Japanese.'

B: [IP [NP UCLA-o sotugyoosita hito]-mo
UCLA-ACC graduated person also
[VP [CP nihonzin-o da to] itteita]].

Japanese-ACC COP that said

'The people who graduated from UCLA also said (it was) a Japanese.'

(117) and (118) yield the sloppy readings in (114a) and (116a), respectively. They also give rise to the strict readings in (114b) and (116b).

(119) summarizes the state of affairs in this type of stripping.

Table 17: The availability of the sloppy reading in cm stripping where the correlate is not the antecedent

<table>
<thead>
<tr>
<th></th>
<th>A c-commands B</th>
<th>B is non-D-index</th>
<th>The sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>ok</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>no</td>
<td>ok</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>yes</td>
<td>ok</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>ok</td>
</tr>
</tbody>
</table>

These results are the same as those we obtained in the case of cm regular sluicing in chapter 4. These facts fall out if we assume that this type of stripping has the structure analogous to that in (110). Consider (120).
(120) 2\textsuperscript{nd} conjunct at Spell-Out:

An IP with two slots generated by CRing two elements in the first conjunct is copied onto the empty IP in (120) at LF, yielding (121). With \textit{pro} and \textit{a Japanese} associated with the slots in the copied IP,\textsuperscript{14} the result is analogous to the example in (122).

\textsuperscript{14} See section 4.7.3 of chapter 4.
With \textit{pro} interpreted as \textit{the baseball team}, along the lines of Hoji's (1998) treatment of the null object in Japanese, (122), hence (112B), is compatible with a situation where UCLA announced that UCLA's baseball team had scouted a Japanese. As I suggested in the case of cm regular sluicing in chapter 4, this gives rise to what appears to be the sloppy reading.

Given the observations above, we can conclude that cm stripping and cm sluicing behave in a parallel fashion with respect to the availability of the sloppy reading in cases with the schematic structures in (123).

(123) a. $1^{\text{st}}$ conjunct:

\[
\begin{array}{llll}
\text{[} & \text{NP$_2$} & \text{[... dependent term$_2$ ... wh-phrase/NP-cm ... C]} & \text{V]}
\end{array}
\]

\[
<\text{antecedent}> \hspace{1cm} <\text{correlate}>
\]
b. 2nd conjunct:

\[
\begin{array}{ll}
\text{NP}_3 & \text{wh-phrase/NP-CM C V} \\
<\text{antecedent}> & <\text{remnant}>
\end{array}
\]

\textbf{5.5. Some outstanding issues}

In section 5.2.2.1, I proposed the copula analysis for some cases of cm stripping in order to account for the fact that the sloppy reading is available even with an \textit{a}-word as the dependent term. Since the sloppy reading is yielded based on the interpretation of the \textit{pro} in the subject position, rather than on a formal basis (i.e., FD or co-I-indexation), the sloppy reading in such cases are considered to be the sloppy-like reading, rather than the genuine sloppy reading, in the sense of Hoji 1998. Hence, I would not expect the locality effects (of binding principle B) to emerge in those cases; cf. Hoji 2003. That is how we could obtain further evidence for the analysis pursued above. I will not get into the details on that in this thesis and leave the confirmation for future research.

Another related issue is why the copula structure with an overt subject is marginal with some case-markers. I pointed out that such a structure is marginal if the remnant is marked with the accusative case-marker or with the dative marker in the case of the ergative construction. Given the contrast between these cases and the case in footnote 7, I suspect that the the copula structure is more acceptable with a case-marker with some illocutionary force. But the issue seems a little more
complicated than that. Consider the contrast between (47), repeated here, and (124), which was brought to my attention by Hajime Hoji (p. c., May 2006).

(47) A: Demotai-wa Nyuu Yooku-ni osikaketa
    demonstrators-TOP New York-to thronged
    'The demonstrators thronged to New York.'

    B: sore-wa Wasinton-ni mo da yo
    that-TOP Washington-to also COP
    '(lit.) That's to Washington D.C. as well.'

    -TOP New York-to went
    'John went to New York.'

    B: Sore-wa Wasinton-ni mo da.
    that-TOP Washington-to also COP
    '(lit.) That's also to Washington.'

The use of the copula structure with an overt subject seems to be degraded in (124B), compared with (47B'), although in both cases the case-marker functions in the same way. As H. Hoji pointed out to me, the amount of information that sore 'that' bears seems to be at play here. The more information it carries, the more felicitous its use is. But I do not have a clear account on this issue. I will also have to leave it for future research.
5.6. Summary

In this chapter, I have investigated the sloppy identity reading in Japanese stripping and showed that it behaves in exactly the same way as Japanese sluicing, giving further support for the position taken in Hoji & Li 1994 and Fukaya & Hoji 1999. Regarding cm stripping, we have seen that the negative predictions and positive expectations made by the hypothesis in (1), repeated here, are confirmed, just in the case of Japanese contrast sluicing investigated in chapter 4, if we avoid cases where the copula analysis is possible for cm stripping.

(1) (=chapter 4 (80))

The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (co-I-indexation-based sloppy reading)

(3) is a summary of the negative predictions and positive expectations we have confirmed.
Table 14 (repeated): Negative predictions and positive expectations regarding the availability of the sloppy reading in cm stripping

<table>
<thead>
<tr>
<th>(3)</th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A preceeds B at PF</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>b.</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>e.</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>f.</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>h.</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>i.</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>k.</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

We have also seen that non-cm stripping gives rise to the sloppy reading even in cases where its cm counterparts do not, again just as in the case of non-cm sluicing.

We have also examined the availability of the sloppy reading in cm stripping instances that have a configuration parallel to that of cm regular sluicing, as indicated in (123), and shown that this type of cm stripping behaves exactly like cm regular sluicing.

(123) a. 1st conjunct:

\[
[\text{NP}_2 \quad [... \text{dependent term}_2 \quad ... \quad \text{wh-phrase/NP-cm} \quad ... \quad \text{C}] \quad \text{V}]
\]

\(<\text{antecedent}>\) \hspace{1cm} <\text{correlate}>

b. 2nd conjunct:

\[
[\text{NP}_3 \quad [... \text{wh-phrase/NP-cm} \quad \text{C}] \quad \text{V}]
\]

\(<\text{antecedent}>\) \hspace{1cm} <\text{remnant}>
With the parallelism we have observed between sluicing and stripping regarding the availability of the sloppy reading, along with the parallelism regarding island sensitivity seen in chapters 2 and 3, we conclude that we have strong evidence that sluicing and stripping are manifestations of the same syntactic phenomenon, substantiating the suggestion made in Hoji & Li 1994 and Fukaya & Hoji 1999a, b, (which in turn draw on Hoji 1990: ch. 5), which was only based on some elementary observations, as we discussed in chapter 1, section 1.1.
Chapter 6

Review of the Previous Analyses and Some Implications

6.1. Introduction

In this chapter, I will review four major approaches to Japanese sluicing that have been proposed in the literature and show that none of them can account for the full range of facts that our analysis can account for. I will also discuss some implications of our proposal for the analysis of sluicing and fragments in English.

6.2. Previous Approaches to Sluicing in Japanese

There are four major approaches to Japanese sluicing in the literature: (i) the wh-movement and deletion analysis by Takahashi (1994), (ii) the non-movement wh analysis by Nishigauchi (1999), who adopts the analysis of English sluicing by Chung, Ladusaw, and McCloskey (1995) (CLM), (iii) the copula structure analysis by Nishiyama, Whitman, and Yi (1995) (NWY), and (iv) the reduced cleft analysis by Shimoyama (1995), Kizu (1997), Kuwabara (1997), Saito (2004), etc. In this section, I will critically review these four approaches.

6.2.1. The wh-movement and deletion analysis

Takahashi (1994) claims that cm sluicing in Japanese exhibits the same characteristics as sluicing in English and, equating these two in terms of their formal properties, he proposes a deletion analysis which is a reinterpretation of Ross's (1969)
line of analysis of English sluicing within a more current generative framework. Following Chomsky (1995: 203), he adopts the copy theory of movement and the "QR-like" operation (see (1-ii) below), and argues for the following derivation for sluicing in Japanese as well as in English.

(1)  
   i. The wh-phrase moves to [Spec, CP] and enters into a checking configuration with [+WH] C0, as in (2a) and (3a).
   ii. The operator part of the wh-phrase gets adjoined to the wh-phrase; everything but the operator deletes in the operator position [Spec, CP], and the copy of what remains in the operator position deletes in the trace position, as in (2b) and (3b).
   iii. The lower IP deletes at PF under LF identity with a discourse-available phrase marker, as in (2c) and (3c).

(2) (based on Takahashi 1994: (37))
   a. Guess [CP what [C C [IP John bought what]]] (SS after wh-movement)
   b. Guess [CP WH [C C [IP John bought something]]] (LF)
   c. Guess [CP what [C C [IP e ]]] (PF)

(3)  
   a. Boku-wa [CP nani-o [C [IP kanozyo-ga nani-o katta] [C ka]]]  
      1-TOP what-ACC she-NOM what-ACC bought Q
      wakaranai. (SS)  
      know.not
   b. Boku-wa [CP WH [C [IP kanozyo-ga nanika-o katta] [C ka]]]  
      1-TOP wh she-NOM something-ACC bought Q
This approach faces some empirical problems. First, if wh-movement is involved as Takahashi claims, there is no reason that cm and non-cm sluicing behave distinctly with respect to island sensitivity as we have seen in chapter 2. Crucially, some types of cm sluicing (e.g., cm contrast sluicing with an *else*-remnant) exhibit island effects, while their non-cm counterparts do not, and his analysis cannot account for the difference. Takahashi in fact notes the difference between cm and non-cm sluicing in his footnote 1, but puts it out of consideration, stating that the properties of non-cm NPs are unclear. Although the status of non-cm sluicing is surely unclear (given that it is an instance of deep anaphora, as we have claimed in chapters 2 and 4), it is obvious that the remnant is a wh-phrase. If locality effects were indeed brought about by wh-movement, it would be unclear why wh-phrases without a case-marker are free from the effects; regardless of the presence or the absence of a case marker, the wh-movement must take place if sluicing in Japanese is necessarily analyzed as involving the movement of the remnant wh-phrase from its $\theta$-position to a Spec of CP, as indicated in (3a). One would be forced to say that a wh-phrase with a case-marker undergoes wh-movement while a wh-phrase without it does not, if one were to adhere to the wh-movement analysis. Or one would have to adopt our hypothesis that non-cm sluicing can have a radically different structure from its cm counterpart.
As demonstrated in chapter 2, the difference between cm and non-cm sluicing in regard to the locality effects must be attributed to the structural difference between them. Cm sluicing, as an instance of surface anaphora, requires a reconstruction of a structure parallel to the antecedent clause, and in order to obtain what is to be reconstructed, Constituent Raising need to take place. This movement induces island effects. Non-cm sluicing, which can be an instance of deep anaphora, does not require such a reconstruction, and thus can be free from island effects.

A second empirical problem with a wh-movement and deletion analysis of the sort pursued in Takahashi 1994 has to do with cm contrast sluicing cases where the correlate is a Name, a nonquantificational element, as in (4).

(4) (=chapter 2: (17))

[keisatu-wa [ISLAND [pro2 [Tanaka giin]-ni wairo-o okutta]]

police-TOP Rep. Tanaka-to bribe-ACC gave

otoko2]-o taihosita ga, Bill-wa [dono giin-ni ka] siranakatta rasii.

man -ACC arrested but -TOP which Rep. -to Q knew:not seem

'The police arrested the man who gave a bribe to Representative Tanaka, but it seems that Bill didn't know which Representative.'

