ABSTRACT

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Since Ross (1967), it has been observed that there are configurations from which otherwise unbounded movement operations cannot occur, and they are called islands. Ellipsis and resumption are known to have a peculiar property to 'repair' island violations. Each chapter of this thesis discusses a case of ellipsis/resumption to examine in what cases movement out of an island becomes licit by those strategies.

Chapter 2 discusses the elliptical construction called sluicing, and argues for the PF-deletion analysis of sluicing (Merchant 2001, originated from Ross 1969). I will show that ECP violations made by adjunct sluicing cannot be repaired by sluicing, unlike island violations. I will thus argue that island violations are PF-violations while ECP violations are LF violations, and that PF-deletion ameliorates only PF-deletion.

Chapter 3 examines properties of stripping and argues that stripping is derived by focus movement followed by PF-deletion. I try to attribute the lack of island repair

under ellipsis in stripping to the fact that focus movement is not usually overt in English. Covert movement is derived by a weak feature (Chomsky 1995), but when a focused material is included in the PF-deletion site, it undergoes last resort PF-movement to satisfy the recoverability of deletion. I claim that this PF-movement is incompatible with island-repair, speculating that island violations are ameliorated at spell-out, and post-spell-out movement is 'too late' to be repaired.

Chapter 4 reviews properties of Japanese sluicing, and introduces Hiraiwa and Ishihara's (2002) analysis where Japanese sluicing is derived from what they call "*no da*" in-situ focus construction. Under this analysis, the sluiced wh-phrase undergoes focus movement, followed by clausal deletion. I adopt the analysis of stripping to Japanese sluicing, claiming that this is another instance of the last resort focus movement at PF, which cannot ameliorate island violations.

Chapter 5 discusses properties of Left Node Raising (LNR) in Japanese. Based on the fact that simple LNR shows properties distinct from Null Object Construction (NOC), I claim that LNR involves ATB-movement rather than NOC. However, the second gap of LNR behaves like a pronoun only when included inside an island. I claim that this is an instance of null resumptive pronoun.

ISLAND REPAIR AND NON-REPAIR BY PF STRATEGIES

By

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Table of Contents

Chapter 1: Introduction

The ultimate property of language is that it is paring between sound and meaning. The speaker produces sounds to convey certain meanings, and the hearer conceives sounds to retrieve the meanings that the speaker intended. The common knowledge to associate the sounds and the meanings is the knowledge of language that human beings share. Thus, you could say that the study of language is the study of the pairing between sound and meaning.

However, there are cases where sound and meaning do not seem to correspond to each other. So-called ellipsis constructions are obvious examples of the non-correspondence. For example, consider the VP-ellipsis example in (1a). (1a) means the same state of affairs as the non-ellipsis example in (1b), although the VP *eat an apple* in the second conjunct is not pronounced. This is an indication that people can retrieve 'a meaning that is not pronounced' in certain circumstances.

(1) a.   John ate an apple, and Mary did, too.

     b.   John ate an apple, and Mary **ate an apple**, too.

Similarly, in a construction called sluicing, which is exemplified in (2a), there is no surface material pronounced after the wh-phrase *who*, but the fragment wh-phrase nevertheless has the same meaning as the embedded question in (2b).

(2) a.   John met someone, but I don't know who.

b.   John met someone, but I don't know who **John met**.

Based on various diagnostics (which will be reviewed in Chapter 2), Ross (1969) argues that sluicing is derived via regular wh-movement (in the same way as (2a)), followed by clausal deletion.

(3)   John met someone, but I don't know [who$_1$ ~~[John met t$_1$]~~].

Availability of deletion, in other words, is to allow something that is meaningful to be *not pronounced*. Studying ellipsis is thus important in that it gives us an insight of when people may or may not map meanings onto sounds.

Among the properties of ellipsis constructions, this dissertation focuses on the island-repair phenomena under ellipsis. It is well-known that there are certain syntactic configurations that resist extraction such as wh-movement, and they are called 'islands'. However, if wh-movement occurs out of an ellipsis structure such as a sluiced sentence, the island constraints disappear (or at least are weakened, as discussed by Ross 1969). This amelioration effect is one peculiar property of ellipsis. When are island-violations repaired under ellipsis and why? This is the central question my thesis tries to tackle.

Since Ross (1967), it has been observed that there are configurations from which otherwise unbounded movement operations such as wh-movement cannot occur. For example, wh-movement cannot occur from within a complex NP (Complex NP Constraint), it cannot occur from a coordinate structure (Coordinate Structure Constraint), it cannot occur from a sentential subject (Sentential Subject Constraint), and it cannot occur if a moved element is branching to the left (e.g. a degree modifier such as *very* in the AP *very proud*: Left Branch Condition). Wh-movement in the following (b)-examples violate these constraints, although its meaning is conceivable as a question asking the underlined part of the corresponding (a)-example.

(4) *Complex NP Constraint*

    a.   She kissed [a man who bit <u>someone</u>].

    b.   ***Who$_1$** did she kiss [a man who bit **t$_1$**]?

(5) *Coordinate Structure Constraint*

    a.   [Irv and <u>someone</u>] were dancing together.

    b.   ***Who$_1$** were [Irv and **t$_1$**] dancing together?

(6) *Sentential Subject Constraint*

    a.   [That he'll hire <u>someone</u>] is possible.

    b.   ***Who$_1$** is [that he'll hire **t$_1$**] possible?

(7) *Left Branch Condition*

    a.   He is <u>very</u> proud of it.

b.   *__How₁__ [is he __t₁__ proud of it]?

The examples in (2) show that sluicing has a common meaning to interrogative sentences. However, there is one striking difference between them: formation of interrogative question such as the (a)-examples below is prohibited, although corresponding sluicing in the (b)-examples is insensitive to the island constraint (cf. Ross 1969).

(8)   *Complex NP Constraint*

a.   *She kissed a man who bit one of my friends, but Tom doesn't realize

__which one of my friends₁__ she kissed [a man who bit __t₁__].

b.   She kissed a man who bit one of my friends, but Tom doesn't realize

__which one of my friends₁__ ~~she kissed [a man who bit t₁]~~.

(9)   *Coordinate Structure Constraint*

a.   *Irv and someone were dancing together, but I don't know __who₁__ [Irv and __t₁__]

were dancing together.

b.   Irv and someone were dancing together, but I don't know __who₁__ ~~[Irv and t₁]~~

~~were dancing together~~.

(10)   *Sentential Subject Constraint*

a.   *That he'll hire someone is possible, but I won't divulge __who₁__ [that he'll

hire __t₁__ is possible].

b.   That he'll hire someone is possible, but I won't divulge __who₁__ ~~[that he'll~~

~~hire t₁ is possible]~~.

(11) *Left Branch Condition*

    a.   *I know that he must be proud of it, but I don't know **how₁** he must be [**t₁**

        proud] of it.

    b.   I know that he must be proud of it, but I don't know **how₁** ~~he must be [t₁~~

        ~~proud] of it.~~

If sluicing is derived by deletion (non-pronunciation) of the clause, the above
examples indicate that not pronouncing an illegitimate structure makes the
illegitimate structure less bad. This is what I refer to as 'island-repair' by ellipsis.

1.2. The architecture of grammar and island-repair

In this thesis, I assume the Y-model architecture of syntax (Chomsky 1981, 1995,
2000, etc.), which is illustrated in (12).

(12)   Lexicon

                        (Overt syntax)

        Spell-out

        PF   LF
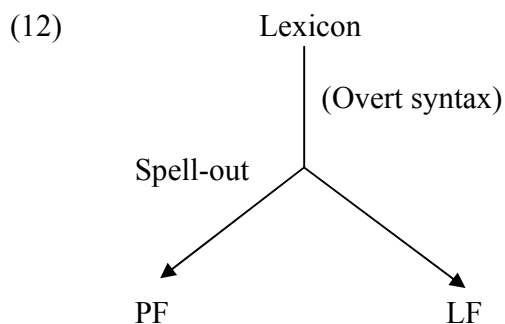
In this model, syntax takes lexicon as its input, and it gives two outputs: PF (Phonetic
form) and LF (Logical form) outputs. The two outputs that correspond to sound and

meaning naturally encode the fact that language is pairing of sound and meaning.

The derivation to the two outputs splits at one point by an operation called spell-out. Derivation before spell-out affects both sound and meaning. This component is referred to as 'overt syntax.' On the other hand, after the split point, derivations towards PF and LF diverge. For example, if a movement operation happens in the LF component, it affects meaning but not sound (as shown in so-called covert movement; see Huang 1982, for example). Similarly, I will assume that movement that happens after spell-out in the PF component affects sound but not meaning.

Assuming this type of PF-LF split, Merchant (2001) develops Ross' (1969) analysis of sluicing. He proposes that the deletion operation in sluicing, which is indicated in (13), is deletion of IP at PF.

(13) John met someone, but I don't know [$_{CP}$ who$_1$ [$_{IP}$ ~~John met t$_1$~~]]. (= (3))

As the non-pronunciation of material happens at the PF component, it naturally follows that the deletion does not affect the meaning of the sentence, as shown in the meaning identity between (2a) and (2b).

Based on this analysis, Merchant (2001) claims that (at least some instances of) islands are PF-phenomena. In examples of sluicing out of an island such as (14), existence of PF-deletion makes the illegitimate structure acceptable.

(14) Irv and someone were dancing together, but I don't know **who$_1$** [~~Irv and t$_1$~~]

~~were dancing together.~~   (= (9b))

This indicates that island violations are PF-violations, and deleting illegitimate structure at PF saves island violations. This work is significant in that it accounts for the nature of island violations as well as the nature of deletion.

However, there is an asymmetry in island-repair that Merchant's account does not take into consideration. Lasnik (2005) observes that adjunct sluicing (i.e. sluicing with an adjunct wh-phrase such as *why* and *how*) such as (15a) do not allow island-repair, unlike argument sluicing (i.e. sluicing with an argument wh-phrase such as *what* and *who*) such as (15b).

(15) a.   John wants to hire [someone who fixes cars ***with something***],

       but I don't know **what**.

  b.   *John wants to hire [someone who fixes cars ***for a certain reason***],

       but I don't know (exactly) **why**.

In Chapter 2, I will attribute the apparent lack of island-repair in adjunct sluicing to Empty Category Principle (ECP) effects (Huang 1982, Lasnik and Saito 1992, among others), but not the island violation *per se*. Given the analysis where ECP violations of adjunct wh-phrases are LF-violations, the lack of ECP-repair phenomena is expected under Merchant's analysis; LF violations of the ECP are not repairable by PF-deletion. Thus, such data corroborate the PF-deletion analysis of sluicing.

Also, island-repair does not work uniformly for all types of ellipsis. As will be discussed in Chapter 3, stripping, another elliptical construction, does not show

island-repair (Depiante 2000). The stripping example (16a) is derived as illustrated in (16b) under Depiante's analysis (focus movement to FP, followed by IP-deletion).

(16) a.　　I ate an apple, **but not an orange**.

　　 b.　　I ate an apple, but [$_{FP}$ not **an orange$_1$** [$_{IP}$ ~~I ate t$_1$~~]].

Stripping is sensitive to islands such as the Sentential Subject Constraint, as shown in the unacceptability of (17a), whose underlying structure is (17b).

(17) a.　　*[The fact that some politician has resigned] got much publicity, **but not the defense minister**.

　　 b.　　*… but [$_{FP}$ not **the defense minister$_1$**

　　　　　 [$_{IP}$ ~~[$_{sent.\ subject}$ the fact that [$_{IP}$ t$_1$ has resigned]] got much publicity~~]]

Similarly, Japanese sluicing is island-sensitive, as exemplified by (18).