The approach under discussion crucially relies on wh-movement and the QR-like operation, which leaves a quantificational element in the second clause, as seen in (2b) and (3b). The relevant IP in (2b), for example, is deleted under identity with the phrase marker "John bought something" that is available in the discourse. But in the case of cm contrast sluicing, such a phrase marker is not available. One potential way
out of this problem is to assume that the definite correlate in fact undergoes CR in our
term to ensure LF identity for deletion. Another potential solution might be to
assume the operation of F-Closure proposed in Merchant 2001 as in (5), for the first
conjunct.

(5) \(\approx\) Merchant 2001: ch. 1:(8); slightly simplified

F-closure:

The F-closure of \(\alpha\), written F-clo(\(\alpha\)), is the result of replacing F-marked
parts of \(\alpha\) with \(\exists\)-bound variables of the appropriate type.

(5) is basically an operation of replacing the F(ocus)-marked item by a variable and
having it bound by an existential operator. Note that in this second solution no
movement is involved. Whether one takes the first solution or the second, a problem
arises. As we saw in chapter 2, whether island effects are observed in Japanese
contrast sluicing depends on the type of the remnant. Compare (4) and (6).

(6) (=chapter 2: (18))

\[
\begin{align*}
\text{boku-wa keisatu-ga} & \quad [\text{ISLAND } [\text{Tanaka giin]}-ni \text{ wairo-o okutta} \\
\text{I-TOP} & \quad \text{police-NOM} \quad \text{Rep. Tanaka-to bribe-ACC gave} \\
\text{otoko]-o taihosita no-wa sitteiru ga,} & \quad \text{man -ACC arrested that-TOP know but} \\
\text{[[hoka-no dono giin]-ni ka]-wa siranai.} & \quad \text{other-GEN which Rep.-to Q -TOP know:not}
\end{align*}
\]

'I know that the police arrested the man who gave a bribe to Representative
Tanaka, but I don't know which other Representative.'
Recall that in (4) the non-local reading ("Bill didn't know which Representative is such that the police arrested the man who gave a bribe to him") seems to be available while in (6) the non-local reading ("I don't know which other Representative is such that the police arrested the man who gave a bribe to him") is unavailable.

Takahashi’s (1994) system, whether it is supplemented by CR or F-Closure, would not be able to distinguish between (4) and (6). With CR, both would be predicted to be unacceptable, and with F-Closure, both would be expected to be acceptable, unless it adopts the local vs. non-local resolution approach we have proposed. In our account, the above fact is crucially related to whether the local and the non-local resolutions give rise to distinct readings. We demonstrated that island effects are observed in cases like (6) because the local resolution gives rise to a reading distinct from the reading which the syntactically unavailable non-local resolution would yield. On the other hand, the island effects are not detected in cases like (4) because the local resolution yields a reading indistinguishable from the reading which the syntactically unavailable non-local resolution would give rise to.

Third, this approach fails to capture the clear parallelism between sluicing and stripping. In this analysis, stripping cannot be derived in the same way as sluicing because wh-movement plays a crucial role in this account of sluicing, and thus their similarities would be coincidental, unless it stipulates that stripping in Japanese somehow shares the relevant properties of wh-interrogatives. On the other hand, the clear parallelism between sluicing and stripping in regard to locality effects and the distribution of the sloppy reading availability, as seen in the preceding chapters, is
captured in a natural way in our account because they are claimed to share the same syntactic derivation.

6.2.2. Non-movement wh analysis


(7) An empty category is base-generated under an IP which is in the complement to C with the [+Q] feature.

(8) a. IP Recycling

b. Merger

c. Sprouting

IP Recycling is an operation which copies "the LF of some discourse-available IP into the empty IP position" (CLM, 246). Merger is "the process whereby the conditions on the semantic variable bound by the Q-operator are inherited from the content of two phrases, the Wh-indefinite and (the relevant subportion of) the inner antecedent" (CLM, 251).

To be more specific, let us illustrate how their system works for the example in (9).

\footnote{Since Sprouting is not of direct relevance here, I will leave it aside in the following discussion.}
(9) (=CLM's (14))

A: John said Joan saw someone from her graduating class.

B: I wonder who.

The remnant in (9B) is base-generated as in (10).

\[
(10) \quad \begin{array}{c}
\text{CP} \\
\text{DP} \\
[\text{WH}] \\
\triangle \text{who}^x \\
\text{C}^0 \\
\text{IP} \\
[+Q] \\
\text{e} \\
\text{e}'
\end{array}
\]

According to CLM, this structure is defective in two ways.

(11) a. The displaced constituent would not syntactically bind any position in the IP, and consequently would have no way to contribute to the interpretation of the sentence--a violation of Full Interpretation.

b. The empty IP would provide no content for the nuclear scope of the Q-operator, thereby violating the ban on vacuous variable binding.

(CLM, 246)

In order to mend these defects, the two operations in (8a-b), i.e., *IP Recycling* and *Merger*, apply. After IP Recycling, the structure in (10) looks like (12).
(12) After IP Recycling:

Then by the operation Merger, *who* and *someone* are merged and given the same index as in (13), and with that coindexation the LF can be interpreted.

(13) After Merger:
Note that in their theory there is no wh-movement involved in the derivation of sluicing because the wh-phrase remnant is base-generated in the SpecCP. Note also that in their system the indefinite does not move in the first conjunct because it turns into a variable in its original position after copying. CLM adopt the Kamp/Heim theory of indefinites and claim that "indefinites are interpreted as 'restricted free variable', available for discourse-level assignment of a referent or for binding by some other operator" (CLM, 251). Since there is no movement involved in either the antecedent or the ellipsis sites, no island effects are expected to emerge in sluicing. Their theory thus captures the observation first noted in Ross 1969, and subsequently discussed in Levin 1982 and Merchant 2002, among others, that sluicing in English does not exhibit island effects.

When adopted in the analysis of Japanese sluicing, this account faces the same problems as Takahashi's analysis. First, since this analysis can only handle wh-interrogatives, it fails to capture the clear similarities between sluicing and stripping in Japanese, unless it stipulates in some way that the relevant properties of wh-interrogatives are shared by stripping in Japanese.

Second, this approach, as it stands, cannot handle the cases where the correlate is a definite, as in contrast sluicing.² As in the case of Takahashi's account, this problem can be overcome by assuming either CR or the operation of F-Closure. In either case, an IP with a variable obtained by the operation gets copied onto the empty IP in the

---

² This is a problem also for CLM because English allows contrast sluicing. See section 6.3.1.
second conjunct. Again, as in the case of Takahashi's approach, this analysis faces a problem with either of the solutions (unless it adopts the local vs. non-local resolution approach we have proposed). If Nishigauchi adopts the former, his analysis would predict that sluicing with a definite correlate always induces island effects. Then his theory would not be able to account for the fact that some cases of sluicing with a definite correlate does not seem to induce island effects, as observed in Japanese definite-correlate sluicing with an *else*-less remnant, as in (4), repeated here.

(4) (=chapter 2: (17))

\[
\text{[keisatu-wa [ISLAND [pro2 [Tanaka giin]-ni wairo-o okutta] police-TOP Rep. Tanaka-to bribe-ACC gave otoko2]-o taihosita ga, Bill-wa [dono giin-ni ka] siranakatta rasii. man -ACC arrested but -TOP which Rep. -to Q knew: not seem 'The police arrested the man who gave a bribe to Representative Tanaka, but it seems that Bill didn't know which Representative.'}
\]

If he adopts the latter solution, i.e., the F-closure approach, then it would be expected in his theory that sluicing with a definite correlate does not induce island effects. Then, cases like (6), repeated here, where island effects are observed, would remain unaccounted for.

(6) (=chapter 2: (18))

\[
\text{[ISLAND [Tanaka giin]-ni wairo-o okutta boku-wa keisatu-ga police-NOM Rep. Tanaka-to bribe-ACC gave I-TOP]}
\]
otoko]-o taihosita no-wa sitteiru ga,
man -ACC arrested that-TOP know but
[[hoka-no dono giin]-ni ka]-wa siranai.
other-GEN which Rep.-to Q -TOP know: not
'I know that the police arrested the man who gave a bribe to Representative Tanaka, but I don't know which other Representative.'

A third problem with this approach is that it does not distinguish between cm and non-cm sluicing. Since nothing would distinguish the derivations of cm sluicing and non-cm sluicing in this approach, their differences with respect to island effects and the availability of the sloppy reading cannot be captured. In other word, this account cannot answer the following questions.

(14) a. Why are island effects detected in cm contrast sluicing, but not in non-cm contrast sluicing?

b. Why is the sloppy reading more widely available in non-cm sluicing than in cm sluicing?

Our approach, on the other hand, can capture (i) the difference between cm and non-cm sluicing, (ii) the difference between subcases in cm contrast sluicing as exemplified in (4) and (6), and (iii) the parallelism between sluicing and stripping, as seen in the previous subsection.

6.2.3. The copula structure analysis

Nishiyama, Whitman, and Yi (1995) (NWY, henceforth) propose that sluicing in Japanese like the second conjunct in (15a) should be analyzed as in (15b).
Since their analysis does not distinguish between cm and non-cm sluicing, however, it faces a problem in regard to island sensitivity and the availability of the sloppy reading. It fails to account for the differences which I demonstrated in chapters 2 and 4: (i) some instances of cm contrast sluicing exhibits locality effects while their non-cm counterparts do not, and (ii) cm contrast sluicing exhibits restricted availability of the sloppy reading while its non-cm counterpart does not. Since the representation in (15b) is the same as the one we proposed for non-cm sluicing, it is expected, as in the case of non-cm sluicing, that cm contrast sluicing would not give rise to locality effects and that the sloppy reading would be more widely available in cm contrast sluicing. Recall that the availability of the sloppy reading in cm contrast sluicing is constrained by the conditions on the structural relations between the antecedent and the dependent term as well as the lexical condition on the dependent
term. In non-cm contrast sluicing, on the other hand, such restrictions are not observed. Compare the summary tables in (16) and (17) from chapter 4.

Table 11 (repeated): Negative predictions and positive expectations regarding the availability of the sloppy reading in cm contrast sluicing

<table>
<thead>
<tr>
<th></th>
<th>1st conjunct</th>
<th></th>
<th>2nd conjunct</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
<td>FD ok?</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>yes</td>
<td>small so-</td>
<td>FD</td>
</tr>
<tr>
<td>b.</td>
<td>large so-</td>
<td>*</td>
<td>ID</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>a-</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>no</td>
<td>small so-</td>
<td>*</td>
</tr>
<tr>
<td>e.</td>
<td>large so-</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>a-</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>yes</td>
<td>small so-</td>
<td>*</td>
</tr>
<tr>
<td>h.</td>
<td>large so-</td>
<td>*</td>
<td>ID</td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>a-</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>no</td>
<td>small so-</td>
<td>FD</td>
</tr>
<tr>
<td>k.</td>
<td>large so-</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>l.</td>
<td>a-</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Table 12 (repeated): The availability of the sloppy reading in non-cm contrast sluicing

<table>
<thead>
<tr>
<th></th>
<th>A c-c's B at LF</th>
<th>A precedes B at PF</th>
<th>B</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yes</td>
<td>Yes</td>
<td>small so-</td>
<td>ok</td>
</tr>
<tr>
<td>b.</td>
<td>large so-</td>
<td>a-</td>
<td>ok</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
<td></td>
<td></td>
<td>ok</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>No</td>
<td>small so-</td>
<td>ok</td>
</tr>
<tr>
<td>e.</td>
<td>large so-</td>
<td>a-</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td></td>
<td></td>
<td></td>
<td>ok</td>
</tr>
<tr>
<td>g.</td>
<td>no</td>
<td>Yes</td>
<td>small so-</td>
<td>ok</td>
</tr>
<tr>
<td>h.</td>
<td>large so-</td>
<td>a-</td>
<td>ok</td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td></td>
<td></td>
<td></td>
<td>ok</td>
</tr>
<tr>
<td>j.</td>
<td>yes</td>
<td>No</td>
<td>small so-</td>
<td>ok</td>
</tr>
<tr>
<td>k.</td>
<td>large so-</td>
<td>a-</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>l.</td>
<td></td>
<td></td>
<td></td>
<td>ok</td>
</tr>
</tbody>
</table>
It should be noted that under the conditions specified in (c), (d), (f), (i), and (l) in (16) and (17), the sloppy reading is not available in cm contrast sluicing while it is available in its non-cm counterpart. NWY's approach cannot account for these differences.

6.2.4. The reduced cleft analysis

6.2.4.1. An overview

A number of linguists propose to analyze sluicing as an instance of the cleft construction; Hoji 1990:Ch.5, Shimoyama 1995, Kizu 1997, Kuwabara 1997, and Saito 2004 are among those. NWY's approach could also be subsumed under this approach, but I discussed it in a different subsection because it is not clear whether NWY advocate reconstruction of an IP onto the pro in (15b) although they hint at the possibility.

Technical details aside, they agree that sluicing as in (18a) is a reduced form of the cleft construction as in (18b).

(18) a. Minna-wa [John-ga dareka-o a siteiru to] itta ga,
    everyone- TOP - NOM someone- ACC love that said but

boku-wa [dare-o ka] wakaranai.
    I- TOP who- ACC Q know.not

'Everyone said John loves someone, but I don't know who.'

3 It is suggested in Hoji 1990: ch.5 that what underlies stripping in Japanese is the cleft construction. Given that the position pursued/suggested in Hoji & Li 1994, based on Hoji 1990: ch. 5, is that sluicing is a subcase of stripping, it seems reasonable to include Hoji 1990: ch. 5 and Hoji & Li 1994 in this group.

4 Hiraiwa & Ishihara 2002 (H&I) can also be considered to belong to this group, although they do not propose to link the cleft and sluicing directly. See footnote 4 of chapter 1.
b. boku-wa [[John-ga t aisiteiru no]-ga dare-o da] ka wakaranai.

I-TOP -NOM love C -NOM who-ACC COP Q know.not

'I don't know who it is that John loves.'

Since the element situated in the focus position does not have to be a wh-phrase, as in (19), stripping can also be derived as a reduced cleft construction. Thus, this approach can capture the similarities between sluicing and stripping that other approaches fail to.

(19) [[John-ga t aisiteiru no]-wa Mary-o da]

-NOM love C -TOP -ACC COP

'It is Mary that John loves.'

Given this analysis, what is impossible in the cleft is predicted to be impossible also in stripping/sluicing. The focus position of the cm-cleft construction fails to exhibit A-properties, as discussed in Hoji & Ueyama 2003. Therefore, it is predicted under the analysis in question that the remnant of the cm-stripping/sluicing also fails to exhibit A-properties. This negative prediction, however, is disconfirmed, as we will observe directly.

6.2.4.2. Stripping and the Cleft construction

As the background, let us consider scrambling cases first. Compare the pairs in (20) and (21).

(20) a. [[soko-ni buhin-o noonyuu siteita] meekaa]-ga

that:place-DAT parts-ACC supplied maker-NOM
a. [[kanari-no kazu]-no nikkee kigyoo]-o uttaeta rasii yo
   a:large:number-GEN Japanese company-ACC sued they:say
   '(lit.) They say that a manufacturer that had supplied parts to it sued a large number of Japanese companies.'

b. [[kanari-no kazu]-no nikkee kigyoo]-o
   a:large:number-GEN Japanese company-ACC
   [[soko-ni buhin-o noonyuu siteita meekaa]-ga uttaeta rasii yo
   that:place-DAT parts-ACC supplied maker-NOM sued they:say
   '(lit.) They say that a large number of Japanese companies, a manufacturer that had supplied parts to it sued.'

(21) a. [[keizaikai-no kuromaku]-ga
   financial:world-GEN wirepuller-NOM
   [soko-ni buhin-o noonyuu siteita meekaa]-ni
   that:place-DAT parts-ACC supplied maker-DAT
   [[55% izyoo]-no nikkee kigyoo]-o uttaesaseta rasii yo.
   55%:more-GEN Japanese company-ACC sue:caused they:say
   '(lit.) They say the wirepuller in the financial world had a manufacturer that got supplied parts to it to sue 55% or over of the Japanese company.'

b. [[55%izyoo]-no nikkee kigyoo]-o [[keizaikai-no kuromaku]-ga
   55%:more-GEN Japanese company-ACC financial:world-GEN wirepuller-NOM
   [soko-ni buhin-o noonyuu siteita meekaa]-ni uttaesaseta rasii yo.
   that:place-DAT parts-ACC supplied maker-DAT sue:caused they:say
'(lit.) They say more than 55% of the Japanese company, the wirepuller in the financial world got a manufacturer that had supplied parts to it to sue.'

(20a) has the order in (22a), and (21a) has the order in (23a). (20b) has the order in (22b), and (21b) has the order in (23b).

(22) a. $[\text{[NP …it… ]-NOM QP-ACC V}]$
   b. $[\text{QP-ACC [NP …it… ]-NOM V}]$

(23) a. $[\text{NP-NOM [NP …it… ]-DAT QP-ACC V}]$
   b. $[\text{QP-ACC NP-NOM [NP …it… ]-DAT V}]$

Although (20b) and (21b) give rise to the distributive readings in (24) and (25), respectively, (20a) and (21a) do not.

(24) A large number of Japanese companies are the $x$ such that a manufacturer that had supplied parts to $x$ sued $x$.

(25) More than 55% of the Japanese companies are the $x$ such that the wirepuller in the financial world got a manufacturer that had supplied parts to $x$ to sue $x$.

If (20a) and (21a) have the schematic structures in (26) after QR, the unavailability of the BVA reading in (20a) and (21a) can be assumed to be an instance of the weak crossover (WCO) effects as informally stated in (27).\footnote{Cf. Postal 1971, Wasow 1972, Chomsky 1976, Evans 1977, Partee 1978, and Reinhart 1983, among others, for discussion of the WCO effects.}

(26) a. $[\text{QP-ACC [[NP …it… ]-NOM t V}]$
   b. $[\text{QP-ACC [NP-NOM [NP …it… ]-DAT t V}]$
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(27) (Ueyama 1998: ch. 2 (13))

A dependent term in BVA must be c-commanded by the (QR-) trace of a QP at LF.

Note that the trace of the QP does not c-command the dependent term within $[\text{NP} \ldots it\ldots \text{-NOM}]$ in (26a) and within $[\text{NP} \ldots it\ldots \text{-DAT}]$ in (26b). The availability of the BVA reading in (20b) and (21b) indicates that scrambling counterparts do not exhibit the WCO effects. This has been taken in the literature to be evidence that the dislocated element in the short-distance (i.e., clause-internal) scrambling in Japanese (the accusative-marked NPs in cases at hand) exhibits an A-property.

With this much background, let us return to stripping and the cleft construction. First, consider the stripping instances in (28) and (29).

(28) A: Toyota-o [soko-ni buhin-o noonyuu siteita meekaa]-ga

-ACC that:place-DAT parts-ACC supplied maker-NOM

uttaeta soo da ne.

sued they:say

'(lit.) I heard that Toyota, a manufacturer that had supplied parts to it sued _.'

B: (sinbun-ni yoruto) [[kanari-no kazu]-no nikkee kigyoo]-o rasii yo.

newspaper-DAT according a:large:number-GEN Japanese company-ACC they:say

'(lit.) (According to the newspaper,) a large number of Japanese companies.'

(29) A: Toyota-o [keizaikai-no kuromaku]-ga

-ACC financial:world-GEN wirepuller-NOM

Note that the trace of the QP does not c-command the dependent term within $[\text{NP} \ldots it\ldots \text{-NOM}]$ in (26a) and within $[\text{NP} \ldots it\ldots \text{-DAT}]$ in (26b). The availability of the BVA reading in (20b) and (21b) indicates that scrambling counterparts do not exhibit the WCO effects. This has been taken in the literature to be evidence that the dislocated element in the short-distance (i.e., clause-internal) scrambling in Japanese (the accusative-marked NPs in cases at hand) exhibits an A-property.

With this much background, let us return to stripping and the cleft construction. First, consider the stripping instances in (28) and (29).

(28) A: Toyota-o [soko-ni buhin-o noonyuu siteita meekaa]-ga

-ACC that:place-DAT parts-ACC supplied maker-NOM

uttaeta soo da ne.

sued they:say

'(lit.) I heard that Toyota, a manufacturer that had supplied parts to it sued _.'

B: (sinbun-ni yoruto) [[kanari-no kazu]-no nikkee kigyoo]-o rasii yo.

newspaper-DAT according a:large:number-GEN Japanese company-ACC they:say

'(lit.) (According to the newspaper,) a large number of Japanese companies.'

(29) A: Toyota-o [keizaikai-no kuromaku]-ga

-ACC financial:world-GEN wirepuller-NOM
(28B) and (29B) give rise to the BVA readings in (24) and (25), respectively. By contrast, the cleft constructions in (30) and (31) do not give rise to the BVA readings.

(30) A: Toyota-o [soko-ni buhin-o noonyuu siteita meekaa]-ga

-[ACC that:place-DAT parts-ACC supplied maker-NOM

uttaeta soo da ne.

sued they:say

'(lit.) I heard that Toyota, a manufacturer that had supplied parts to it sued _.'

B: (sinbun-ni yoruto) [[soko-ni buhin-o noonyuu siteita meekaa]-ga

newspaper-DAT according that:place-DAT parts-ACC supplied maker-NOM

uttaeta no]-wa [[kanari-no kazu]-no nikkee kigyoo]-o rasii yo.

sued that-TOP a:large:number-GEN Japanese company-ACC I:heard

(31) A: Toyota-o [keizaikai-no kuromaku]-ga

-[ACC financial:world-GEN wirepuller-NOM

[soko-ni buhin-o noonyuu siteita meekaa]-ni uttaesaseta rasii ne.

that:place-DAT parts-ACC supplied maker-DAT sue:caused they:say
'(lit.) I heard that Toyota, the wirepuller in the financial world got a manufacturer that had supplied parts to it to sue _.'

B: (uwasa-ni yoruto) [[keizaikai-no kuromaku]-ga rumor-DAT according financial:world-GEN wirepuller-NOM [soko-ni buhin-o noonyuu siteita meekaa]-ni uttaesaseta no]-wa that:place-DAT parts-ACC supplied maker-DAT sue:caused [[55% izyoo]-no nikkee kigyoo]-o rasii yo. 55%-more-GEN Japanese company-ACC I:heard

'(According to the rumor) it is more than 55% of the Japanese companies that the wirepuller in the financial world got a manufacturer that had supplied parts to it.'

This fact indicates that the remnant in stripping behaves in the same way as the dislocated element in short-distance scrambling in (20b) and (21b), while the element in the focus position in the cleft construction does not. Based on this observation, I claim that stripping cannot be reduced to the cleft construction. Then, if sluicing is reducible to the cleft construction, sluicing and stripping are concluded to be distinct in structure, which is undesirable, given their clear similarities observed in the preceding chapters. If we maintain that stripping and sluicing have the same syntactic structure, on the other hand, then we would be led to conclude that sluicing is not reducible to the cleft construction.
Before moving on to the next problem of the cleft construction approach, let us examine how the remnant in stripping can exhibit the A-property. Recall that the second sentence in (28), repeated here, gives rise to the BVA reading.

(28)  A: Toyota-o [soko-ni buhin-o noonyuu siteita meekaa]-ga

-ACC that:place-DAT parts-ACC supplied maker-NOM

uttaeta soo da ne.

sued they:say

'(lit.) I heard that Toyota, a manufacturer that had supplied parts to it sued _.'

B: (sinbun-ni yoruto) [[kanari-no kazu]-no nikkee kigyoo]-o rasii yo.

newspaper-DATE according a:large:number-GEN Japanese company-ACC they:say

'(lit.) (According to the newspaper,) a large number of Japanese companies.'