(18) *John-wa　[[　otooto-ni　　***nanika-o***　　　okutteki-ta]　hito]-o

　　　 John-Top　　brother-Dat　***something-Acc***　send-Past　　person-Acc

　　　 syootaisi-ta　rasii　　　ga,　boku-wa [**nani-o**　　　(da) ka] sira-nai

　　　 invite-Past　　seem　　　but　I-Top　　what-Acc　　be　Q　know-not

　　　 "John invited [a person who sent something to his brother], but I don't know what."　　(Hiraiwa and Ishihara 2002: 40)

8

In Hiraiwa and Ishihara's (2002) analysis, Japanese sluicing is derived by focus movement followed by CP-ellipsis, as shown in (19).

(19) … boku-wa [FP **nani₁-o** [CP [[otooto-ni t₁ okutteki-ta] hito]-o

I-Top **what-Acc** brother-Dat send-Past person-Acc

syootaisi-ta no] (da)] ka sira-nai

invite-Past C be Q know-not

In Chapter 3 and Chapter 4, I will argue that the difference between English sluicing and these constructions stems from the difference in the nature of the movement. I claim that the focus movement in these examples is not 'overt' in non-elliptical constructions (e.g. the non-elliptical counterpart of (16b) is impossible in English), unlike English wh-movement (e.g.the non-elliptical counterpart of (2a) also involves wh-movement, as shown in (2b)). In the focus movement cases, I argue that the movement happens in PF after spell-out, but only as a 'last resort' in the case where the focused material is included in an ellipsis site. I further speculate that the amelioration effect happens at the point of spell-out. Under this assumption, the difference between overt wh-movement, which allows amelioration, and PF focus movement, which is 'too late' to be ameliorated, is attributed to the timing difference in these movement operations.

In this way, I account for the cases where the deletion strategy at PF succeeds or fails to repair islands.

Chapter 2 through Chapter 4 concentrates on the discussion of island repairability under ellipsis. I will discuss another PF-strategy, resumption, in Chapter 5. It has been well-known since Ross (1967) that island violations are ameliorated when you insert a resumptive pronoun in place of a gap (trace). For example, (20a) is a violation of so-called Adjunct Island Constraint. When you replace the trace in (20a) with a pronoun *it* as shown in (20b), however, the sentence becomes acceptable.

(20) a.   *King Kong is a movie **which$_1$** you'll laugh yourself sick [if you see **t$_1$**].

     b.   King Kong is a movie **which$_1$** you'll laugh yourself sick [if you see **it$_1$**].

In this respect, resumption can be seen as another instance of 'island-repair' strategy. It should be meaningful to study resumption along with elliptical construction in this respect.

Existence of resumption as an island-repair strategy has an important consequence for the nature of islands. Recall that Merchant (2001) argued that some island-violations cause PF-violations, which can be repaired under PF-deletion. This analysis, however, is compatible with two different interpretations. One is the possibility where the category that makes an island gets an illegitimate representation (indicated by *) as shown in (21a) (Chomsky 1972), and the other is the possibility where the 'trace' (the 'chopped' position in Ross 1967) that is left by island-violating movement gets an illegitimate representation as shown in (21b). In both cases, the

10

illegitimate representation will be deleted if the whole island is deleted.

(21) a.   King Kong is a movie **which₁** you'll laugh yourself sick [*₍Island₎ if you see

    t₁].

   b.   King Kong is a movie **which₁** you'll laugh yourself sick [if you see *t₁].

On the other hand, the use of resumptive pronoun in (20b) does not affect the island itself in any ways. It just replaces a gap with an overt pronoun. The fact that such an operation ameliorates island violation supports the possibility in (21b), where the trace, but not the category is responsible for the island violation. Such an insight is obtained through investigating both ellipsis and resumption in terms of island repair.

Also, studying resumptive pronouns has an implication on the question of sound-meaning association, which I discussed at the outset. In ellipsis construction, you retrieve a meaning out of no sound. The fact that resumptive pronouns such as (20b) pronounce what you do not usually pronounce contrasts with this. In the usual case, the movement of a wh-phrase itself encodes the operator-variable relationship, and you do not need to pronounce the trace position to retrieve the 'meaning' of a variable. In a resumption case, on the other hand, you do need an extra sound to encode the same operator-variable relationship. In this respect, resumptive pronouns can be described as 'sound without meaning'. Examining such phenomena is important for an understanding of the pairing between sound and meaning.

However, resumption does not necessarily repair islands by 'pronouncing' a gap. In Chapter 5, I will show the existence of a null resumptive pronoun in Japanese.

Especially, I will examine properties of what I call Left Node Raising (LNR) in Japanese, which is exemplified in (22). In this construction, there is one gap position each in both of the conjoined clauses, and as we will see in Chapter 5, they show properties of traces (e.g. Case matching phenomena, etc.) rather than pronouns.

(22) **Keeki$_1$-o**　　John-ga **e$_1$**　tukuri,　(soshite) Mary-ga **e$_1$**　tabe-ta.

　　Cake-Acc　　John-Nom　　make,　(and)　　Mary-Nom　　eat-Past

　　"The cake, John made, and Mary ate."

On the other hand, when the second gap is included inside an island as shown in (23), the situation changes. The gap inside the island behaves like a pronoun in such a case. I claim that this is because a null pronoun (pro) is inserted in place of gap to save the island, only when there is an island.

(23) (*)　**Sono**　　**saihu$_1$-o**　　　Taro-ga **t$_1$**　hiroi,

　　　　The　　**wallet-Acc**　　Taro-Nom　　pick-up,

　　Hanako-ga　[**pro$_1$**　nusum-ooto　si-ta　　otoko]-o oikake-ta.

　　Hanako-Nom　　　　　steal-to　　do-Past　man-Acc chase-Past

　　"The wallet, Taro picked up_, and Hanako chased [the man who tried to steal

　　_]."

　　Although I will not examine the properties of resumption in general in this thesis, showing that null resumptive pronouns behave similarly to overt resumptive pronouns

indicates that what is crucial in island-repair by resumption is insertion of a pronoun, null or overt, and not necessarily a pronounciation of material.

1.4. *The organization*

In summary, the following chapters discuss cases of island repair and non-repair under ellipsis and resumption.

Chapter 2 discusses previous analyses of sluicing, and argues for the PF-deletion type of analysis of sluicing (Merchant 2001, originated from Ross 1969), which is briefly discussed above. I will attribute the lack of island-repair in adjunct sluicing to ECP violations at LF, which is compatible with the view where LF violations are not ameliorated under PF-deletion.

Chapter 3 examines properties of stripping and argues that stripping is derived by focus movement followed by PF-deletion, in the same way as Merchant's (2004) analysis of fragment answers. I attribute the lack of island repair under ellipsis in stripping and fragment answers to the fact that focus movement is not usually overt in English. Covert movement is derived by a weak feature (Chomsky 1995), but when focused material is included in the PF-deletion site, it undergoes last resort PF-movement to satisfy recoverability of deletion. I claim that this PF-movement is incompatible with island-repair, speculating that island violations are ameliorated at spell-out, and post-spell-out movement is 'too late' to be repaired.

Chapter 4 reviews properties of Japanese sluicing, and introduces Hiraiwa and Ishihara's (2002) analysis where Japanese sluicing is derived from what they call "*no*

da" in-situ focus construction. Under this analysis, the sluiced wh-phrase undergoes focus movement, followed by clausal deletion. This focus movement is distinguished from scrambling, which is usually available in non-elliptical sentences. I adapt the analysis of stripping to Japanese sluicing, claiming that this is another instance of the last resort focus movement at PF, which cannot ameliorate island violations.

Chapter 5 discusses properties of Left Node Raising (LNR) in Japanese. Based on the fact that simple LNR such as (22) shows properties distinct from Null Object Construction (the construction where the second-clause object is a null pronoun), I claim that LNR involves ATB-movement and both gaps in this construction are traces rather than pronouns. However, the second gap of LNR, when included inside an island, show properties of pronoun. I claim that this is an instance of null resumptive pronoun, citing other examples from Ishii (1991) and Hornstein (2001, 2003) to show that null pronouns are available as a last resort when movement is prohibited.

Chapter 2: Island repair and non-repair under sluicing

This chapter reviews the now well-known island repair phenomena under sluicing. The fact that island violations are void under this construction led some researchers to claim that some types of islands are PF-phenomena (Merchant 2001) and that PF-deletion ameliorates PF-violations. Under Merchant's (2001) analysis, other types of islands are not PF-islands and thus require extra assumptions other than PF-deletion to account for their apparent repair phenomena. Taking a close look at the island-repair data, however, I will instead support the view under which *all* types of island that show 'apparent repair phenomena' do involve PF-repair, and are thus PF-islands (Fox and Lasnik 2003). The only types of violations that are not ameliorated under sluicing are a classic type of ECP violations (Huang 1982, Lasnik and Saito 1992, among others) by adjuncts, which are attributed to LF-violations. I will thus corroborate Merchant's view (which follows Ross 1969) that sluicing is PF-deletion.

Section 2.2., Section 2.3., and Section 2.4., review three types of previous analyses of sluicing: the deletion analysis, the interpretive analysis, and the LF-copying analysis. Based on Ross' (1969) classic arguments for the deletion analysis and others, I will argue for the deletion analysis and against the latter two analyses. Section 2.5. reviews Merchant's (2001) PF-deletion analysis of sluicing. I will show that the potential problems for Ross' (1969) deletion analysis are not problematic under this later version of the deletion analysis.

In Section 2.6., I examine the asymmetry between argument and adjunct sluicing with respect to island violations. To account for such an asymmetry, I propose the

ECP account of adjunct sluicing, where I argue that the apparent lack of island-repair in adjunct sluicing is due to an ECP violation. Section 2.7. discusses the asymmetry between sluicing with an overt correlate (merger-type sluicing) and sluicing without any overt correlate (sprouting-type sluicing). A scopal parallelism requirement (Merchant 2001, Fox and Lasnik 2003) accounts for such an asymmetry. Finally, Section 2.8. extends the ECP account of adjunct sluicing to two types of PP sluicing. Swiping (sluicing with an inverted wh-phrase) out of an island does not show the expected ECP violation, even when it involves an adjunct PP, unlike pied-piped PP sluicing. To account for this asymmetry, I take up Nakao and Yoshida's (2007) PP shift analysis of swiping, where the wh-movement that is relevant in swiping is P-stranding rather than pied-piping, and thus the remaining trace of the wh-phrase satisfies the ECP.

2.1. Sluicing: introduction

Sluicing is a construction where a wh-phrase shows up as a fragment as in (1a) (Ross 1969, Chung, Ladusaw, and McCloskey 1995, Lasnik 2001, Merchant 2001, among many others). This fragmental wh-phrase *who* is interpreted in the same way as the full CP-structure in (1b), although the content of the IP (i.e. *John met*) is not pronounced. Thus, sluicing is treated as IP-ellipsis.

(1) *Sluicing*

    a.   John met someone. I don't know **who**.

    b.   John met someone, I don't know **[CP who [IP John met]]**.

There are three general types of analyses to account for this IP-ellipsis. One is (PF-)deletion analysis (Ross 1969, Merchant 2001, and Lasnik 2001, among others). Under this view, sluicing in (1a) actually involves a full clausal-structure in the same way as (1b), but the sentential complement of *who* is not pronounced because of a deletion rule. Merchant (2001), developing the deletion rule advocated by Ross (1969), claims that it is IP-deletion at PF.

(2)   I don't know [$_{CP}$ **who$_1$** [$_{IP}$ ~~John met t$_1$~~]].

The second line of analysis is an interpretive analysis (van Riemsdijk 1978, Ginzburg 1992). Under this analysis, the fragment wh-phrase in sluicing is a fragment DP in syntax ((3)). However, this DP is interpreted in the same way as the sentence in (1b), because of an interpretive rule.

(3)   I don't know [$_{DP}$ **who$_1$**].

Finally, Chung, Ladusaw, and McCloskey (1995) propose an LF-copying approach to sluicing, where the content of the elided IP is copied from the antecedent clause at LF, although this IP structure is nonexistent in syntax.

Below, I will discuss these analyses one by one, and I will eventually argue for the PF-deletion analysis.