As we have claimed in the previous chapters, stripping has the IP-adjoined structure. (28B) is thus postulated to have the schematic structure in (32).

(32)  [IP QP-ACC [IP Ø ]]

One might wonder if it would be necessary to stipulate that the IP-adjoined position should be allowed to have A-properties. I would like to suggest instead that the IP-adjoined position, like any other adjoined position, should be considered as not having A-properties. Then, how would it be possible for the IP-adjoined position to exhibit A-properties? I claim that the first sentence can be schematically represented
as (33), according to Ueyama's (1998, 2003) account of scrambling in Japanese.\(^6\)

\[(33) \quad [\text{XP} \; \text{NP-ACC} \; [\text{IP} \; \text{Op} \; [\text{IP} \; [\text{NP} \; \ldots \; \text{soko} \; \ldots \text{-NOM}] \; \text{top} \; \text{V}]]]]\]

NP-ACC sits in the sentence-initial A-position. CR raises the NP, and the structure in (34) results.

\[(34) \quad [\text{XP} \; \text{NP-ACC} \; [\text{XP} \; \text{t} \; [\text{IP} \; \text{Op} \; [\text{IP} \; [\text{NP} \; \ldots \; \text{soko} \; \ldots \text{-NOM}] \; \text{top} \; \text{V}]]]]]\]

The lower XP is then copied onto the empty IP in (32). As a result, we get (35).

\[(35) \quad [\text{IP} \; \text{QP-ACC} \; [\text{XP} \; \text{t} \; [\text{IP} \; \text{Op} \; [\text{IP} \; [\text{NP} \; \ldots \; \text{soko} \; \ldots \text{-NOM}] \; \text{top} \; \text{V}]]]]]\]

The QP-ACC is then associated with the higher t, and this results in a representation parallel to the one where t is a QR-trace of the QP. Then, the trace of QP c-commands the dependent term soko 'that place', and hence, the WCO effects do not emerge.

## 6.2.4.3. An issue with non-cm sluicing

More direct evidence against the cleft analysis of sluicing comes from the distribution of the sloppy reading in non-cm contrast sluicing. Consider (36).

\[(36) \quad \text{a.} \quad (=\text{chapter 4: (104)}) \]

kensatu-wa Toyota-ö [naganen asoko-ni kekkan buhin-o
prosecutor-TOP -ACC long:years that:place-to defective parts-ACC
noonyuu siteita gyroosya]-to doozai da to
supplying supplier-with equally:guilty COP that

\[^6\text{Note that as I did in the previous chapters, I denote the maximal projection that hosts the sentence-initial A-position as XP.}\]
danzita no wa oboetairu ga,
concluded that -TOP remember but
[hoka-no dono zidoosya gaisya]-o ka wa oboetainai.
other-GEN which auto:company -ACC Q TOP remember:not
'I remember that the prosecutor concluded Toyota to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time, but I don't remember which other automobile company.'

b. (=chapter 4: (167))

kensatu-wa Toyota-o [naganen asoko-ni kekkan buhin-o
prosecutor-TOP -ACC long:years that:place-to defective parts-ACC
noonyuu siteita gyooseya]-to doozai da to
supplying supplier-with equally:guilty COP that
danzita no wa oboetairu ga,
concluded that -TOP remember but
[hoka-no dono zidoosya gaisya] ka wa oboetainai.
other-GEN which auto:company Q TOP remember:not
'I remember that the prosecutor concluded Toyota to be as guilty as the supplier that had been supplying Toyota with defective parts for a long time, but I don't remember which other automobile company.'

(36a) is an instance of cm contrast sluicing, and (36b) is its non-cm counterpart. Note that the dependent term is an a-word in both cases.
It was observed in chapter 4 that the cm contrast sluicing does not give rise to the sloppy reading if the dependent term is an $a$-word. (36a) does not give rise to the sloppy reading in (37a). It only yields the strict reading in (37b).

(37) a. I remember that the prosecutor concluded Toyota to be as guilty as the parts supplier that had supplied defective parts to Toyota for a long time, but I don't remember [which other auto company], the prosecutor concluded to be as responsible as the parts supplier that had supplied defective parts to it, for a long time.

b. I remember that the prosecutor concluded Toyota to be as guilty as the parts supplier that had supplied defective parts to Toyota for a long time, but I don't remember which other auto manufacturer the prosecutor concluded to be as guilty as the parts supplier that had supplied defective parts to Toyota for a long time.

Let us consider its cleft version in (38).

(38) [kensatu-ga ec [naganen asoko-ni kekkan buhin-o prosecutor-NOM long:years that:place-to defective parts-ACC noonyuu siteita gyoosya]-to doozai da to supplying supplier-with equally:guilty COP that danzita no] ga [hoka-no dono zidoosya gaisya]-o ka wa oboeteinai. concluded that -NOM other-GEN which auto:company-ACC Q TOP remember:not
'I don't remember which other automobile company it is that the prosecutor concluded _ to be as guilty as the supplier that had supplied defective parts to that company for a long time.'

Since [hoka-no dono zidoosya gaisya]-o 'which other automobile company-ACC' cannot refer to a specific entity, it cannot be "coreferential" with asoko 'that place', which bears a D-index. Thus, the reading in (37a) does not obtain, while the reading in (37b) does. This is compatible with the reading available in the case of its sluicing counterpart.

Now consider the non-cm counterpart of (38).

(39) [kensatu-ga ec [naganen asoko-ni kekkan buhin-o prosecutor-NOM long:years that:place-to defective parts-ACC noonyuu siteita gyoosya]-to doozai da to supplying supplier-with equally:guilty COP that danzita no] ga [hoka-no dono zidoosya gaisya] ka wa oboeteinai. concluded that -NOM other-GEN which auto:company Q TOP remember:not

'I don't remember which other automobile company it is that the prosecutor concluded _ to be as guilty as the supplier that had supplied defective parts to that company for a long time.'

In the non-cm cleft construction in (39), the reading in (37a) remains to be unavailable. This contrasts with the availability of the sloppy reading in non-cm contrast sluicing in

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7 See section 4.3.3 of chapter 4 for discussion about how the reference of a D-indexed NP is determined.
(36b). Based on this observation, I conclude that non-cm sluicing is not reducible to the cleft construction.

In our account, the non-cm sluicing can have the copula structure in (40), which NWY propose for Japanese sluicing in general.

\[(\text{pro wh-phrase COP}) \ldots\]

Pro, being an instance of deep anaphora, can refer to a property available in the discourse. In the case of (36b), it can refer to the property of being the company such that the prosecutor concluded it to be as guilty as the supplier that had supplied defective parts to it for a long time. Then the sluicing instance can be interpreted as "I don't remember which other automobile company that property holds of," and we maintain that this gives rise to what seems to be the sloppy reading as in (37a).

6.2.5. Summary

In this section, I have reviewed four major approaches to sluicing in Japanese: the wh-movement and deletion analysis, the non-movement wh analysis, the copula structure analysis, and the cleft analysis. I have shown that none of these approaches can capture the range of empirical materials our analysis can capture, as summarized in (41).

\[(41)\quad \begin{align*}
\text{a.} & \quad \text{Cm sluicing and non-cm sluicing exhibit distinct properties with respect to island effects: the former exhibits them while the latter does not.} \\
\text{b.} & \quad \text{Cm sluicing and non-cm sluicing exhibit distinct properties with respect to the availability of the sloppy reading: the former has structural and lexical restrictions while the latter does not.}
\end{align*}\]
c. Instances of cm contrast sluicing exhibit distinct properties with respect to island effects, depending on the type of the remnant: cm contrast sluicing with an *else*-remnant exhibits island effects while cm contrast sluicing with a non-*else*-remnant does not.

d. Sluicing and stripping behave in a parallel fashion with respect to island effects and the availability of the sloppy reading.

6.3. Some implications of the analysis in this thesis

6.3.1. Revisiting English sluicing

In this section, I will revisit English sluicing and demonstrate that it also exhibits island effects, just as in the case of Japanese sluicing. I will argue that the relative clause island in English is not a PF representational island, whose violation is ameliorated by deletion, contra Merchant to appear and Fox & Lasnik 2003. The new facts of English sluicing to be observed in this section are a challenge to any theory that is based on the assumption that island violations in general are nullified under sluicing. Based on those new facts, I will suggest that two types of sluicing be distinguished in English, which seem to correspond to case-marked and non-case-marked sluicing in Japanese discussed in Fukaya 1998 and Fukaya & Hoji 1999.

As was first discussed in Ross 1969 and has been widely accepted in the field since, English sluicing with an indefinite correlate does not seem to exhibit island effects.
(42)  a. *They want to hire someone who speaks a Balkan language, but I don't remember which Balkan language they want to hire [someone who speaks _].
   b. They want to hire someone who speaks a Balkan language, but I don't remember which [Balkan language, TF].

   (Merchant 2001: Ch.3 (5))

(43)  a. *Ben will be mad if Abby talks to one of the teachers, but she couldn't remember which one Ben will be mad [if Abby talks to _].
   b. Ben will be mad if Abby talks to one of the teachers, but she couldn't remember which.

   (Merchant to appear: (13a))

Island effects do not seem to be observed in cases where the remnant is marked with a preposition either.

(44)  a. I remember Abby wants to hire someone who works on a Balkan language, but I don't remember on which Balkan language.
   b. I know that the police arrested a man who had sold drugs to a celebrity in LA, but I don't know to whom/to which celebrity.

The island insensitivity in such cases has led the researchers to develop a theory in which island violations are ameliorated in the sluicing context. In what follows, I will re-examine island sensitivity in English sluicing in light of what we have discovered by examining Japanese sluicing, and show that English sluicing also exhibits island sensitivity, contrary to the widely accepted generalization.
6.3.1.1. Contrast sluicing

In order to conduct the relevant tests, we first need to examine the properties of what Merchant (2001: 36-37) calls contrast sluicing in English. (45a) and (45b) are some examples of contrast sluicing.

(45) a. Abby speaks GREEK, but I don't remember what OTHER languages.

   b. She met RINGO, but I don't know who else.

   (Merchant to appear: (50); cf. Merchant 2001:36)

Merchant (to appear) claims that contrast sluicing indeed obeys island constraints, giving the examples in (46).

(46) a. *Abby wants to hire someone who speaks GREEK, but I don't remember what OTHER languages <she wants to hire someone who speaks>.  

   b. *The radio played a song that RINGO wrote, but I don't know who else.

   (Merchant to appear: (52))

In an attempt to account for the unacceptability of (46) while maintaining his account of the acceptability of (42b)/(43b), Merchant claims that the degraded status of these examples is due to the nature of focus movement in the first conjunct. He stipulates that "island-escaping focus-movement cannot target the highest IP" (Merchant to appear: 16). In (46), the wh-phrase requires that its correlate take scope over the

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8 For Barry Schein (p.c., March 2003), this example improves by changing "languages" to "language." He also pointed out that (i) is acceptable for him.

(i) Abby wants to hire someone who speaks three Romance languages, but I don't remember how many Germanic languages.

Some kind of singular/plural matching seems to be at play here, but I have to leave the issue for future research.
entire clause in the antecedent site because of the requirement on parallelism, but the focus movement can only move the correlate to the matrix VP, not to the IP.

It is then expected in this proposal that if there is an extra IP on top of the first conjunct, the result will be acceptable because this should allow focus movement to target the IP that is comparable to the IP complement of the [+wh] C in the second conjunct (i.e., focus movement should be able to target the IP *Abby wants to hire someone who speaks Greek* and the IP *the radio played a song that Ringo wrote yesterday* in (47a) and (47b), respectively). But as the unacceptability of (47) shows, merely having an extra IP (underlined) in the first conjunct does not help.

(47) a. *I know Abby wants to hire someone who speaks GREEK, but JOHN doesn't know what language.
   b. *I know the radio played a song that RINGO wrote yesterday, but JOHN doesn't know who.