2.2. PF-deletion analysis

Ross (1969), who was the first to take up this construction and named it sluicing, claims that there is a deletion rule that derives the sluicing sentence (4a) from the embedded question sentence of (4b).

(4) a.   He is writing something, but you can't imagine what.

     b.   He is writing something, but you can't imagine **what₁** he is writing **t₁**.

He argues for two aspects of the derivation of (4a). First, he argues that the sluiced wh-phrase is not just an NP/DP, but it involves an unpronounced clausal structure (S, IP). Second, the fragment wh-phrase in sluicing has undergone wh-movement to the sentence-initial position, just like the wh-phrase in the embedded question (4b). Proving these points, he argued against a potential interpretive analysis of sluicing. Below I will review Ross' (1969) original arguments on these points, interjected with Merchant's (2001) arguments to corroborate his points.

2.2.1.   Sluicing has a clausal structure

2.2.1.1.   Case-matching

Ross gives four lines of argument to show that sluicing has an underlying clausal structure. First, the wh-phrase in sluicing shows Case agreement with an indeterminate NP in the antecedent clause, as shown in the German example (5).

(5) a. Er will jemanden schmeicheln, aber sie wissen night {wem/*wen}

   He wants to someone flatter but they know not {whom$_{(Dat)}$/whom$_{(Acc)}$}

   "He wants to flatter someone, but they don't know who."

   b. Er will jemanden loben, aber sie wissen nicht {*wem/wen}

   He wants to praise someone but they know not {whom$_{(Dat)}$/whom$_{(Acc)}$}

   "He wants to praise someone, but they don't know who."

(Ross 1969: 253)

The verb 'flatter' in (5a) is a Dative-assigning verb, while the verb 'praise' in (5b) is an Accusative-assigning verb. As seen above, the wh-phrase in sluicing exhibits whichever Case the NP *someone* gets from the verb in the antecedent clause. This is straightforwardly accounted for under the deletion analysis. Given that the sentence in sluicing is deleted under identity, the underlying structure of the sluicing is as shown in (6).

(6) a. but they know not [$_{CP}$ **whom$_{1(DAT)}$** [$_{IP}$ he wants to flatter t$_{1}$]]

   b. but they know not [$_{CP}$ **whom$_{1(ACC)}$** [$_{IP}$ he wants to praise t$_{1}$]]

Here, the wh-phrase in each example gets the right Case from the verbs *flatter* and *praise*, respectively, in its underlying position. On the other hand, if there is no clausal structure in sluicing and the content of the IP is recovered through interpretive rules, it would be difficult to account for why the wh-phrase in these examples must

show up with certain Cases, especially when there are no drastic interpretive differences between the verbs used in the above examples.[1]

Merchant (2001) notes that this Case-matching effect holds cross-linguistically. The above phenomenon is observed in other languages such as Greek, Russian, Polish, Czech, Slovene, Finnish, Hungarian, Hindi, and Basque as well.

2.2.1.2.　Number agreement

The second argument comes from the number agreement phenomenon in the cases where the sluiced clause is a subject of a bigger sentence, as exemplified below.

(7)　He's going to give us some old problems for the test, but which problems **isn't**/*aren't clear. (revised from Ross 1969: 256)

If the sluiced wh-phrase *which problems* in the subject position of the latter sentence were simply a DP, we would expect plural agreement with the copular verb, contrary to the fact. On the other hand, the fact naturally follows if sluicing involves a clausal structure, because a clausal subject generally shows singular agreement, as indicated by (8).[2]

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[1] The interpretive analysis might handle this fact by assuming that the interpretive rules are somehow sensitive to syntactic Case. This is, however, an implausible assumption given that syntactic Case is not particularly relevant to interpretation in these examples. See Section 2.4.1. for a similar problem with respect to Case theory under the LF-copying analysis.

[2] Similarly to the proposal in Footnote 1, the interpretive analysis could handle the data if one assumes that singular/plural distinction can be made at the level where the interpretive rules apply.

(8) a. That Bill left is/*are tragic.

     b. Why he did it is/*are a puzzle.   (Ross 1969: 257)

Thus the data lend support to the analysis where the underlying structure of (7) is (9).

(9) … but [CP **which problems₁** [IP ~~he's going to give us t₁~~]] isn't clear.

2.2.1.3. Subcategorization

Thirdly, Ross (1969) shows that sluicing can show up as a complement of verbs that do not subcategorize for DPs. For example, the verb *wonder* in (10a) selects a sentential complement (e.g. "I wonder if he left."), and never a DP complement, as shown in (10b).

(10) a. She says she is inviting some men – I wonder **how many men**.

     b. *I wonder **those old men**.   (Ross 1969: 257)

Nevertheless, the sluiced wh-phrase *how many men* can occur as a complement of *wonder*, which indicates that there is an underlying clausal structure in sluicing, and *how many men* is not just a DP.

21

2.2.1.4.   Extraposition

The fourth argument for clausal structure in sluicing comes from the possibility of 'extraposition'. Ross (1969) points out that, when the fragment wh-phrase of sluicing is in the subject position (e.g. (11a)), extraposition of the wh-phrase is allowed, as shown in (11b).

(11) a.   We know that he was eating, but **what** isn't clear.

   b.   We know that he was eating, but **it** isn't clear **what**.   (Ross 1969: 259)

Ross assumes that the sentence (11b) is derived from (11a) via a rule of extraposition. Extraposition is a rule where a sentential subject undergoes rightward movement, leaving an expletive subject, as exemplified in the derivation of (12b) from (12a) (See Ross 1969: 259 for details).

(12) a.   **[That John is a genius]** is clear.

   b.   **It** is clear **[that John is a genius]**.

Crucially, such an extraposition rule cannot be applied to ordinary wh-phrases, as shown in (13).

(13) a.   Who is hoarse?

   b.   *It is hoarse who?

This contrast led him to conclude that the wh-phrase *what* in sluicing ((11a)) is a

clause, while the non-sluicing wh-phrase in (13) is a DP, and that extraposition only

applies to clauses.[3]

2.2.2. Sluicing involves wh-movement

In addition to the above argument that sluicing involves a sentential structure,

rather than a fragment DP, Ross (1969) gives evidence that the sluiced wh-phrase

undergoes movement from inside the elided clause. I will review this evidence.

2.2.2.1. Pied-piping

Ross points out that the size of the phrase that can be a sluicing remnant

correlates with the size of the phrase that can pied-pipe under wh-movement.

Compare (14) with (15).

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[3] Norbert Hornstein (p.c.) points out that the non-elided counterpart of (11a) is degraded
compared to the non-elided counterpart of (11b), suggesting that *what* in (11a) might be a
complex NP or a reduced relative, which does not have a CP structure unlike that in (11b).

(i) a. ??[What John was eating] isn't clear.
     b. It isn't clear [what John was eating].

If this is the case, the argument that (11b) is derived from (11a) via extraposition is
undermined. Nonetheless, the acceptability of (11b) still indicates that it has a sentential
structure in the same way as (12b) and (ib), unlike *what* in (13b).

(14) a.   I know he has a picture of somebody, but I don't know

{who/of whom/*a picture of whom}.

b.   I know he has somebody's picture, but I don't know whose picture.

(Ross 1969: 262)

(15) a.   I don't know   {**who₁** he has a picture of **t₁**

[of whom]₁ he has a pitcture **t₁**

*[**a picture of whom]₁** he has **t₁**}

b.   I don't know **[whose picture]₁** he has **t₁**   (*ibid*: 262)

The bare wh-phrase *who*, as well as the PP *of whom* in (14a) and the DP *whose*

picture in (14b) can be a sluicing remnant, while the DP *a picture of whom* in (14a)

cannot. Similarly, when *who* undergoes wh-movement in a non-elliptical question

sentence as in (15), the PP *of whom* and the DP *whose picture* can pied-pipe, while the

pied-piping of the DP *a picture of whom* is impossible. This correlation is trivially

explained if sluicing in (14) is derived via wh-movement in (15) (followed by

deletion). On the other hand, if the restriction on the size of the sluiced material

comes from the nature of an interpretive rule, why such a restriction correlates with

the restriction on movement would remain mysterious.

2.2.2.2.   P-stranding

Similarly to the argument above, Ross (1969) shows that when the pied-piping

of a preposition is prohibited in wh-movement, sluicing of such a pied-piped PP is

also impossible. The idiom case below illustrates this point.

Prepositions that are part of idioms (e.g. *with* in the idiom *do away with*) cannot be pied-piped as shown in (16), and such a preposition also cannot be part of a sluiced wh-phrase as shown in (17) (Ross 1969: 264).

(16) a.   **Who₁** are you going to do away with **t₁**?

b.   *[PP **With whom**]₁ are you going to do away with **t₁**?

(17) a.   Bill's planning on doing away with one of his inlaws,

but I don't know **which**.

b.   *Bill's planning on doing away with one of his inlaws,

but I don't know **with which**.

Again, the correlation with respect to the pied-piping possibility indicates that sluicing involves wh-movement. If sluicing is derived via wh-movement as shown in (18), the derivation of (17b) forces an illicit pied-piping in (18b), causing ungrammaticality.

(18) a.   but I don't know [CP **which₁** [IP Bill's planning on doing away with **t₁**]]

b.   *but I don't know [CP [PP **with which**]₁ [IP Bill's planning on doing away **t₁**]]

The pied-piping argument above shows that when movement does not allow pied-piping, sluicing also does not allow pied-piping. The following argument of

Merchant's (2001) shows that the flip side holds true, too: when movement forces pied-piping, pied-piping in sluicing is forced, too.

Some languages such as German (e.g. (19a)) prohibit P-stranding of a preposition altogether, and thus force pied-piping. As predicted by the deletion analysis, prepositions in such a language must be part of a sluicing remnant, and cannot be omitted, as shown in (19b).

(19) a.   *Wem hat sie mit gesprochen?   (Merchant 2001: 94)

          Who has she with spoken?

          "Who has she spoken with?"

    b.   Anna hat mit jemandem gesprochen, aber ich weiß nicht, *(mit) wem.

          Anna has with someone spoken but I know not with who

          "Anna has spoken with someone, but I don't know with whom"

On the other hand, P-stranding is optionally allowed in English as shown in (20a). Consequently, the sluicing remnant wh-phrase in (20b) may or may not have a preposition pied-piped with it.

(20) a.   Who was he talking with?   (Merchant 2001: 92)

    b.   Peter was talking with someone, but I don't know (with) who?

Merchant (2001) confirmed that the correlation between P-stranding possibility and optionality of a preposition in sluicing extends to all the languages he has checked.

All of the other P-stranding languages (Frisian, Swedish, Norwegian, Danish, and Icelandic) pattern with English, and all of the other non-P-stranding languages (Greek, Dutch, Yiddish, Russian, Polish, Czech, Bulgarian, Serbo-Croatian, Slovene, Persian, Catalan, French, Spanish, Italian, Hebrew, Moroccan Arabic and Basque) pattern with German with respect to the obligatoriness of the preposition under sluicing, further corroborating Ross' (1969) argument.[4]

2.2.2.3.   Islands

Ross (1969) discusses island phenomena as an argument for the movement analysis of sluicing. In his judgment, island violations under sluicing (e.g. Coordinate Structure Constraint violation in (21b)) are marginally degraded. To the degree that this sentence is degraded, that is evidence that sluicing is sensitive to islands, which indicates that sluicing involves movement.

(21) 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: 276)

However, (21b) is much better than its non-elliptical counterpart (21a), and in fact a

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[4] However, recently some authors point out that there are (at least apparent) counterexamples to this P-stranding generalization. See Hartman (2005), Stjepanovic (2006), Almeida and Yoshida (2007) and Szczegielniak (2008), for the data in Finnish, Serbo-Croatian, Brazilian Portuguese, and Polish, respectively.

lot of authors, including Merchant (2001), judge the sentence as perfectly acceptable. Therefore, in the following sections, I will treat examples such as (21b) as examples of island repair, rather than examples of island sensitivity in sluicing. We will discuss how to account for the amelioration effect in Section 2.5.3.

In this section, I reviewed some of Ross' (1969) and Merchant's (2001) arguments for the analysis where sluicing is derived by deletion, which follows wh-movement. In 2.3.2., I will review some counter-arguments to their argument by van Riemsdijk (1978). After taking his counter-arguments into consideration, however, I will show that Ross' (1969) original analysis is still superior to the alternative interpretive analysis.

2.3. *Interpretive analysis*

2.3.1.   Argument for Interpretive analysis

Van Riemsdijk (1978) argues against the deletion analysis of sluicing and claims that the meaning of sluicing is retrieved by an interpretation rule of wh-elements, rather than an underlying clausal structure. Below I will summarize his motivation for this claim and argument against Ross (1969). As we will see, none of the arguments serve as definite support for the interpretive analysis. Therefore, I will keep assuming the deletion analysis in the following chapters.

2.3.1.1.   Non-linguistic antecedents

The primary motivation for van Riemsdijk (1978) to adopt the interpretive analysis comes from the claim that sluicing is licensed by a non-linguistic antecedent. (22a) shows that matrix sluicing is possible when there is no linguistic antecedent, which is parallel to the fact of matrix stripping such as (22b). (We will discuss stripping in detail in Chapter 3.)

(22) a.   [Hankamer, standing in front of a table-tennis table, a second bat in his

hand, looking at the bystranders:]

Who?   (Van Riemsdijk 1978: 234)

      b.   [Hankamer, standing in front of a table-tennis table, a second bat in his

hand, looking at one of the bystranders:]

You?   (*ibid*: 234)

Hankamer and Sag (1976) argue that anaphora that is derived by deletion ('Surface Anaphora' in their term) does not allow non-linguistic antecedent, unlike base-generated anaphora whose meaning is retrieved in semantics ('Deep Anaphora'). Given this diagnostics, van Riemsdijk claims that sluicing does not involve a deletion process, and should be derived in the same way as stripping, which he assumed to be base-generated anaphora.[5]

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[5] Van Riemsdijk (1978: 235) notes that "[i]t has been argued by Hankamer and Sag (1976) and by Wiilliams (1977) that stripping involves no deletion," and follows this assumption. Hankamer and Sag, however, *do* take a deletion analysis of stripping based on examples such as (i), where a non-linguistic antecedent is unavailable. See the discussion in Chapter 3,

As van Riemsdijk admits, this property is only observed in matrix sluicing/stripping. It does not extend to embedded sluicing/stripping, as shown in (23). In fact, the original argument by Hankamer and Sag (1976) treats sluicing as Surface Anaphora, based on an embedded sluicing example similar to (23a).[6]

(23) a.   [the same context as (22a)] *I wonder who. (Van Riemsdijk 1978: 235)

    b.   [the same context as (22b)] *I think you.

He argues that whatever accounts for the unacceptability of (23b) will account for the unacceptability of (23a), and concludes that stripping and sluicing both involve null base-generated anaphora rather than deletion.

    However, the argument might as well go in the other direction. Suppose that we take the embedded case as the base example (as Ross 1969 does in his argument[7]), and conclude that both sluicing and stripping involve deletion (which I will in Chapter 3). There might be some alternative source other than deletion that is optionally possible only in the matrix configuration. One could well say that whatever is underlying the acceptability of (22b) will account for (22a), and that this exception does not threaten the deletion analysis. Therefore, I doubt that this argument favors the interpretive analysis over the deletion analysis.

Section 3.2.1.4. for this point.

(i)   [Sag plays *William Tell Overture* on recorder]
    Hankamer: #Yeah, but not very well.
    (*meaning*: He isn't playing the *William Tell Overture* on recorder very well.)

[6] See Chapter 4, Section 4.2.1.1. for a related discussion.
[7] See, however, Lasnik (2001) for the argument that the so-called matrix sluicing such as (22a) *is* actually a type of sluicing.

2.3.1.2.   One constituent only

Van Riemsdijk (1978) claims that sluicing cannot leave any constituent other than the wh-phrase unelided, as shown in (24).

(24) a.   *John brought the mail at 6 o'clock, but I can't remember **when the dossiers**.

b.   -   Did you know that Bill has bought a house in Switzerland?

-    *Yes, but I forgot **who in France**.

(Van Riemsdijk 1978: 252)

He argues that this fact is hard to capture in Ross' (1969) analysis. Ross (1969) assumes non-constituent deletion rather than IP-deletion in his framework; he has to assume that the deletion deletes everything inside a sentence but a preposition, to account for the data such as (25a).

(25) a.   John left, but I don't know who *with*.   (Van Riemsdijk 1978: 237)

b.   John left, but I don't know who [s ~~John left~~ with].

In (25a), the preposition *with* and the wh-phrase *who* are 'inverted' (if you assume that it is derived from the usual word order of a PP *with who(m)*), and they both survive sluicing (this construction is named 'swiping' by Merchant 2002: I will come

back to this construction in Section 2.8.). Under Ross' analysis, the deletion operation deletes "everything other than the preposition", as illustrated in (25b). Such formulation of a deletion rule, however, would be too strong in that it would allow any kind of preposition to survive sluicing, contrary to the fact. For example, the surviving preposition *about* in (26a) did not derive by any 'inversion' of a PP like *about why*, therefore such a sluicing is impossible. Nevertheless, Ross' deletion rule would allow deletion illustrated in (26b).

(26) a.   *Bill wrote a book, but I wonder why about. (Van Riemsdijk 1978: 253)

     b.   I wonder why [$_S$ ~~Bill wrote~~ about ~~a book~~].

This problem, however, does not arise under a more recent version of the deletion analysis of sluicing and swiping (Merchant 2001, 2002), where sluicing deletes the IP rather than a non-constituent. To account for the data in (24), the IP-deletion analysis only has to assume that a second, non-wh remnant cannot escape the deletion site for whatever reasons (as illustrated in (27)).

(27) I can't remember [$_{CP}$ when$_1$ [***the dossiers$_2$** ~~[$_{IP}$ t$_2$ brought the mail t$_1$]~~]]

Even under this assumption, the swiping example (25a) is still derivable. Merchant (2002) argues that the PP *with who* undergoes pied-piping wh-movement as shown in (28a), followed by the inversion of *who* and *with* as shown in (28b).

32

(28) a.　John left, but I wonder [$_{CP}$ [$_{PP}$ **with who**] [$_{IP}$ ~~John left t$_{PP}$~~]]

     b.　John left, but I wonder [$_{CP}$ [$_{PP}$ **who with**] [$_{IP}$ ~~John left t$_{PP}$~~]]

In this derivation, only one element (i.e. the PP) undergoes wh-movement, so it does not require movement of an extra phrase, unlike (27). Finally, there is no corresponding swiping derivation for (26a), because *why* and *about* in this example do not constitute a PP. Thus this example is correctly ruled out.[8]

Moreover, there might be an empirical dispute about the original observation in (24), which illustrates the ban on an extra remnant in sluicing. Nevins (2008) shows that a wh-phrase and a non-wh phrase can both survive ellipsis, as shown in (29a), and claims that these two ellipsis remnants escape the deletion site via wh-movement and rightward movement, respectively (See Lasnik 2006 for a similar analysis of multiple sluicing in English).

(29) a.　Lou will ask Doris about syntax, but I can't imagine **who about phonology**

     b.　I can't imagine [$_{CP}$ *who$_1$* [$_{IP}$ [$_{IP}$ ~~Lou will ask *t$_1$* t$_2$~~] [$_{PP}$ **about phonology**]$_2$]]

Here, I will leave open the question of when and how such a construction is possible.

In sum, it is not obvious whether there is a ban on multiple remnants in sluicing. Even if there is, it does not constitute an obvious problem for the IP-deletion analysis,

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[8] In Section 2.8., I will argue against Merchant's (2002) analysis of swiping and will propose an alternative analysis, which I call PP shift analysis, where the swiped PP first undergoes rightward movement (PP shift), then the wh-phrase undergoes wh-movement, stranding the preposition. Even under such an analysis, there is no corresponding derivation for (26a), where the sluiced wh-phrase and the swiped preposition does not form a PP in the underlying structure.

if there is a way to block the movement of the second constituent out of the elided IP (e.g. (27)).

2.3.2. Argument against Ross (1969)

Section 2.2. discussed Ross' (1969) (and Merchant's 2001) argument for the deletion analysis and against the interpretive analysis. Van Riemsdijk (1978) responds to these arguments, claiming that their data can be accommodated under the interpretive analysis. I will show, however, that some of Ross' (1969) original argument survives.

2.3.2.1. Case-matching

As reviewed in (5), Ross uses the Case-matching phenomenon as evidence for the existence of clausal structure in sluicing.

(30) Er will jemanden schmeicheln, aber sie wissen night {wem/*wen}   (= (5a))

He wants to someone flatter but they know not {whom$_{(Dat)}$/whom$_{(Acc)}$}

"He wants to flatter someone, but they don't know who."

Van Riemsdijk (1978) claims that this fact alone does not serve as counter-argument to the interpretive analysis, because another construction, stripping, also shows Case matching effect, as shown in (31).

(31) -   Wem wollote er schmeicheln?

      Whom$_{(DAT)}$ wanted he flatter?

      "Who does he want to flatter?"

  -    Dem Hans/*Den Hans/*Der Hans/*Hansens

      John$_{(DAT)}$/John$_{(ACC)}$/John$_{(NOM)}$/John$_{(GEN)}$

      "John."   (Van Riemsdijk 1978: 245)

Recall, however, the discussion of the availability of non-linguistic antecedent in sluicing and stripping (Section 2.3.1.1.). There I pointed out that as long as stripping can also be analyzed as deletion (which I will, following many other authors), the parallelism between sluicing and stripping does not serve as an argument for the interpretive analysis. See Chapter 3 for the analysis of stripping.

2.3.2.2.   Number agreement

Ross (1969) claims that the fact that sluicing in the subject position always shows singular agreement indicates that it is actually a sentential subject, which in turn shows that sluicing involves a sentential structure.

(32) He's going to give us some old problems for the test, but which problems **isn't**/*aren't clear. (revised from Ross 1969: 256) (= (7))

Van Riemsdijk (1978) argues that the wh-phrase in (32) is not a subject, but is left dislocated, just like the preposed DP in (33). He argues that the singular agreement in (32) is due to the null counterpart of the dummy subject *that* in (33), not due to the sentential nature of sluicing. (In fact, he adopts Koster's (1978) claim that there is no such thing as a sentential subject, and all apparent sentential subjects are actually left-dislocated.)

(33) A few more good squibs, that would be nice.   (Van Riemsdijk 1978: 247)

This account, however, does not explain why this dummy subject can be null. Note that you can optionally make the wh-phrase in (32) dislocated on the left of the overt dummy subject *that*, and still keep the singular agreement, as shown in (34a). However, the dummy subject in cases (34b) (slightly modified from (33)) does not seem to be optional. If you omit the dummy subject as shown in (34c), the dislocated DP is necessarily interpreted as a subject and the plural agreement is forced.

(34) a.   He's going to give us some old problems for the test, but which problems

          (, that) isn't/*aren't clear.

     b.   A few more good squibs**, that** is/*are nice.

     c.   A few more good squibs *is/are nice.

Given the lack of availability of singular agreement in (34c), the fact that (34a) retains the singular agreement even without *that* remains cryptic. Thus, the entire

paradigm still favors Ross' assumption that the wh-phrase in (32), when not accompanied by the dummy subject, is not interpreted as a left-dislocated element.

2.3.2.3.   Subcategorization

As already shown in (10) (repeated as (35)), a sluiced wh-phrase is subcategorized by a verb that takes a sentential complement (e.g. *wonder*) no matter of what category the wh-phrase is. Another example is given in (36a), where the verb *know*, which usually subcategorizes for a sentence or an NP (e.g. (36b, c)), apparently takes an AP complement *how tall* (which should be impossible as (36d) shows).