The examples in (46) improve, however, if some adjustments are made, such as giving the first and the second conjuncts a parallel matrix clause and the same subject, adjusting the singular/plural mismatch, etc. The examples with such adjustments as in (48) are acceptable (adjustments are underlined).

(48) a. *I remember Abby wants to hire someone who speaks GREEK, but I don't remember which OTHER language.*
   b. *I know the radio played a song that RINGO wrote, but I don't remember who ELSE.*
Although the exact nature of contrast sluicing is not clear, the contrast between (47) and (48) and what is reported in footnote 8 seem to suggest that the acceptability of these contrast sluicing examples is not contingent upon (LF-)syntactic restrictions, such as a restriction on focus movement, as Merchant (to appear) claims.

Note that what is crucial in these examples is that the reading where the wh-phrase takes scope over the relative clause island seems to be available. (48a) seems to give rise to the reading where different languages are spoken by different people, and (48b) appears to yield the reading where different musicians write different songs. In the following sections, I will adopt without discussion the widely accepted assumption that overt wh-movement is involved in the derivation of English sluicing. Given the assumption adopted in chapter 2 that the covariant reading in contrast sluicing arises only if the remnant wh-phrase takes scope over the complex NP island, the availability of these readings thus seems to indicate that the wh-phrase actually moves out of the island in the second conjunct.

6.3.1.2. Contrast sluicing with a prepositional remnant

If we investigate the phenomena more closely, however, a different picture emerges. Consider (49) and (50). (a)-examples are simplex clause cases and (b)-examples are embedded clause cases.

(49) a. I remember Abby works on GREEK, but I don't remember on which OTHER language.

[intended to mean, "I don't remember on which OTHER language Abby works on."]
b. I remember Bill said that Abby worked on GREEK, but I don't remember on which OTHER language.

[intended to mean, "I don't remember on which OTHER language Bill said Abby worked."]

(50) a. I remember that Bill sold drugs to JOHN, but I don't remember to who(m) ELSE.

[intended to mean, "I don't remember to who(m) else Bill sold drugs"]

b. I remember that Mary said Bill sold drugs to JOHN, but I don't remember to who(m) ELSE.

[intended to mean, "I don't remember to who(m) else Mary said Bill sold drugs"]

Speakers who accept sluicing with a pied-piped remnant find these examples to be acceptable.

Now if we combine the pied-piped remnant and modification by else/other, island effects emerge, just as in the analogous cases of Japanese sluicing observed in chapter 2. Compare (51a) and (51b), which minimally differ from each other in the presence vs. absence of the preposition on the wh-phrase.

(51) a. I remember Abby wants to hire someone who works on GREEK, but I don't remember which OTHER language.

b. I remember Abby wants to hire someone who works on GREEK, but I don't remember on which OTHER language.
While the reading where different languages are spoken by different people is available in (51a), the reading is not available in (51b). Likewise, while (52a) gives rise to the reading where different people bought drugs from different dealers, (52b) does not yield such a reading.

(52)  
a. I know that the police arrested a man who had sold drugs to JOHN in LA, but I don't know who ELSE.

b. I know that the police arrested a man who had sold drugs to JOHN in LA, but I don't know to who(m) ELSE.

A generalization emerges regarding the availability of what I have been calling the non-local reading in island contexts, which we record as (53).

(53) The non-local reading is available in contrast sluicing with a bare wh-phrase remnant, while it is not in contrast sluicing with the prepositional wh-phrase remnant.

One complication here is that some speakers do not readily accept sluicing with a pied-piped preposition. For those speakers, the judgments on (51) and (52) seem to be blurred, and they might find the relevant readings available even in cases with a prepositional remnant. In order to get clearer judgments, it is necessary to test with cases where the pied-piping of the preposition is acceptable even for those speakers.9

As Rodman (1972), cited in Postal (1998: 126-129), points out, there are instances in

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9 I am grateful to Christopher Potts (March 2003) for drawing my attention to these cases.
English in which preposition stranding is blocked. Consider the examples in (54) and (55).

(54) a. *Whose sake did you take the stand for?

   b. For whose sake did you take the stand?

(55) a. *What way does John do syntax in?

   b. In what way does John do syntax?

Preposition stranding is unacceptable in these examples.

Now consider (56) and (57), examples of sluicing with a prepositional remnant.

(56) a. I remember Bill took the stand for JOHN's sake, but I don't remember for who ELSE's sake.

   [intended to mean: I don't remember for who else's sake Bill took the stand.]

   b. I remember Abby said Bill took the stand for JOHN's sake, but I don't remember for who ELSE's sake.

   [intended to mean: I don't remember for who else's sake Abby said Bill took the stand.]

(57) a. I know that John did syntax in (the) OPTIMALITY-THEORETICAL way, but I don't remember in what OTHER way.

   [intended to mean: I don't remember in what other way John did syntax]

   b. I know that Abby said John did syntax in (the) OPTIMALITY-THEORETICAL way, but I don't remember in what OTHER way.

   [intended to mean: I don't remember in what other way Abby said John did syntax]
These examples indicate that *for whose else's sake* and *in what other way* are usable in sluicing. Having established that, we can now use these expressions in our experiments. Consider (58).

(58) I remember Abby wants to talk to a person who took the stand for JOHN's sake, but I don't remember for who ELSE's sake.

As in the case of (51b) and (52b), the non-local reading in (59b) is not available for (58).

(59) a. I don't remember for who else's sake he (= the person who Abby wants to talk to) took the stand [the one-witness reading]

   b. I don't remember who else is such that Abby wants to talk to a person who took the stand for his sake [the "covariant" multiple-witnesses reading]

Likewise, (60) does not give rise to the non-local reading in (61b).

(60) I know USC hired someone who did syntax in the OPTIMALITY-THEORETICAL way, but I don't remember in what OTHER way.

(61) a. I don't remember in what other way he (= the person who USC hired) did syntax (the single-linguist reading)

   b. I don't remember what other way is such that USC hired someone who did syntax in it (the multiple-linguists reading)

It thus seems reasonable to conclude that we have established the generalization in (53), repeated here.
The non-local reading is available in contrast sluicing with a bare wh-phrase remnant, while it is not in contrast sluicing with the prepositional wh-phrase remnant.

### 6.3.1.3. Summary of the data

(62) and (63) summarize the sluicing data in English examined in this section.

Table 18: Island sensitivity in English sluicing with an indefinite correlate

<table>
<thead>
<tr>
<th>(62)</th>
<th>remnant type</th>
<th>island effect</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>non-prepositional wh-phrase</td>
<td>no island effects</td>
<td>(42b), (43b)</td>
</tr>
<tr>
<td>b.</td>
<td>prepositional wh-phrase</td>
<td>no island effects</td>
<td>(44)</td>
</tr>
</tbody>
</table>

Table 19: Island sensitivity in English contrast sluicing (with a definite correlate)

<table>
<thead>
<tr>
<th>(63)</th>
<th>remnant type</th>
<th>non-local reading</th>
<th>island effect</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>non-prepositional wh-phrase</td>
<td>available(^{10})</td>
<td>no island effects</td>
<td>(48), (51a), (52a)</td>
</tr>
<tr>
<td>b.</td>
<td>Prepositional wh-phrase</td>
<td>unavailable</td>
<td>effects observed</td>
<td>(51b), (52b), (58), (60)</td>
</tr>
</tbody>
</table>

We have discovered (i) that no island effects are observed in contrast sluicing with a non-prepositional correlate as in (63a), if we look beyond the examples reported in Merchant to appear, and (ii) that island effects are observed in contrast sluicing with a prepositional remnant as in (63b). Note that the observation in (63b) goes against the widely-held generalization that island effects are not observed in English sluicing.

\(^{10}\) Adjunct island effects emerge in sluicing with the remnant with *else* as in (i).

(i) I know that Mary went to the principal's office to file a complaint right after she had a quarrel with Mr. Smith, but I don't know which other teacher/who else.

(i) does not seem to give rise to the reading "I don't know which other teacher is such that Mary went to the principal's office to file a complaint right after she had a quarrel with him," namely, the distinct-occasion reading. English and Japanese sluicing seems to diverge in this case. I will leave this issue for future research.
6.3.1.4. Two types of sluicing in English

Now let us consider how the facts summarized in (63) can be captured. Let us start with (63b). I assume (i) that the wh-phrase in sluicing undergoes regular wh-movement, as schematically shown in (64), and (ii) that this movement is sensitive to islands. Note that, since (63a) is island-insensitive, we cannot attribute the island sensitivity in (63b) to the property of the correlate because (63a) and (63b) have the same type of correlate, i.e., a definite NP.

\[
\text{(64)}
\]

Note crucially that we need to further assume that the island is not a PF island. If it were, the island violation would be ameliorated under deletion and the type of sluicing in (63b) would yield the non-local reading. This conclusion runs counter to the widely accepted assumption that island effects are ameliorated under sluicing.

Now let us go back to (63a). Since we must consider that the island violation under discussion is not ameliorated under sluicing, as we have seen in the case of (63b), sluicing with a non-prepositional remnant would be expected to exhibit an island effect if it only had the same derivation as sluicing with a prepositional remnant in (63b). Since sluicing with a non-prepositional remnant does not exhibit island effects,
we must conclude that it must have a representation different from the one for sluicing with a prepositional remnant. Considering that this type of sluicing in English exhibits properties similar to Japanese non-cm-slujicing, as seen above, I wish to suggest that it has the same type of representation as Japanese non-cm sluicing. That is, I suggest that it can have a representation indicated in (65) with *that* being able to refer to a property available from the discourse.

\[
(65) \quad [\text{CP} \; [\text{wh-phrase}] \; C \; [\text{IP} \; \text{that is}]]
\]

For example, the second conjuncts in (51a) and (52a), repeated here, can have the structures in (66a) and (66b), respectively.

(51) a. I remember Abby wants to hire someone who works on GREEK, but I don't remember which OTHER language.

(52) a. I know that the police arrested a man who had sold drugs to JOHN in LA, but I don't know who ELSE.

(66) a. I don’t remember [\text{CP} \; \text{which other language} \; [\text{IP} \; \text{that is}]]

b. I don’t know [\text{CP} \; \text{who else} \; [\text{IP} \; \text{that is}]]

In (66a), *that* is interpreted roughly as 'the language such that Abby wants to hire someone who works on it'. In (66b), *that* is interpreted as 'the person such that the police arrested a man who had sold drugs to him in LA'. These interpretations give rise to the apparent non-local reading.

Thus, I suggest that two types of sluicing be identified in English, analogously to the two types of sluicing in Japanese (cm sluicing and non-cm sluicing), as in (67).
(67) a. Prepositional remnant sluicing:

\[ CP [PP P [DP wh-phrase]]_i C [IP ... [VP V ... t_i ...]] ]

b. Non-prepositional remnant sluicing:

(i) \[ CP [DP wh-phrase]_i C [IP ... [VP V ... t_i ...]] ]

(ii) \[ CP [DP wh-phrase]_i C [IP that is t_i] ]

Prepositional remnant sluicing has the same derivation as the non-elliptical wh-question sentence except that the material other than the remnant is deleted. Non-prepositional remnant sluicing, on the other hand, is ambiguous between two representations: one is equivalent to that of prepositional remnant sluicing and the other has a radically different structure, as schematized in (67b-ii).\(^\text{11}\) Prepositional remnant sluicing cannot have the representation given in (67b-ii) presumably because (68) is not possible.

(68) a. *on which other language that is

b. *to whom else that is

Given (i) that (62b) does not seem to exhibit island effects, (ii) that prepositional remnant sluicing is unambiguously represented as in (67a), and (iii) that the relative

\(^{11}\) The same distinction has been suggested for English stripping by Hoji (1990: chapter 5) and F&H (footnote 20). It has been observed that non-prepositional remnant stripping gives rise to the sloppy reading in the weak crossover context as in (i-B) while such a reading is not available in the case of prepositional remnant stripping, as in (i-B').