(35) a.   She says she is inviting some men – I wonder **how many men**.

  b.   *I wonder **those old men**.   (Ross 1969: 257) (=(10))

(36) a.   John is quite tall, but I don't know exactly **how tall**.

                                        (Van Riemsdijk 1978: 238)

  b.   I know [that John left].

  c.   I know the answer.

  d.   *I know quite tall.

Van Riemsdijk (1978) argues that examples such as (35b) are possible because verbs such as *know* subcategorize for a [+wh] complement of any category, besides a [-wh] NP or sentential complement in (36b, c).[9] As long as the complement satisfies [+wh],

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[9] This proposal is similar in spirit to Grimshaw's (1979) "semantic selection." For example,

the category does not matter for the selectional restriction.

If such selection is possible, however, a problem remains as to how such a [+wh] element is licensed. Under the standard assumption, a wh-phrase is licensed in the [Spec, CP] (or an S' position), and that forces the movement of the wh-phrase in (37). When a [+wh] NP is selected by *know* as in (37a), it necessarily undergoes wh-movement as shown in (37b).

(37) a.   John <u>knows</u> ***what***

b.   [$_{CP}$ ***What$_1$*** does [$_{IP}$ John <u>know</u> ***t$_1$***]]?

On the other hand, the sluiced [+wh] NP in (38) is equally selected by *know* under the interpretive analysis, but it does not undergo further wh-movement, unlike (37b).

(38) I know that John ate something, but I don't <u>know</u> ***what***.

In sum, the fact that *know* does not license a [+wh] NP in situ as shown in (37b) casts doubt on the account where the [+wh] NP in sluicing is directly subcategorized by the

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the verbs *know* and *find* both subcategorizes for NPs, but only *know* semantically selects so-called concealed questions. The NP *the kind of candy that Jill likes* can be restated as *what kind of candy Jill likes* in (ia), which indicates it is a concealed question, but not in (ib).

(i)   a.   Only Harold **knew** the kind of candy that Jill likes.
       b.   Harold finally **found** the kind of candy that Jill likes.
       (Grimshaw 1979: 301, slightly modified)

Unlike van Riemsdijk's argument here, however, Grimshaw claims that semantic selection is necessary *in addition to* syntactic subcategorization. For example, when a verb does not subcategorize for an NP (as in the case of *wonder*), it cannot take a concealed question even when the semantic selection of *wonder* that requires an interrogative complement is satisfied.

(ii)   *John wondered the time. (*intended reading*: John wondered what time it was.)

verb.

In the case of verbs that do not usually select an NP complement (e.g. *wonder*), the Case-assignment problem might also arise (Norbert Hornstein, p.c.). Suppose that *wonder* cannot take a complement NP (e.g. (35b)) because it does not assign Case to its complement. Then, how the wh-phrase (*how many men*) in (35a) gets its Case remains unclear, which is similar to the problem of Case-matching effects (Section 2.3.2.1.). Thus, the subcategorization pattern in (35) and (36) does not seem to be easily solvable by the assumption that some verbs merely subcategorize for a [+wh] complement.

2.3.2.4.   Pied-piping and P-stranding

Recall that Ross (1969) gives the paradigm in (14), repeated here as (39), to show that a constituent that can wh-move through pied-piping is a possible sluicing remnant, and argues that sluicing involves wh-movement. (Recall, also, the similar argument for P-stranding possibilities.)

(39) a.   I know he has a picture of somebody, but I don't know

{who/of whom/*a picture of whom}.

b.   I know he has somebody's picture, but I don't know whose picture.

(Ross 1969: 262) (= (14))

Van Riemsdijk (1978) argues that the interpretive analysis equally accounts for the

data. He claims that pied-piping possibility depends on feature percolation: a [+wh] feature percolates up to the PP node of *of whom*, or the NP node of *whose picture*, but it somehow cannot percolate to the NP node of *a picture of whom*. Because the feature percolation is blocked, such an NP cannot undergo wh-movement. Similarly, because the feature percolation is blocked, *a picture of whom* cannot be treated as a [+wh] NP, and it cannot be selected by verbs such as *know*, which selects a [+wh] complement according to his account discussed above. In this explanation, the correlation between the sluice-able element and the movable element is not direct: they happen to be the same because they both rely on the feature-percolation mechanism.

This argument is valid, as long as the assumption is valid that the verb *know* subcategorizes for a [+wh] complement in sluicing (e.g. (39)). As we have seen in the last subsection, however, this assumption seems to be problematic. Accordingly, Ross's argument for the deletion theory in terms of pied-piping/P-stranding is not undermined by this account.

2.3.2.5.   Islands

Finally, van Riemsdijk (1978) claims that the lack of island effects under sluicing (e.g. (40)) favors the interpretive analysis; under the interpretive analysis, (40a) and (40b) are not transformationally related, and thus their grammaticality is not expected to be the same.

(40) 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: 276) (= (21))

He also claims that stripping, which he assumes to involve an interpretive process, is also only marginally sensitive to islands.[10]

(41) -   Irv and someone were dancing together.   (Van Riemsdijk 1978: 251)

-    ?Jonathan?

Unlike the other arguments reviewed above, this *is* a valid argument for the interpretive analysis over the deletion analysis, unless the deletion analysis has an additional explanation of why sluicing does not exhibit island effects, even when it involves wh-movement. In the following sections, I will discuss later how the deletion analysis of sluicing treats island repair phenomena in detail.

2.3.3.   Summary

In this section, I have shown that the two arguments (non-linguistic antecedents and one constituent only) for the interpretive analysis are not necessarily problematic for the deletion analysis (especially if we adopt the IP-deletion approach of Merchant

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[10] Depiante (2000), on the other hand, claims that stripping does show island sensitivity, based on a different set of examples. See Chapter 3, Section 3.2.1.2.

2001). Moreover, most of the five counter-arguments against Ross' (1969) argument for the deletion analysis do not seem to be valid, or are at least inconclusive. Thus, I conclude that the deletion analysis is superior to the interpretive analysis. The next section discusses yet another alternative analysis: the LF-copying analysis.

2.4. LF-copying analysis

2.4.1.   The mechanism

Chung, Ladusaw and McCloskey (1995) (henceforth, CLM), following a traditional interpretive analyses of ellipsis by Wasow (1972), Williams (1977), and Chao (1987), propose the third analysis of sluicing, which I will call the LF-copying analysis. They claim that sluicing involves an empty IP after the fragment wh-phrase as illustrated in (42), and that the content of the antecedent IP is copied onto the empty IP at LF via a 'recycling' mechanism.

(42)   CP
         ╱   ╲
    XP[wh]   C'
               ╱   ╲
            C^0 IP
             | |
             e   e
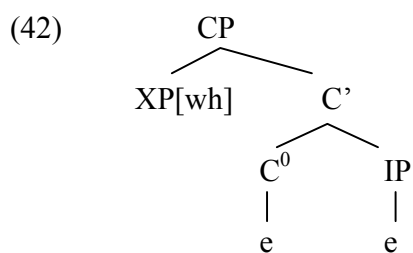
In a sense, this analysis is a hybrid of the two previous analyses. It assumes an internal IP-structure of sluicing in the same way as the deletion analysis, but is similar to the interpretive analysis in that the content of the IP is absent in overt syntax.

They classify sluicing into two subtypes: sprouting-type (43a) and merger-type (43b). In merger-type sluicing, the sluiced wh-phrase has a correspondent phrase (which is usually an indefinite: e.g. *something* in (43b)) in the antecedent clause, while such a phrase is missing from the antecedent of sprouting-type sluicing.

(43) a.   John ate, but I don't know **what** [IP e].

b.   John ate **something**, but I don't know **what** [IP e].

In (43a), when you try to copy the antecedent IP onto the empty IP at LF, there is no NP position that the wh-phrase in the [Spec, CP] position can bind, and it would yield an illicit LF structure in (44a). In such a case, you can freely 'sprout' an empty category to be bound by the wh-phrase, as shown in (44b), as long as the resulting sprouting structure conforms to the X-bar theory and other LF restrictions.

(44) a.   *[IP John ate], but I don't know **what₁** [IP John ate].

b.   [IP John ate], but I don't know **what₁** [IP John ate **NP₁**].   Sprouting

When (43b) is derived, another mechanism is employed. The content of the antecedent IP (i.e, *John ate something*) is copied onto the empty IP, yielding the structure in (45).

(45) [IP John ate **something**], but I don't know **what₁** [IP John ate **something₁**].

They assume that an indefinite such as *someone* is "a referential parameter whose domain of values is restricted by the content of the term (CLM 1995: 251)." In the structure (45), the variable that is bound by *what* must have a bifurcate property: it is restricted by the operator *what*, but its domain is also restricted by the range of options denoted by *something*. This type of binding operation is called 'merger'.

One major drawback of this analysis is that, in the same way as the interpretive analysis, it cannot straightforwardly account for Ross's (1969) Case-matching fact (Section 2.2.1.1.) and P-stranding fact (Section 2.2.2.2.). (46) is an example of the Case-matching requirement in German sluicing, and (47) is how it is derived under the LF-copying analysis. An empty IP as base-generated as illustrated in (47a), whose content is copied from the antecedent IP at LF as shown in (47b).

(46) Er will jemanden schmeicheln, aber sie wissen night {wem/*wen}   (= (5a))

He wants to someone flatter but they know not {whom$_{(Dat)}$/whom$_{(Acc)}$}

"He wants to flatter someone, but they don't know who."

(47) a.   He wants to someone flatter, but they know not [$_{CP}$ **whom$_{(DAT)}$** [$_{IP}$ e]]

b.   He wants to someone flatter [$_{CP}$ **whom$_{(DAT)}$** [$_{IP}$ he wants to **someone$_{(DAT)}$**

flatter]]

CLM note, "the LF's we are assuming are syntactically particular in that they contain lexical items of English, carrying with them syntactic licensing conditions (CLM 1995: 263)," and "it is not surprising that Sluicing is sensitive to case government (*ibid*: 263)." However, how the Case-assignment is implemented remains rather

unclear. In (47b), the copied indefinite *someone* is assigned Dative Case from the verb *flatter*, and it undergoes merger with the wh-phrase *whom*. They must assume that this merger process at LF somehow restricts the overt form of the wh-phrase.

This may not be problematic under the assumption that (i) Case is not assigned by the verb, but is checked against the verb at LF (Chomsky 1993), and (ii) merger cannot apply if there is Case-mismatch. Under this view, the wh-phrase in (47b) could be base-generated with any Case as long as it is later checked at LF (the assumption (i)). However, as the indefinite in the antecedent clause has Dative Case, merger applies only if the wh-phrase also has Dative Case (the assumption (ii)). Thus the wh-phrase in sluicing always ends up having the same Case as the indefinite in the antecedent clause. For this line of explanation to work, however, CLM would have to clarify why the merger operation is sensitive to Case in the first place.

Even if one can accommodate the Case fact by proposing an LF Case-checking, the P-stranding problems is still hard to deal with. (48), repeated from (19b), shows that in non-P-stranding languages such as German, the sluiced wh-phrase must occur with a preposition.

(48) Anna hat mit jemandem gesprochen, aber ich weiß nicht, *(mit) wem.

Anna has with someone spoken but I know not with who

"Anna has spoken with someone, but I don't know with whom"

Under the LF-copying analysis, it should be possible to base-generate only *who* together with an empty IP as in (49a), and recycle the IP as shown in (49b). The wh-

phrase *who* undergoes merger with the indefinite *someone*, and this process does not involve any P-stranding.

(49) a.   [_CP who [_IP Δ]]

     b.   [_CP ***who*** [_IP Anna has with ***someone*** spoken]]

Therefore, why such an operation is prohibited in non-P-stranding languages is rather unclear.

Given this problem and other concerns (See Merchant 2001, 4.4., for example), I will not adopt this line of analysis here. However, the LF-copying analysis also has some virtues. Below I will review CLM's argument for the LF-copying analysis, but eventually show that, again, they do not necessarily threaten the deletion analysis.