(i) A: His\(_j\) students often talk to John\(_i\).
   B: Bill, too. / Well, Bill, too.
   (= That is true of Bill, too. that = one’s students often talking to him)
   (intended to mean "his\(_j\) students often talk to Bill\(_i\), too.")

B': *To Bill, too. / *Well, to Bill, too.
   (intended to mean "his\(_j\) students often talk to Bill\(_i\), too.")
clause island is not a PF representational island that is ameliorated by deletion, it follows that the local resolution originally proposed by Merchant (2001: ch. 5), which we have been utilizing, (or some version of it) should be an option available for English sluicing as well. That is, (44a), repeated here, for example, should have the structure in (69) before deletion, as Merchant (2001: ch. 5) originally claimed.

(44)  a. I remember Abby wants to hire someone who works on a Balkan language, but I don't remember on which Balkan language.

(69) \[ CP \{ PP \{ DP \{ which Balkan language \} \} \}\{ C \{ IP \{ she works ti \} \} \]

Note that the type of sluicing in (62a) is structurally ambiguous. Thus (70), for example, is ambiguous between the two representations in (71), both of which give rise to the apparent non-local reading.

(70) (=Merchant 2001: Ch.3 (5))

They want to hire someone who speaks a Balkan language, but I don't remember which [Balkan language, TF].

(71) a. \[ CP \{ DP \{ which Balkan language \} \}\{ C \{ IP \{ she speaks ti \} \} \]

b. \[ CP \{ DP \{ which Balkan language \} \}\{ C \{ IP \{ that is ti \} \} \]

6.3.1.5. Other approaches to island insensitivity in sluicing

6.3.1.5.1. Non-movement approach

In the preceding subsections, I have discussed the issue of how the island insensitivity in contrast sluicing can be accounted for under the standard assumption that the wh-phrase in sluicing undergoes regular wh-movement. In this subsection, I
will turn to a non-movement approach to island insensitivity in sluicing. CLM is such an attempt. I will show that their approach faces a problem in the light of the sluicing data presented above. For the core of their proposal, see section 6.2.2 above.

Recall that in their theory, since the remnant wh-phrase is base-generated in SpecCP, there is no wh-movement involved in the derivation of sluicing and also that an indefinite correlate does not move in the first conjunct because it turns into a variable in its original position after IP copying. Since there is no movement involved in either the antecedent or the ellipsis site, no island effects are expected to emerge in sluicing.

CLM's non-movement approach faces the problem that I mentioned in section 6.2.2. As it is, the approach cannot handle the cases where the correlate is a definite, like contrast sluicing. There are two potential ways out of this problem: to assume CR for the definite correlate and to assume the operation of F-Closure proposed in Merchant 2001 as in (5).

(5) (= Merchant 2001: ch. 1:(8); slightly simplified)

F-closure:

The F-closure of $\alpha$, written $\text{F-clo}(\alpha)$, is the result of replacing F-marked parts of $\alpha$ with $\exists$-bound variables of the appropriate type.

If they adopt the former solution, they predict that sluicing with a definite correlate always induces island effects, and if they adopt the latter, i.e., the F-closure approach, it is expected that sluicing with a definite correlate does not induce island effects at all. Either way, their approach fails to capture the contrast between (63a) and (63b), which
are distinct from each other only in the presence vs. absence of a preposition on the remnant.

**6.3.1.5.2. The island-repair-by-deletion approaches**

In this subsection, I will review Fox & Lasnik's (2003) (F&L, henceforth) and Merchant's (to appear) theories of island repair\(^{12}\) and discuss the problems they face in the light of our sluicing data. In the next two subsections, I summarize F&L's and Merchant's theories, and in the subsection that follows them, I will discuss their problems.

**6.3.1.5.2.1. Fox & Lasnik (2003)**

F&L first make the assumptions in (72).

(72) a. Sluicing is phonological deletion.

b. An indefinite in the antecedent clause is bound via existential closure.

Then they propose the theory of island repair summarized in (73).

---

\(^{12}\) The precursor of this type of approach to island insensitivity was proposed in Chomsky 1972. Chomsky (1972) proposed that an island is marked with # when a movement operation crosses it and that derivations containing # are ruled out by an output condition. He further claims that, if deletion eliminates the #-marked item, the derivation will be saved. Merchant (2001: sec.4.1, to appear) rejects Chomsky's original approach on the basis of the contrast between sluicing and VP Ellipsis as indicated in (i).

(i) a. They want to hire someone who speaks a Balkan language, but I don't remember which.

b. *They want to hire someone who speaks a Balkan language, but I don't remember which they do [want to hire someone who speaks].

Note that the #-marked item in the terms of Chomsky 1972 is deleted not only in (i-a) but also in (i-b); yet the island violation is ameliorated only in (i-a), but not in (i-b). To accommodate examples like (i), Merchant (to appear) and F&L independently develop a theory where the degraded status of (i-b) is attributed to what is left behind by VPE, but not by sluicing, i.e., projections higher than VP but lower than CP. In the following review, I will not go into the issue of VPE in English and will concentrate on the discussion on sluicing, which is of direct relevance to us.
(73)  a. The parallelism conditions on deletion (Parallelism) require that all the variables in the antecedent and the ellipsis sites be bound from parallel positions.

b. A maximal projection that does not host wh-movement as an intermediate landing site constitutes an island.

c. The island violation is a PF phenomenon; hence, locality effects are nullified under PF deletion.

Let us now illustrate their system with the example in (74a). They assume, following Reinhart 1997, that "both the wh-phrase and the indefinite NP partake in a dependency that involves quantification over choice function" (F&L, 149). They also assume that "the word which is interpreted as an existential quantifier over choice functions" (F&L, 149). They thus propose the representation in (74b) for (74a).

(74)  a. Fred said that I talked to a certain girl, but I don't know which girl [Fred said that I talked to \( t \)].

b.  \( \exists f \lambda f' [Fred \text{ said that } I \text{ talked to } f'(girl)], \text{ but I don't know } \exists g \lambda g' [Fred \text{ said that } I \text{ talked to } g'(girl)] \)

(The material in angled brackets is deleted.) (Cf. F&L's (37) & (38))

Note that in order to satisfy the requirement in (73a), wh-movement in (74) should not involve intermediate landing sites, so that the variables are bound from parallel positions in the first and the second conjuncts. Then, by (73b) the intermediate maximal projections constitute islands. But all the intermediate maximal projections are deleted, and hence no island effects are expected.
The same account holds for (75). By (73a), wh-movement in (75) is not successive-cyclic. Then, by (73b), the intermediate maximal projections constitute islands, but since all of them are deleted, no island effects are to be observed.

(75) a. Abby wants to hire someone who speaks a Balkan language, but I don't know which [Abby wants to hire someone who speaks \( f \)].

b. \( \exists \lambda f' [\text{Abby wants to hire someone who speaks } f'(\text{Balkan language})] \), but I don't know which \( g \) Balkan language \( \lambda g' <_{\text{IP}} \text{Abby wants to hire someone who speaks } g'(\text{Balkan language}) \)

### 6.3.1.5.2.2. Merchant (to appear)

Merchant's (to appear) theory of island repair can be summarized as in (76).\(^{13}\)

---

\(^{13}\) Merchant (to appear) pursues a theory of deletion that is compatible with the minimalist program. Let us make an overview of the theory of deletion developed in Merchant 2001, 2004 because it is assumed in Merchant to appear. He attempts to get rid of any independent component of grammar that deals with deletion, and proposes that PF deletion is nothing but the properties of a feature (E) on the head. He then proposes the syntax, phonology, and semantics of this feature E as in (i).

(i) a. The syntax of E: \( E[\text{uwh}^*, \text{uQ}^*] \) (* signifies strong features.)
b. The phonology of E: \( \varphi_{TP} \rightarrow \emptyset / E \_

c. The semantics of E: \([E]\) = \( \lambda p : E-\text{GIVEN}(p)[p] \)

(i-a) "ensure[s] that E can only co-occur with a C bearing [wh, Q] features appropriate for checking the uninterpretable [uwh*, uQ*] features on E" and "these features are strong...necessitating their checking in a local (head-to-head, here) phrase-structural relation" (Merchant 2004: 671). (i-b) "instructs the post-PF phonological interpretative component not to parse its [TP] complement" (Merchant 2004: 671). (i-c) "ensures that the deleted constituent satisfies what is traditionally known as parallelism or identification of the elided material" (Merchant 2004: 671-2).

E-givenness is defined as in (ii), and F-closure and \( \exists \)-type shifting are defined as in (iii) and (iv), respectively.

(ii) (Merchant 2001: ch. 1: (42))

\( e-\text{GIVENNESS} \)

An expression \( \beta \) counts as \( e-\text{GIVEN} \) iff \( \beta \) has a salient antecedent \( \alpha \) and, modulo \( \exists \)-type shifting,

(i) \( \alpha \) entails F-clo(\( \beta \)), and

(ii) \( \beta \) entails F-clo(\( \alpha \))
(76)  

a. Intermediate traces of island-escaping XPs are marked with the *-feature (thus, * is a feature of traces rather than a feature of island nodes).

b. All later copies of this *XP will themselves also be *-marked.

c. The *-feature can be erased (checked) in the final spec-head relation that a +wh XP comes to be in with a +wh C.

d. The feature is by hypothesis PF-uninterpretable, and it causes a PF-crash.

e. A standard island effect will come about whenever intermediate *-marked traces survive until PF.

He then makes the following assumption.

(iii) (Merchant 2001: ch. 1: (8))

F-closure

The F-closure of \( \alpha \), written \( F\text{-clo}(\alpha) \), is the result of replacing F-marked parts of \( \alpha \) with \( \exists \)-bound variables of the appropriate type (modulo \( \exists \)-type shifting).

(iv) (Merchant 2001: ch. 1: fn. 3)

\( \exists \)-type shifting

\( \exists \)-type shifting is a type-shifting operation that raises expressions to type <t> and existentially binds unfilled arguments.

Let us see how his system works in (v).

(v) John saw someone, but I don’t know who.

First, the feature E is situated on C as in (vi) in accordance with its syntax in (i-a). This representation indicates that the IP will not be pronounced, according to (i-b).

(vi) … but I don’t know 

\[
\begin{array}{c}
\text{DP}_2 \\
\downarrow \\
\text{who} \\
\end{array}
\begin{array}{c}
\text{C'} \\
\end{array}
\begin{array}{c}
\text{IP} \\
\end{array}
\begin{array}{c}
\text{C} \\
\text{[E]} \\
\end{array}
\begin{array}{c}
\text{John saw t}_2 \\
\end{array}
\]

Now let us see if the IP satisfies the semantic condition in (i-c). Let IP\(_A\) be the antecedent IP \textit{John saw someone}, and let IP\(_E\) be the IP not to be pronounced, i.e., \textit{John saw t}. Also let IP' be the result of \( \exists \)-type shifting. Then, the following equations hold.

(vii) a. \( IP'_A = F\text{-clo}(IP_A) = \exists x.\text{John was reading } x \)

b. \( IP'_E = F\text{-clo}(IP_E) = \exists x.\text{John was reading } x \)

Since IP\(_A\) entails F-clo(IP\(_A\)) and IP\(_E\) entails F-clo(IP\(_A\)), the expression IP\(_E\) counts as e-GIVEN, according to (ii). Thus, it satisfies the semantics in (i-c).
Wh-movement proceeds by adjunction to intervening maximal projections (VPs and TPs at the least).

Now let us see how his theory works. (78a) has the representation in (78b). Although all the intermediate traces of the wh-phrase that originates within an island are marked with *, which causes PF crash, all of them are deleted in sluicing, as can be seen in (78b). Because there are no *-marked traces surviving at PF, the derivation is saved.