2.4.2.   Argument for the LF-copying analysis

2.4.2.1.   Identity condition and indefinite antecedent

It is a standard assumption that phrases can be deleted only when an identical phrase already exists in the antecedent, and Ross (1969) defines his deletion rule in such a way that a clause can be sluiced when it is identical to the antecedent clause. CLM note that, however, the definition of the identity condition on deletion is unclear. For example, in sprouting-type sluicing (e.g. (50a)), the antecedent clause does not involve any NP objects, while the elided clause does; the existence of such an NP is

ignored with respect to the identity condition.[11] Similarly, in merger-type sluicing, (e.g. (50b)) the difference between the indefinite *something* and the trace of the variable inside the elided clause is ignored.

(50) a.   John ate, but I don't know **what₁** [IP John ate t₁].

b.   John ate **something**, but I don't know **what** [IP John ate t₁].

Also, they claim that the deletion analysis cannot account for the fact that the phrase in the antecedent clause that corresponds to the wh-phrase of merger-type sluicing must be an indefinite, as shown by the contrast in (51).[12]

(51) a.   John met **someone**, but they don't know **who₁** [IP John met t₁].

b.   *John met **Mary**, but they don't know **who₁** [IP John met t₁].

These data, however, are not problematic if we adopt the semantic identity condition advocated by Merchant (2001). In both examples in (50), and also (51a), deletion is correctly licensed because the semantic content of the antecedent clause and that of the sluice after the variable abstraction entail each other. On the other hand,

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[11] One might assume that the verb *eat* in (50a) has an object as an implicit argument, and is not intransitive. If this implicit argument is syntactically realized (for example, as a pro), the syntactic structures of (50a) and (50b) are identical and (50a) can also be analyzed as an instance of merger-type sluicing.

[12] The non-elided version of (51b) is possible, as shown in (i), but it is unacceptable if the wh-phrase has a stress, as shown in (ii) (Howard Lasnik, p.c.). In this respect, the deletion of the IP in (51b) and the deaccenting of the IP in (ii) seem to obey the same condition.

(i)   John met Mary, but they don't know [CP who [IP John met]].
(ii)   John met Mary, but they don't know [CP WHO [IP John met]].

the semantic content of the sluice in (51b) (*John met t*) does not entail the antecedent *John met Mary*. We will return to his account of the possibility of deletion in these examples in Section 2.5.1.

2.4.2.2.   Inheritance of content by merger

CLM give the following type of examples in support of their merger-type analysis of sluicing. In (52a) (CLM: 260), there is a presupposition that the content of *who* in the sluice is some students. This is a peculiar property of sluicing, because in a non-elliptical sentence (52b) (revised from CLM: 261), there is no presupposition that 'they know that it is some *students* that she talked to, but they don't know which ones'.

(52) a.   John said she talked to some students but I don't know who.

         (who = students)

    b.   John knows that she talked to some students, but they don't know who she

         talked to.

CLM argue that this supports their merger analysis; in their analysis, the sluiced IP involves the NP *some students* copied from the antecedent clause, and *who* gains its semantic content not only from itself but also from *some students* through merger.

(53) I don't know [CP who [IP she talked to some students]]

I will discuss how to solve this problem under Merchant's (2001) deletion analysis in Section 2.5.2.

2.4.2.3.   Islands

Finally, CLM show that island effects are not observed under merger-type sluicing as shown in (54a) (see, also, Ross' (1969) examples in (21)), although sprouting-type sluicing is island-sensitive, as shown in (54b).

(54) a.   Sandy was trying to work out which students would be able to solve a

certain problem, but she wouldn't tell us which one.

b.   *Sandy was trying to work out which students would speak, but she refused

to say to whom.   (CLM: 272)

They explain the fact by assuming that merger in (55a) does not involve movement or any other chain forming mechanisms (therefore no island effects are observed in (54a)), while sprouting, as illustrated in (55b) involves a type of operation they call Form Chain, because it ties the newly-created trace to the sluiced wh-phrase. Crucially, they assume that this operation is island-sensitive in the same way as movement.[13]

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[13] Chung, Ladusaw, and McCloskey (2006) revise this analysis and propose that the wh-phrase in sprouting-type sluicing undergoes some type of lowering operation to create a variable that it binds. The wh-movement *what* in (i) is copied and then Merged in a position

49

(55) a.   she wouldn't tell us [CP which one **[IP Sandy was trying to work out**

       which students would be able to solve a certain problem]]

   b.   *she refused to say [CP to whom$_1$ **[IP Sandy was trying to work out which**

       students would speak t$_1$]]

This contrast is potentially problematic for the deletion analysis, because the deletion

analysis usually assumes that the same type of wh-movement is involved in the two

types of sluicing. I will come back to this problem in Section 2.5.3.

2.5. *The new deletion analysis: Merchant 2001*

Summarizing CLM's arguments, there are three lines of unsolved questions

under the deletion analysis.

(56) a.   What is the licensing condition of IP-deletion?

       Why does it allow merger/sprouting-type of sluicing?

       Why is the phrase corresponding to the wh-phrase indefinite and not

       definite?

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inside a copied IP as a lower occurrence. Assuming the copy theory of movement (Chomsky
1995), they claim that this operation is indistinguishable from the upward application of wh-
movement.

(i)   [IP John ate], but I don't know **what$_1$** [IP John ate **what$_1$**]   (cf. (44b))

b. Why does some content of the corresponding phrase in the antecedent clause seem to restrict the content of the wh-phrase in the sluice?

c. Why is merger-type sluicing insensitive to islands?

Below I will discuss Merchant's (2001) semantic identity condition based on e-givenness and show that the problems (56a-b) are well accommodated under his analysis. (The problem in (56c) will be discussed in Section 2.7.)

2.5.1.   Identity condition and indefinite antecedent

Merchant (2001) proposes that the identity condition on deletion is semantic in nature. The deletion of IP in sluicing is licensed by what he calls e-givenness, which is based on the mutual entailment relationship between the antecedent IP and the deleted IP. He defines F-closure and e-givenness as in (57) and (58), and proposes the condition on sluicing in (59).

(57) F-closure

The F-closure of α, written F-clo(α), is the result of replacing F-marked parts of α with ∃-bound variables of the appropriate type (modulo ∃-type shifting).

(58) e-givenness

An expression E counts as e-given iff E has a salient antecedent A and, modulo ∃-type shifting, (i) A- entails F-clo(E) and (ii) E entails F-clo(A).

(59) Focus condition on IP-ellipsis

   An IP α can be deleted only if α is e-given.

Under this definition, both the sprouting-type sluicing in (60a) and the merger-type sluicing in (60b) are correctly licensed; even though the antecedent clause (IP$_A$) of (60a) involves an intransitive verb *eat* and that of (60b) involves a transitive verb *eat*, they both have the same F-closure in (61a). Their semantics is the same as long as the existence of an eaten object is implied by the intransitive verb *eat* in (60a).

(60) a. John ate, but I don't know **what₁** [~~IP John ate t₁~~].   (= (50))

   b. John ate **something**, but I don't know **what** [~~IP John ate t₁~~].

(61) a. IP$_A$ = John ate (something);   F-clo(IP$_A$) = $\exists x.$ John ate x

   b. IP$_E$ = John ate t;   F-clo(IP$_E$) = $\exists x.$ John ate x

   The fact that a definite NP cannot serve as a correspondent of the wh-phrase in the sluice (see (51)) is also explained under this analysis. The antecedent clause in (62) does not have any variables, as shown in (63a). The F-closure of the elided IP (i.e. (63b), which roughly means that 'there is someone that John met') does not entail *John met Mary*. Thus e-givenness is not satisfied in this case.[14]

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[14] As Merchant (2008) shows, a definite NP can be a correlate of a sluiced wh-phrase if it is focused. Merchant assumes that a focused phrase undergoes LF-movement, which creates a λ-abstraction in (ii) in semantics. This representation would satisfy the e-givenness condition between the antecedent clause and the sluiced clause. (The intermediate-level λ-abstraction between IP and VP, assumed in Fox and Lasnik (2003), is omitted in (ii).)

(i)   She met RINGO, but I don't know who else. (Merchant 2008: 147)
(ii) RINGO λx.[she met x]

(62) *John met **Mary**, but they don't know **who₁** [~~IP John met t₁~~]. (= (51b))

(63) a. IP_A = John met Mary;   F-clo(IP_A) = John met Mary

    b. IP_E = John met t;   F-clo(IP_E) = $\exists\,x$. John met x

In this way, the first problem, that is, how to define the identity condition such that it allows both merger-type and sprouting-type sluicing, is resolved.

2.5.2.   Inheritance of content by merger

As for the second problem of the inheritance of the content of the existential, I propose that the sluicing in (64a) has an underlying structure of (64c), rather than (64b). If the deleted IP involves the restriction *among the students*, its F-closure imposes a condition that the content of *who* is included in the salient set of students supplied from the discourse. It then satisfies e-givenness with the antecedent clause *she talked to some students*, because they both share the same F-closure as illustrated in (65).

(64) a.   John said she talked to some students but I don't know who she talked to.

        (= (52a))

    b.   I don't know [CP **who₁** [~~IP she talked to t₁~~]].

    c.   I don't know [CP **who₁** [~~IP she talked to t₁ *among the students*~~]]

(65) a.　F-clo(IP$_A$) = $\exists$ x. student(x) & she talked to x

　　b.　F-clo(IP$_E$) = $\exists$ x. student(x) & she talked to x

On the other hand, if the underlying structure were simply (64b), the restriction part (i.e. *student(x)*) of the F-closure in (65b) would be missing, and the two F-closures would not entail each other, resulting in failure to satisfy the e-givenness condition.

The addition of the restriction (i.e. *among the students* in (65c)) I proposed above might seem to be an ad hoc assumption just to satisfy the e-givenness condition. Note, however, that CLM themselves admit that such an additional context is sometimes required even under their analysis. For example, they explain (66) in the following way.

(66) a.　John is working on *War and Peace* but I don't know which chapter.
　　　　(CLM: 268)

　　b.　I don't know **which chapter** [John is working on ***War and Peace***]

　　c.　I don't know which chapter (of) *War and Peace*.　　　　(CLM: 268)

Copying the antecedent clause of (66a) yields the structure in (66b). They propose that the merger of the wh-phrase *which chapter* with the definite NP *War and Peace* results in interpreting it as *which chapter of War and Peace*, as shown in (66c).

Note that a definite NP cannot undergo merger with a wh-phrase, as already discussed in (51b). If such a special type of merger is allowed only when the context allows it, the analysis is virtually the same as mine, which says "assume the

underlying restriction PP as shown in (64c), only when the context allows it."

Under my proposal based on the deletion analysis of Merchant (2001), the underlying structure of (66a) is (67). Here, e-givenness should correctly be satisfied, because "working on War and Peace" in the antecedent clause entails "working on some chapter of War and Peace", and vice versa.

(67) John is working on *War and Peace*, but I don't know

[CP **which chapter$_1$** [~~IP~~ ~~John is working on~~ **t$_1$** *~~of War and Peace~~*]].

2.5.3.   Islands

This subsection discusses the third question in (56c): the lack of island effect under Merchant's (2001) theory of islands. Merchant (2001) classified islands into two subtypes: PF-islands and propositional islands. According to his analysis, islands such as Left Branch Condition and Comp-trace effect are PF-islands; violations of these islands result in ill-formed PF-representations. He claims that sluicing involves PF-deletion of IP, and thus it ameliorates violations on PF-representations. Therefore, the PF-island violations are nullified under sluicing, as shown in (68) and (69) (See Merchant 2001, chapter 5).

(68) *Left Branch Condition* (PF-island)

a.   *[**How big**]$_1$ did she buy [a **t$_1$** car]?

b. She bought a big car, but I don't know

[CP **[how big]$_1$** [IP ~~she bought [a t$_1$ car]~~]].