(78) (Cf. Merchant to appear: (49))

a. They want to hire someone who speaks a Balkan language, but I don't remember which.

b. ... CP
   [DP which] C'
   C TP <= TP-deletion eliminates all *-traces
   [E] *t'' TP
   they I'
   (do) VP
   *t' VP
   what to hire [NP [NP some] CP ]
   who speaks t_2

6.3.1.5.2.3. Problems of the island-repair analyses

Despite the difference in their specific implementations, F&L and Merchant to appear share an important aspect, i.e., both ascribe the island effects to intermediate
elements (either maximal projections or adjunction traces). Thus, in both theories, no island effects are predicted to emerge in cases where all the materials except the remnant are deleted. However, as we have seen above, island effects are observed in English sluicing as well. See (63b).

One potential way to avoid this problem within the island-repair-by-deletion approach would be to assume that some invisible maximal projection is present without being deleted in those cases where island effects are observed. Such a proposal is indeed made by Merchant 2004 for fragments in English.14 Another possibility would be to attribute the unacceptability to the properties of the correlate.

Either of these potential solutions, however, runs into a problem because they then fail to account for cases where no island effects seem to emerge: sluicing with an indefinite correlate and sluicing with a non-prepositional remnant in English. Furthermore, such revisions cannot account for the contrast in English between contrast sluicing with a non-prepositional remnant and contrast sluicing with a prepositional remnant, as summarized in (63).

6.3.1.6. Summary

In section 6.3.1, I have examined contrast sluicing in English and discovered the facts summarized in (63), repeated here.

14 Merchant (2004: 713) hints at the possibility that the same analysis holds for Japanese sluicing (and stripping) as well.
We discovered (i) that no island effects are observed in contrast sluicing with a non-prepositional correlate as in (63a), and (ii) that island effects are observed in contrast sluicing with a prepositional remnant as in (63b). Note again that the observation in (63b) goes against the widely-held generalization that island effects are not observed in English sluicing.

We then proposed that there are two types of sluicing in English, analogously to the two types of sluicing in Japanese, as indicated in (79). Note that (79a) and (79b) are schematic representations at LF and that the IPs in (79) are not phonetically realized.

(79) a. \[ CP \left[ DP \text{wh-phrase}\right], C \left[ IP \left[ VP \ldots \text{ti} \ldots \right]\right]\]

b. \[ CP \left[ DP \text{wh-phrase}\right], C \left[ IP \text{that is ti} \right]\]

We then reviewed other approaches to island insensitivity in English sluicing: the non-movement approach and the island-repair-by-deletion approaches. We demonstrated the following. The challenge for both the non-movement and the island-repair-by-deletion approaches is the fact that the same type of island (the relative clause island) sometimes seems to induce a violation and sometimes does not in sluicing, as summarized in (63). The problem is all the more difficult to overcome.
because island effects sometimes emerge and sometimes do not, even if the type of correlate is kept constant.

**6.3.2. Fragments in English**

**6.3.2.1. Merchant's (2004) theory and local resolution strategy**

Merchant (2004) claims that fragment ellipsis as in (80)-(82) are unacceptable, and proposes the theory reviewed in section 4 of chapter 3, which is an extension of the proposal made in Merchant to appear, which was reviewed in section 6.3.1.5.2.2.

(80) (=Merchant 2004: (87))

A: Does Abby speak the same Balkan language that Ben speaks?

B: *No, Charlie.

(81) (=Merchant 2004: (180) except for the judgment)

A: Did Abby like the candidate who referred to Chomsky?

B: No, to Bresnan.

(82) A: Did John meet a man who had been to Paris?

B: No, to London.

The alleged unacceptability of (81B), for example, is attributed in Merchant 2004 to the existence of a *-marked intermediate trace (*t''2) in the structure in (83). Note that the trace is *-marked because it has crossed a syntactic island down in the structure, according to Merchant's system.
Although speakers tend to agree that the example in (80) is unacceptable, many speakers seem to accept examples like (81) and (82), disconfirming Merchant's (2004) prediction that cases like (81) and (82) are unacceptable.

If we extend our account of Japanese sluicing/fragment ellipsis (which in turn is an extension of Merchant's (2001) theory) to English fragment ellipsis, these facts fall out because of the possibility of the local resolution strategy. As in the case of
sluicing and fragment ellipsis in Japanese, B's replies in (81) and (82), for example, can be represented at LF as in (84a) and (84b).¹⁵

(84)  a. \([\text{TP} \ [\text{PP to Bresnan}]_2 \ [\text{TP she}_3 \text{ referred } t_2 ]]\)

  b. \([\text{TP} \ [\text{PP to London}]_2 \ [\text{TP he}_3 \text{ had been } t_2 ]]\)

She₃ and he₃ in (84) function as an E-type pronoun, as proposed by Merchant (2001: section 5.2.2), and she₃ in (84a) is interpreted as "the candidate Abby liked," and he₃ in (84b) is interpreted as "the man John met." In other words, (81B) is equivalent to (81'B), and (82B) is equivalent to (82'B).

(81') A: Did Abby like the candidate who referred to Chomsky?

  B: No, the candidate who Abby liked referred to Bresnan.

(82') A: Did John meet a man who had been to Paris?

  B: No, the man who John met had been to London.

Notice that these readings are indistinguishable from the readings which the non-local resolutions in (85) would give rise to, i.e., the readings in (86).

(85)  a. \([\text{TP} \ [\text{PP to Bresnan}]_2 \ [\text{TP Abby liked the candidate who referred } t_2 ]]\)

  b. \([\text{TP} \ [\text{PP to London}]_2 \ [\text{TP John met a man who had been } t_2 ]]\)

(86)  a. Abby liked the candidate who referred to Bresnan.

  b. John met a man who had been to London.

¹⁵ I present the discussion theory-neutrally with respect to the issue of deletion vs. copy here. If one takes the copy analysis, the traces of relative operators must be assumed to be 'turned into' pronouns via vehicle change in (84). If one takes the deletion analysis, the pronouns in (84) must be assumed to count as equivalent to the traces of relative operators again via vehicle change. See Merchant 2001: section 5.2.2 for further discussion on this issue.
In the same line of account, (80B) should be able to have the structure in (87).

(87) \([_\text{TP} [\text{DP} \text{Charlie}]_2 [\text{TP} t_2 \text{speaks } it_3]]\]

With \(it_3\) being interpreted as "the same Balkan language that Abby speaks," (80B) should be able to yield the reading in (88).

(88) Charlie speaks the same Balkan language that Abby speaks

This reading is indistinguishable from the reading that the non-local resolution would yield, given in (89).

(89) Abby speaks the same Balkan language that Charlie speaks.

At this point, I do not have an account for why the local resolution strategy is not available for (80) for many speakers, as opposed to (81) and (82). Despite the unclear status of (80), however, it seems clear that many speakers accept examples like (81) and (82). The acceptability of these examples, along with island sensitivity in English sluicing observed in section 6.3.1, then suggests that the local-resolution strategy must be postulated for English fragment ellipsis as well. In Merchant's (2004) theory, supplemented by the local resolution strategy, the example in (85b), repeated here, can have the representation in (90).

(85) b. \([_\text{TP} [\text{PP to London}]_2 [\text{TP} \text{John met a man who had been } t_2 ]]\)
Since the trace that survives deletion is not *-marked, the derivation converges at PF.

Notice that there is no way to make the local and the non-local readings distinguishable in fragment answer examples because we cannot utilized as well/ too.

In order to do so, we need to resort to stripping like (91) and (92).

(91) A: John has been to Paris.

B: To London as well. (= John has also been to London.)

B': No. To London. (= John has been to London.)

(92) A: John said that Bill had been to Paris.

B: To London as well. (= John also said that Bill had been to London.)

B': No. To London. (= John said that Bill had been to London.)

Now consider (93).
(93)  A:  John met a man who had been to Paris.

        B:  No.  To London.

We observe that many speakers accept those island-violating stripping without \textit{as well/too} as in (93).  (93B) appears to give rise to the reading in (94), which the non-local resolution would give rise to.

(94)  John met a man who had been to London.

Under Merchant's (2004) theory, as it is proposed, (93B) also has the structure as in (83), and \textit{*t''}2 would incorrectly rule out (93B).  Under our account utilizing the local resolution strategy, as originally proposed in Merchant 2001, on the other hand, (93B) can be represented as in (95) at LF.

(95)  \[
[\text{TP} \ [\text{To London}]_2; \ [\text{TP} \ he_3 \ had \ been \ t_2]]
\]

With \textit{he}_3 being interpreted as "the man John met," (95) yields the reading in (96).

(96)  The man John met had been to London.

Since (94) and (96) are not distinguishable from each other, we 'feel' that the non-local reading is available.  Thus, the fact that many speakers accept examples like (93) also points to the necessity of postulating the local resolution in English as well.\footnote{There is a complication in cross-speaker examples like (93), however, as briefly discussed in Merchant (2004: 709).  He states:

I note in closing that the [...] island sensitivity does not hold for a range of otherwise similar seeming construction types, such as correctives and multi-speaker cooperative sentence construction and certain confirmatory, clarificational, and elaborative fragments [...].  [...] I would like to suggest that like metalinguistic negation (Horn 1989), these are a kind of metalinguistic conjunction: the speaker of the fragment is suggesting a correction of some aspect of the form of the original utterance, but not necessarily denying the original utterance's truth.  Of course, it will often be the case that by taking
Now let us turn to stripping with *as well/too*, as in (97)-(99).

(97) A: John talked to the professor who had recommended Mary (at the faculty meeting).

       B: Susan as well. / Susan, too.

(98) A: John met a man who had been to Paris.

       B: To London as well.

(99) (= Hoji & Fukaya 2001: (80))

       A: Microsoft hired a linguist who is on good terms with Chomsky.

       B: With Bresnan, too.

These examples do not give rise to the non-local readings indicated in (100).

(100) a. John also talked to the professor who had recommended Susan (at the faculty meeting).

       b. John also met a man who had been to London.

       c. Microsoft also hired a linguist who is on good terms with Bresnan.

The only readings that are available in these examples are those local readings indicated in (101). Note that they are distinct from the non-local readings in (100).

(101) a. The professor who John talked to also recommended Susan.

---

issue with the appropriateness of some expression within the utterance [that, *sic*] the speaker thereby is committed to the falsity of the proposition asserted as well. It is this more common use of this strategy that led Hankamer (1979) to dub the transformation that derived these structures ‘wrong’. Examples like (93) may be cases of what Merchant calls metalinguistic conjunction. If so, the availability of examples like (93) may not constitute evidence for the local resolution. However, the facts in (81) and (82) as well as those in the following discussion on stripping with *as well* remain as evidence for the local resolution.
b. The man who John met had also been to London.

c. The linguist who Microsoft hired is also on good terms with Bresnan.

Under our system, the availability of the readings in (101) is expected because of the local resolution strategy. Merchant's (2004) theory, again, needs to be complemented by the local resolution strategy in order to accommodate these data.

6.3.2.2. Summary

To summarize, in this subsection we have seen that the local resolution strategy is needed to account for the English fragment ellipsis data. The chart in (102) summarizes the facts in English.

Table 20: Local and non-local readings in English fragment ellipsis

<table>
<thead>
<tr>
<th>(102)</th>
<th>Remnant</th>
<th>Local vs. non-local readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>without <em>as well/too</em></td>
<td>indistinguishable; island effects are not detected (for many speakers)</td>
</tr>
<tr>
<td>b.</td>
<td>with <em>as well/too</em></td>
<td>distinguishable; the local reading is available, while the non-local reading is not</td>
</tr>
</tbody>
</table>

In the case of (102a), since the local and the non-local readings are indistinguishable, we 'feel' that we get the non-local reading, although syntactically the non-local resolution is not available because a constituent must undergo island-crossing movement to yield the non-local resolution. In cases where the local and the non-local readings are distinguishable as in (102b), we can detect that only the local reading is available. The non-local reading is not available because it can only be yielded by the non-local resolution which requires the movement of a constituent across an island. This is what is predicted in our system, which allows local resolution but blocks non-local resolution in island contexts. Merchant's (2004)
system as it is, on the other hand, rules out all the island-escaping fragment cases, whether or not the remnant is marked with *as well/too, because the *-marked intermediate trace adjoined to the matrix CP survives deletion. Thus, under his theory, (102b) is captured while (102a) is not. In order to account for the latter, Merchant's (2004) theory has to be complemented by the local resolution strategy.