(69) Comp-*trace effect* (PF-island)[15]

a. *** Who$_1$** is she wondering [CP if **t$_1$** left]]?

b. She is wondering if someone left, but I don't know

[CP **who$_1$** [IP ~~she was wondering[CP it t$_1$ left]~~]].

On the other hand, the other subtype, propositional islands, includes complex NP islands and adjunct islands. Extraction out of these islands involves extraction out of a propositional domain. Violations of this type of islands are, apparently, also not observed under sluicing, as illustrated in (70) and (71).

(70) *Complex NP island* (propositional island)

a. *** What$_1$** does John want to hire [someone who fixes cars with **t$_1$**].

b. John wants to hire [someone who fixes cars with something], but I don't know **what**.

(71) *Adjunct island* (propositional island)

a. *** Who$_1$** will John be mad [if Mary dances with **t$_1$**]?

b. John will be mad [if Mary dances with a certain guy], but I don't know **who**.

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[15] Merchant (2001) also gives examples of *that*-trace effect such as (i), but it is hard to tell whether the underlying structure of the sluice in (i) really includes *that*, given that *that* does not have an obvious semantic content and is optional. Therefore, it is not clear if this is an example of amelioration by sluicing.

(i) She said that someone left, but I don't know [CP who$_1$ [IP ~~she said [CP **(that)** t$_1$ left]~~]].

Merchant claims that, unlike the case of PF-islands, (70b) and (71b) are not real 'island-repair' examples.[16] They are derived from a source that does not involve an island, as illustrated in (72).

(72) a.   John wants to hire [someone who fixes cars with something],

    but I don't know **what₁** [*she* fixes cars with **t₁**].   (*She* = e-type pronoun)

    b.   John will be mad [if Mary dances with a certain guy], but I don't know

    who₁ [Mary dances with **t₁**] (*in a situation where John will be mad*).

In (72a), the source of the sluicing employs an e-type pronoun subject, and therefore does not involve the complex NP. In (72b), the sluiced clause is bound by a null subjunctive operator, which roughly means 'in a situation where John will be mad', and it is not in an adjunct clause anymore.

    To sum up, although he assumes two types of islands, both types of island effects are absent under sluicing, but through different mechanisms: PF-island violations are repaired by PF-deletion, and propositional island violations are obviated by the existence of an alternative underlying source in (72). This explains

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[16] Merchant (2001) claims that complex NPs are not PF-islands based on the fact that comparative deletion that involves relative clauses is ill-formed, as shown in (i).

(i)   *Abby hired someone who speaks a rarer Balkan language than Op₁ Ben did ~~hire someone who speaks [t'₁ a t₁Balkan language]~~.

However, examples such as (ii) show that unacceptability of extraction out of VP-ellipsis is independent of any islands (See Chapter 3, Section 3.5.2.2.). Therefore, (i) does not count as evidence to show that relative clauses are not PF-islands.

(ii)   *I know that John said that Mary read a certain book, but I don't know which one he did. (Fox and Lasnik 2003: 151)

the lack of island effect under (merger-type) sluicing, which we observed in (54a) (repeated here as (73a)).

(73) a.   Sandy was trying to work out which students would be able to solve a certain problem, but she wouldn't tell us which one.

b.   *Sandy was trying to work out which students would speak, but she refused to say to whom.   (CLM: 272)

However, the above argument still does not account for the asymmetry between merger-type sluicing ((73a)) and sprouting-type sluicing ((73b)). The deletion analysis needs to explain why the island effect stays only in (73b). We will return to this question in Section 2.7.

2.5.4.   Summary

This section showed that the potential problems of the deletion analysis raised by CLM are accounted for under the revised deletion analysis by Merchant (2001) (except for the puzzling asymmetry in (73), which we will return to). Based on this conclusion, I will basically adopt his PF-deletion analysis of sluicing in my discussion that follows.

In the next section, I will discuss a wider range of sluicing facts. I will revise the bifurcate analysis of islands and claim that all islands (and subjacency violations) are PF-violations.

2.6. Adjunct sluicing, ECP and islands

2.6.1.   A problem of adjunct sluicing

Lasnik (2005) points out that there is an argument-adjunct asymmetry in sluicing out of a propositional island, as illustrated in (74) and (75). When the sluiced wh-phrase is an argument such as *who* and *what*, sluicing out of a complex NP or an adjunct clause is possible ((74a), (75a)). On the other hand, sluicing of adjunct wh-phrases such as *why* and *how* cannot cross an island ((74b, c) and (75b, c)).

(74) a.   John wants to hire [someone who fixes cars *with something*],

     but I don't know **what**.

   b.   *John wants to hire [someone who fixes cars *for a certain reason*],

     but I don't know (exactly) **why**.

   c.   *John wants to hire [someone who fixes cars *in a certain way*],

     but I don't (exactly) know **how**.

(75) a.   John will be mad [if Mary dances *with a certain guy*],

     but I don't know **who**.

   b.   *John will be mad [if Mary dances *for a certain reason*],

     but I don't know **why**.

   c.   *John will be mad [if Mary dances *in a certain way*], but I don't know **how**.

This asymmetry is unpredicted under Merchant's (2001) analysis of

propositional islands illustrated in (72) (repeated below). He argues that cases where sluicing appears to occur from inside a propositional island are actually derived from an alternative source that does not involve any islands. If such an alternative source were available, the adjunct examples such as (74b, c) and (75b, c) should be able to be derived in the same way, as illustrated in (76).

(76) a.　John wants to hire [someone who fixes cars in a certain way],

　　　　but I don't know **how₁** [*she* fixes cars **t₁**].　　(*She* = e-type pronoun)

　　b.　John will be mad [if Mary dances for a certain reason],

　　　　but I don't know **why₁** [Mary dances **t₁**]

　　　　(*in a situation where John will be mad*).

This analysis would predict that these sentences should be acceptable, contrary to the fact. Therefore, the analysis that employs underlying e-type pronouns and null subjunctives in these examples is hard to maintain. In fact, the unavailability of adjunct sluicing (74) and (75) indicate that e-type pronouns and null subjunctives are somehow *not* available as an alternative underlying structure of sluicing.

　　Note that this is problematic under CLM's LF-copying analysis, too. Recall that they claim that merger-type sluicing lacks island effects because it does not involve wh-movement (See the argument in 2.4.2.3.). The adjunct sluicing examples (74b, c) and (75b, c) are instances of merger-type sluicing because the wh-phrases (*why* and *how*) have an overt correlate indefinite phrase (i.e. *for a certain reason*, *in a certain way*) in the antecedent clause. Thus, CLM would also predict that (74b, c) and (75b,

c) should be acceptable.

The argument-adjunct asymmetry in sluicing out of an island is thus problematic for both the PF-deletion analysis and the LF-copying analysis. The next section solves the problem by revising Merchant's (2001) PF-deletion analysis. I will conclude that the adjunct sluicing examples are unacceptable not due to a mere island violation, but due to an additional ECP violation. A mere island violation is a PF-violation, also in the case of so-called propositional islands, and is ameliorated by PF-deletion (as Merchant 2001 claims for his PF-islands). The ECP violation by an adjunct wh-phrase, on the other hand, is caused at LF, and is not repaired by PF-deletion.

2.6.2.   The ECP account

2.6.2.1.   ECP violations and adjunct sluicing

Following Lasnik's insight, Nakao and Yoshida (2007) propose an ECP-based account of argument-adjunct asymmetry such as (74) and (75). The ECP is the requirement for an empty category to be 'properly governed.' Under the copy theory of movement in the Minimalist framework (Chomsky 1993, 1995, and subsequent works), the notion of 'an empty category' must be rephrased as 'an unpronounced copy'. I will simply assume here that a copy corresponds to a trace in the ECP theory, and just use the term *trace* in this section.

(77) **The ECP** (Chomsky 1981)

A non-pronominal empty category must be properly governed.

According to the traditional definition of the ECP (Huang 1982; Lasnik and Saito 1984, 1992), an empty category must be either antecedent-governed or head-governed by a lexical head. Below is the definition of proper government taken from Lasnik and Saito (1992).

(78) α properly governs β iff α governs β and

    a.   α is a lexical category X^0 (lexical government) or

    b.   α is coindexed with β (antecedent government).

(Lasnik and Saito 1992: 14)

Nakao and Yoshida's assumptions are roughly as follows. First, locality violations are averted by PF-deletion (i.e. sluicing) as Fox and Lasnik (2003) assume. This is to say that every island/subjacency violation is a PF-violation. This contrasts with Merchant's (2001) account, which assumes that propositional islands such as Complex NP islands are not PF-phenomena. Second, a propositional island is a barrier for antecedent-government, as in Lasnik and Saito's (1984, 1992) theory. As a result, only adjunct traces violate the ECP when included inside a propositional island (as in (79b)), because an argument trace satisfies the ECP by the lexical government by the preposition (e.g. *with* in (79a)).

(79) a.   I don't know [_CP **what₁** [John wants to hire [_Island someone who fixes cars

with t₁]]].

b.   *I don't know [_CP **why₁** [John wants to hire [_Island someone who fixes cars

t₁]]].

If the ungrammaticality of (79b) is attributed to the ECP effect, it suggests that the

ECP violation is not remedied by sluicing, while the island violation is ameliorated in

both examples. This is compatible with the view that the ECP is an LF constraint

(Huang 1982)[17], while sluicing is PF-deletion, which only ameliorates PF-violations

(Merchant 2001). Thus, this analysis is compatible with the PF-deletion analysis and

it rejects the idea that only some islands are PF-constraints.

2.6.2.2.   Long-distance adjunct sluicing and the Parallelism requirement

There is an apparent counter-argument to the ECP account. Lasnik (2005) notes

that adjunct wh-phrases cannot escape even complement clauses under sluicing. The

long-distance reading of (80) (i.e. (80a)) is unavailable. Without sluicing, on the other

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[17] Lasnik and Saito (1992) argue that the ECP is applied at S-structure and LF for argument
traces and only at LF for adjunct and intermediate traces. This asymmetry is proposed to
exclude (i) as a *that*-trace violation at S-structure, while including (ii) and (iii) using *that*-
deletion at LF.

(i)   *Who₁ do you think [that [t₁ left]]?
(ii)   Why₁ do you think [that [John left t₁]]
(iii)   Who₁ do you think [that [Mary said [t'₁ [t₁ won the race]]]]?

Merchant (2001) claims that the *that*-trace effect is a type of PF-island (see (69)) and is
remedied by sluicing. In sum, (i) is an S-structure violation for Lasnik and Saito and a PF
violation for Merchant. I will concentrate on ECP violation of adjunct traces *at LF*, claiming
that LF violations cannot be ameliorated by sluicing.

hand, wh-movement can escape complement clauses, as shown in (81).

(80) ?*Mary said that John left for some reason, but I don't know (exactly) **why₁**.

    a.   = ?*I don't know [CP **why₁** [IP Mary said [CP **t₁'** that [IP John left **t₁**]]]].

    b.   = I don't know [CP **why₁** [IP John left **t₁**]].

(81) [CP **Why₁** did [IP Mary say [CP **t₁'** that [IP John left t₁]]]]?

The unacceptability of (80a) is unexpected under the ECP account, because the representation (80a) does not violate the ECP, i.e., the adjunct wh-trace (t) is antecedent-governed by the intermediate trace in the embedded [Spec, CP] (t') in both (80a) and (81).

    To avert this problem, Nakao and Yoshida (2007) claim that the notion of Parallelism in sluicing proposed by Fox and Lasnik (2003) is necessary in addition to the ECP. They argue that a sluiced clause and its antecedent must satisfy Parallelism. For example, (83a) is the semantic representation of the antecedent clause of (82), and (83b) is that of the sluice.

(82) Fred said that I talked to a certain girl,

    but I don't know **which₁** [Fred said that I talked to **t₁**].