6.4. Summary

In this chapter, we first reviewed four major approaches to Japanese sluicing that have been proposed in the literature (the wh-movement and deletion analysis, the non-movement wh analysis, the copula structure analysis, and the reduced cleft analysis) and argued that none of them can account for the full range of facts that our analysis can account for, as summarized in (41), repeated here.

(41) a. Cm sluicing and non-cm sluicing exhibit distinct properties with respect to island effects: the former exhibits them while the latter does not.

b. Cm sluicing and non-cm sluicing exhibit distinct properties with respect to the availability of the sloppy reading: the former has structural and lexical restrictions while the latter does not.

c. Instances of cm contrast sluicing exhibit distinct properties with respect to island effects, depending on the type of the remnant: cm contrast sluicing with an else-remnant exhibits island effects while cm contrast sluicing with a non-else-remnant does not.
d. Sluicing and stripping behave in a parallel fashion with respect to island
effects and the availability of the sloppy reading.

We then investigated sluicing and fragments in English in light of what we
discovered about island sensitivity in Japanese sluicing and fragments in chapters 2
and 3. Regarding English sluicing, we discovered that island effects are observed in
contrast sluicing with a prepositional remnant while they are not in sluicing with an
indefinite correlate or in contrast sluicing with a non-prepositional remnant. In order
to accommodate the facts, we proposed that there are two types of sluicing in English
analogous to the two types of sluicing in Japanese, as indicated in (79), repeated here.
Note that (79a) and (79b) are schematic representations at LF and that the IPs in (79)
are not phonetically realized.

(79)  
\[ \text{a. } [\text{CP } [\text{DP wh-phrase}], \text{C } [\text{IP } \ldots [\text{VP } V \ldots t_i \ldots ]]] \]

\[ \text{b. } [\text{CP } [\text{DP wh-phrase}], \text{C } [\text{IP that is } t_i]] \]

We then reviewed other approaches to island insensitivity in English sluicing (the
non-movement approach and the island-repair-by-deletion approaches), and pointed
out that the challenge for both approaches is the fact that the same type of island (the
relative clause island) sometimes seems to induce a violation and sometimes does not
in English sluicing even if the type of correlate is kept constant.

Regarding fragments in English, we re-examined the data and showed that they
behave in the same way as fragments in Japanese. In cases where the local and the
non-local readings are indistinguishable, we do not detect island effects. In cases
where the local and the non-local readings are distinguishable, however, we detect
island effects; only the local reading is available in such cases. We then claimed that our account of Japanese fragments, which utilizes the local resolution strategy, carries over to English fragments. We then saw that Merchant's (2004) theory has to be complemented by the local resolution strategy in order to accommodate the cases where no island effects are detected, which results in undesirable redundancy in Merchant's (2004) system.
Chapter 7

Summary and Remaining Issues

7.1. Summary of the thesis

The initial goal of this dissertation was to argue for the position, advocated by Hoji & Li (1994) and Fukaya & Hoji (1999a, b), that sluicing and stripping are manifestations of the same syntactic phenomenon in Japanese, i.e., that their derivations involve the same set of formal operations; see chapter 1 section 1.1 for the elementary observations that served as the initial empirical motivation for pursuing the thesis in question.

We achieved this goal by demonstrating through an investigation of significantly more involved empirical materials than in the previous studies that sluicing and stripping in Japanese exhibit exactly the same properties with respect to island effects and the availability of the sloppy identity reading. In chapters 2 and 3, we demonstrated that in both cm sluicing and cm stripping, we need to look into cases where the local and the non-local resolutions give rise to distinct readings in order to detect the island effects. Island effects are not detectable if we only look at cases where the local and the non-local resolutions give rise to readings indistinguishable from each other. Having identified cases where island effects are detectable, we then demonstrated that non-cm versions of both sluicing and stripping do not exhibit island effects even in cases where their cm counterparts do exhibit the effects.
In chapters 4 and 5, we demonstrated, by eliminating those cases which allow not only the IP copying analysis (a surface anaphora resolution) but also the copula analysis (a deep anaphora resolution), that in both cm sluicing and cm stripping the availability of the sloppy reading is accounted for by the hypothesis in (1), which is an extension of Ueyama's (1998) theory of anaphoric relations.

(1) The sloppy reading in surface anaphora arises only if either of the following conditions is satisfied:

(i) the antecedent and the dependent term enter into Formal Dependency in the first and the second conjuncts. (FD-based sloppy reading)

(ii) the antecedent and the dependent term are co-I-indexed in the first and the second conjuncts and Indexical Dependency is established in the first conjunct. (Co-I-indexation-based sloppy reading)

(2) is the summary of negative predictions and positive expectations about the availability of the sloppy reading under this hypothesis.
Table 21: The availability of the sloppy reading in cm contrast sluicing and in cm stripping

<table>
<thead>
<tr>
<th></th>
<th>1st conjunct</th>
<th>2nd conjunct</th>
<th>sloppy reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A c-c's B at LF</td>
<td>A precedes B at PF</td>
<td>B</td>
</tr>
<tr>
<td>a.</td>
<td>yes</td>
<td>Yes</td>
<td>small</td>
</tr>
<tr>
<td>b.</td>
<td>no</td>
<td>No</td>
<td>large</td>
</tr>
<tr>
<td>c.</td>
<td>no</td>
<td>Yes</td>
<td>a-</td>
</tr>
<tr>
<td>d.</td>
<td>no</td>
<td>Yes</td>
<td>large</td>
</tr>
<tr>
<td>e.</td>
<td>no</td>
<td>Yes</td>
<td>a-</td>
</tr>
<tr>
<td>f.</td>
<td>yes</td>
<td>No</td>
<td>small</td>
</tr>
<tr>
<td>g.</td>
<td>yes</td>
<td>No</td>
<td>large</td>
</tr>
</tbody>
</table>

We demonstrated that all the negative predictions and the positive expectations in (2) are confirmed in both cm sluicing and cm stripping. Having established that the cm versions exhibit the distribution of the sloppy reading in (2), we then showed that the non-cm versions of sluicing and stripping give rise to the sloppy reading even in cases where their cm counterparts do not as in (2c, d, f, i, l).

The clear parallelism between sluicing and stripping with respect to island sensitivity and the availability of the sloppy reading, I argue, strongly indicates that these two constructions are in fact manifestations of the same syntactic phenomenon, as proposed by Hoji & Li (1994) and adopted by Fukaya & Hoji (1999a, b). Thus, by postulating the same mechanism for ellipsis resolutions in sluicing and stripping, we provided the syntactic basis for their parallelism.
In chapter 6, we showed that the alternative analyses cannot capture the range of empirical materials discussed in the preceding chapters. The accounts that analyze sluicing as analogous to wh-questions in English (the wh-movement analysis as in Takahashi 1994 and the non-movement wh analysis as in Nishigauchi 1999) cannot capture the clear parallelism between sluicing and stripping, because their accounts do not carry over directly to stripping, which has a non-wh remnant. We also showed that stripping and, as a result, sluicing cannot be reduced to the cleft construction, contrary to what is claimed in the other alternative accounts (the copula analysis as in Nishiyama et al. 1994 and the reduced cleft analysis as in Shimoyama 1995, Kizu 1997, and Kuwabara 1997).

This thesis can be regarded as part of a larger project to investigate the contrast between the case-marked and the non-case-marked versions of various constructions in Japanese. Although initial inspections of data regarding island sensitivity and the availability of the sloppy reading in Japanese sluicing and stripping seemed to indicate such a contrast is not observed in sluicing or stripping, we demonstrated that the contrast does indeed exist. We did so by eliminating case-marked instances that give rise to an illusory island-violating reading and case-marked instances that allow the deep anaphora resolution.
7.2. Issues to be addressed in future work

In this section, I will summarize two of the issues to be addressed in future work: the issue of c-command and mix readings and that of multiple remnants in sluicing and stripping.

7.2.1. Mix readings in sluicing and stripping

In chapters 4 and 5, we utilized mix readings in order to eliminate the possibility of the copula analysis in cm versions of sluicing and stripping. Recall that in all of the cases of mix readings discussed there, the antecedent c-commands the two dependent terms in the first conjunct. If the mix reading pattern is exhibited only in cases where the antecedent c-commands the dependent terms, as argued in Hoji 2003 (see section 4.4.4 of chapter 4 about the qualifications regarding Spec-binding cases), the mix reading pattern is predicted to be unavailable in cases where the antecedent does not c-command the dependent terms like (2g, h) above, although the simple sloppy reading is available in those cases as we saw in chapters 4 and 5. I will leave its verification for future research.

7.2.2. Multiple sluicing and stripping

As briefly touched upon in section 4.6 of chapter 4 and section 5.4 of chapter 5, cm sluicing and stripping allow multiple occurrences of remnants. Discussion on multiple remnant sluicing and stripping is almost completely missing from this thesis. Takahashi (1994) claimed that the remnants must be clausal mates, while Nishigauchi
(1999) claims that although multiple sluicing is usually not possible across a clause boundary, it is possible if the intervening embedded subject is bound to the first correlate in the first conjunct, as in (3).

(3) (= Nishigauchi 1999: ch.8 (22))

a. 
\[ \text{dareka}_2\text{-ga } [\text{zibun}_2\text{-ga nanika-o mottekuru to}] \text{ itta ga,} \]
\[ \text{someone-NOM self-NOM something-ACC bring that said but} \]
\[ \text{boku-wa [dare-ga nani-o ka] omoidasenai}. \]
\[ \text{I-TOP who-NOM what-ACC Q remember:cannot} \]

'Someone$_2$ said that he$_2$ would bring something, but I can't remember who what.'

b. 
\[ \text{dareka}_2\text{-ga } [\text{ec}_2\text{ nanika-o mottekuru to}] \text{ itta ga,} \]
\[ \text{someone-NOM something-ACC bring that said but} \]
\[ \text{boku-wa [dare-ga nani-o ka] omoidasenai}. \]
\[ \text{I-TOP who-NOM what-ACC Q remember:cannot} \]

'Someone$_2$ said that he$_2$ would bring something, but I can't remember who what.'

This issue is closely related to the issue of how restricted CR is. Throughout the thesis, we assumed it to be subject to island conditions, although our proposal is compatible with CR being clause-bounded. If it is clause-bounded, Takahashi's clausemate condition falls out from the nature of CR, but we will be left with the issue of why multiple sluicing across a clause boundary is possible in some cases, as in (3). If it is not clause-bounded though being island-sensitive, we will then be left with the
issue of why the multiple remnants must be clausemates in most of the cases. This is another issue to be addressed in future research.

In relation to this, we should note that Japanese allows multiple scrambling, clefts with multiple foci, multiple comparatives, etc., and how multiple sluicing and stripping are related to other multiple cases would be another topic for future research. Whether the multiple remnants are represented as multiple adjunction as in (4a), as we assumed in the preceding chapters, or form a constituent as in (4b) is also a topic to be addressed in the future.\(^1\)

\[(4) \quad a. \quad \begin{array}{c}
\text{IP} \\
\text{NP}_1 & \text{IP} \\
\text{NP}_2 & \text{IP} \\
\emptyset 
\end{array} \\
\begin{array}{c}
\text{IP} \\
\text{NP} \\
\text{NP}_1 & \text{NP}_2 \\
\emptyset 
\end{array}
\]

\(^1\) Takahashi (1994) proposes that multiple remnants in Japanese sluicing have an adjoined structure. Takano 2002 and Kawazoe 2005 contain proposals that allow NPs in question to form a constituent.
References