(83) a. $\exists$ **f**λ**f'**[Fred said that I talked to **f'(girl)**]

    b.   **which g girl** λ**g'**[Fred said that I talked to **g'(girl)**]

They propose that an intermediate trace destroys the parallelism of the two

representations. Thus, if *which girl* moves to the surface position in one stretch, they have the same representation. Although this one-fell-swoop movement violates a locality condition (subjacency in the traditional term), it is remedied by sluicing (this is compatible with our assumption in the previous section that every locality constraint is a PF-violation and is ameliorated by PF-deletion).

If, on the other hand, the wh-phrase moves successive cyclically, an intermediate trace in (83b) destroys the parallelism because the representation of *a certain girl* in (83a) does not involve any intermediate step. Successive cyclic movement is thus prohibited in sluicing in terms of the parallelism requirement. This means that even complement clauses behave like islands under sluicing.

The sluice/non-sluice asymmetry between (80a) and (81) is not problematic anymore. (85a) and (85b) represent the antecedent clause and the sluice of (84). *Why* in (84) undergoes one-fell-swoop movement for (85) to satisfy Parallelism. The subjacency violation made by this movement is remedied by PF-deletion as assumed in Fox and Lasnik. However, the long-movement causes an ECP violation at LF, because the trace of an adjunct must be antecedent governed, and this requirement is not met in (84).

(84) ?*Mary said that John left for a certain reason,

but I don't know (exactly) **why$_1$** [Mary said that John left **t$_1$**]. (= (80a))

(85) a. $\exists$**fλf'**[Mary said that John left for **f'(reason)**]

b. **which g reason λg'**[Mary said that John left for **g'(reason)**]

On the other hand, the non-sluiced example (81) allows successive cyclic movement. Because of the intermediate trace, it does not violate the ECP.

The original argument-adjunct asymmetry we have explained in terms of the ECP can be explained using Parallelism, as follows. (87) and (89) represent the antecedent clause and the sluice of (86) and (88), respectively.

(86) John wants to hire [someone who fixes cars with something],

but I don't know **what$_1$** [John wants to hire [someone who fixes cars with **t$_1$**]].

(87) a. $\exists$**fλf'**[$\exists$hλh'[John wants to hire h'(person) who fixes cars with **f'(thing)**]]

b.   **which g thing λg'**[$\exists$kλk'[John wants to hire k'(person) who fixes cars

with **g'(thing)**]]

(88) *John wants to hire someone who fixes cars for a certain reason,

but I don't know **why$_1$** [John wants to hire [someone who fixes cars **t$_1$**]].

(89) a. $\exists$**f λf'**[John wants to hire someone who fixes cars (for) **f'(reason)**]

b.   **why (what reason) g λg'**[John wants to hire someone who fixes cars (for)

g'(reason)]

Here, two clauses in (87) and (89) satisfy Parallelism by not having any intermediate trace in the way. Wh-movement in both examples crosses a complex NP island, but the locality violation is remedied under sluicing. Nevertheless, the adjunct wh-phrase in (88) causes an ECP violation, because the adjunct trace is neither lexically governed nor antecedent governed, which results in unacceptability.

Let us summarize the theoretical implications of this account. As mentioned

above, the analysis by Nakao and Yoshida (2007) has two conclusions. The first one is that sluicing remedies propositional island violations (e.g. (79)) as well as subjacency violations (e.g. (82)). Both islands are PF islands and are repaired by sluicing; we do not need a distinction between PF-islands and propositional islands anymore, and all islands are PF-islands, as Fox and Lasnik (2003) claim. The second conclusion is that sluicing cannot remedy ECP violations. Recall that Merchant claims that sluicing is PF-deletion and therefore remedies PF-island violations. The argument here makes the complementary claim: sluicing is PF-deletion and therefore does not remedy LF-violations (e.g. ECP violations). This further corroborates the PF-deletion analysis of sluicing.

2.7. Merger-sprouting asymmetry in island effects

The ECP account discussed above explains the fact that adjunct sluicing, unlike argument sluicing, (apparently) cannot ameliorate islands. Note that the examples discussed in the previous section (e.g. (74), (75)) are instances of sluicing with an overt correlate indefinite (merger-type sluicing in CLM's terms). Recall that, as we have observed in 2.4.2.3., there is also an asymmetry between merger-type sluicing and sprouting-type sluicing, as shown in (90).[18] The merger-type argument sluicing in (90a) exhibits island-amelioration, while the sprouting-type argument sluicing in (90b) does not.

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[18] See, also, the examples in (54) from CLM. They also illustrate the contrast between merger-type argument sluicing and sprouting-type argument sluicing, under the assumption that the *to*-PP in the phrase *talk to* is a complement PP rather than an adjunct PP. See Nakao, Ono, and Yoshida (2006) for an argument for the complement-hood of such a *to*-PP.

(90) a.   John knows [a girl who has eaten *something* (at that restaurant)],

        but I don't know what.

   b.   * John knows [a girl who has eaten (at that restaurant)],

        but I don't know what.

Since they both involve argument-type sluicing, the asymmetry cannot be attributed to the ECP effect. I argue that this asymmetry is independently accounted for by Fox and Lasnik-type (2003) Parallelism requirement.

2.7.1.   Scopal parallelism in Merchant (2001)

Merchant (2001: 148) already notes that scopal parallelism is required for an indefinite in the antecedent clause and the wh-phrase in merger-type sluicing. For example, the scope of the indefinite *a Balkan language* in (91a) is ambiguous; it can take a scope over *want* (i.e. (92a)) or it can scope under *want* (i.e. (92b)).

(91) a.   They want to hire someone who speaks a Balkan language.

   b.   They want to hire someone who speaks a Balkan language,

        but I don't remember which.

(92) a.   **∃y.[Balkan-language(y)** ∧ want (they, ^[∃x.[person(x) ∧ speak(x, y)

        ∧ hire(they, x)]])]

b.   want(they, ^[∃x.[person(x) ∧ ∃**y.[Balkan-language(y)** ∧ speak(x, y) ∧

hire(they, x)]]])

However, in the sluicing example (91b), only the wide-scope reading in (92a) is possible. In short, the indefinite that correlates with a sluiced wh-phrase always must take the widest scope. Merchant attributes this to a scopal parallelism requirement between the indefinite correlate and the wh-phrase of sluicing. The sluiced wh-phrase always takes the widest scope in the clause, and thus the correlating indefinite in the antecedent must take the widest scope. This is very similar in concept to Fox and Lasnik's (2003) Parallelism requirement reviewed in the previous section.

Merchant (2001) extends this condition to account for the fact that sprouting is sensitive to selective islands such as negation (Albert 1993, Sauerland 1996). For example, the wh-phrase *when* can scope over negation without problems as shown in (93a). It nevertheless cannot undergo sprouting when there is a negative island in the antecedent clause, as shown in (93b).

(93) a.   When was no nurse on duty?

b.   *No nurse was on duty, but we don't know when.

(94) a.   ¬∃x[nurse(x) ∧ ∃**t**[on-duty(x, **at t**)]]

b.   ∃**t**¬∃x[nurse(x) ∧ on-duty(x, **at t**)]

He explains the unavailability of (93b) in terms of scopal parallelism.[19] The temporal

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[19] Interestingly, the matrix sluicing in (i) is acceptable unlike (93) (Norbert Hornstein, p.c.).

variable in the first clause of (93b) cannot take a wider scope than negation; that is, the reading in (94b) is somehow blocked and (94a) is the only possible reading. Thus (93b) is excluded due to the scopal parallelism requirement, and not due to any constraints on movement.

2.7.2.   Scopal parallelism and island-sensitivity in sprouting

Based on this example, Merchant argues against CLM's claim that only sprouting involves Form Chain, which is sensitive to constraints on movement. Because sprouting is independently sensitive to constraints such as weak islands (rather than constraints on movement), there is no need to claim that only sprouting involves a movement-like operation (i.e. Form Chain). Thus he argues for the unified analysis of merger-type and sprouting-type of sluicing as wh-movement and IP-deletion.

Although Merchant (2001) does not directly address the examples of strong islands such as (90) (repeated as (95)), I claim that the scopal parallelism account can be extended to such examples. The indefinite *something* in (95a) may or may not take

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(i)   A: No nurse was on duty.   B: When?

Recall from Section 2.3.1.1. that matrix sluicing behaves differently from embedded sluicing in that it allows a non-linguistic antecedent. If sluicing has a non-linguistic antecedent, it cannot be derived from the deletion mechanism which requires e-givenness and scopal parallelism (because there is no antecedent which the sluicing needs to be parallel with). If (i) is also such a special case of sluicing, then *when* in (i) could refer to some time which is salient from the discourse. Therefore, under the situation where it is clear that A's reporting that no nurse was on duty during a certain time frame (e.g. the time when he was there), even if there is no wide-scope temporal variable in the antecedent sentence itself, the sluicing is possible.

scope out of a complex noun phrase; the readings in (96a) and (96b) are both possible. On the other hand, the first sentence in (95b) cannot have the wide-scope reading in (96a). That is, the implicit variable (y) in the sprouting example (95b) cannot satisfy the scopal parallelism with the wh-phrase *what*. Thus, (95b) is excluded based on the scopal parallelism requirement, but not the complex NP island.

(95) a.   John knows [a girl who has eaten *something* (at that restaurant)],

     but I don't know what.

  b.   * John knows [a girl who has eaten (at that restaurant)],

     but I don't know what.

(96) a. $\exists x. \exists y.[\text{girl}(x) \wedge \text{know(John, } x) \wedge \text{eat}(x, y)]$

  b. $\exists x.[\text{girl}(x) \wedge \text{know(John, } x) \wedge \exists y.[\text{eat}(x, y)]]$

Therefore, the argument in 2.6.2. that islands such as complex NP islands are PF-restrictions and should be repaired by PF-deletion is not undermined by examples such as (95b).

2.7.3.   Scopal parallelism and clause-boundedness in sprouting

Finally, Lasnik (2002) points out that sprouting is not only sensitive to weak/strong islands, but cannot even occur out of an embedded clause. The long-distance sprouting in (97b) is impossible, while the corresponding example with an

overt correlate (i.e. (97a)) is acceptable.[20] Again, the overt indefinite *something* in

(97a) can be interpreted inside or outside of the verb *deny* (as shown in (98a) and

(98b)), while the implicit variable in (97b) only allows the narrow-scope reading in

(98b). The parallelism requirement with the sluice is thus violated in (97b).

(97) a.   She denied that John ate *something*, but I don't know what.

   b.   *She denied that John ate, but I don't know what.

(98) a. $\exists$**x.[**denied (she, ^[ate(John, x)])]

   b.   denied(she, ^[$\exists$**x.[**ate(John, x)]])

---

[20] Here, I employ the matrix verb *deny* to block the potential short-distance reading of sluicing (following the discussion in Lasnik 2002). If you use a neutral verb such as *say* in (i), you might infer that the embedded clause proposition "John ate" is true, and interpret the short-distance reading (iib) for the sluice in (i). The reading in (iib) is irrelevant for our purpose, because it does not require any long-distance scope-taking unlike the long-distance reading in (iia). See also (80) for this type of ambiguity in sluicing.

(i)   She says that John ate (something), but I don't know what.
(ii)   a.   … but I don't know [what ~~she says [that John ate t]~~] (Long-distance reading)
     b.   … but I don't know [what ~~John ate t~~]   (Short-distance reading)

Contrary to Lasnik (2002), CLM claim that long-distance sprouting is possible, based on examples such as (iii) (CLM: 267-8, 278-9).

(iii) I think Agnes said that Bill would speak, but I don't remember what about. (CLM: 279)

CLM claim that (iii) allows the long-distance reading (iva). Under the assumption that Agnes' utterance is credible, however, the long-distance reading is virtually indistinguishable from the short-distance reading in (ivb), with an extra assumption that the identity of "what about" is based on the content of Agnes' utterance.

(iv) a.   … but I don't remember [**what about** ~~Agnes said [that Bill would speak t]~~]
     b.   … but I don't remember [**what about** ~~Bill would speak t (, according to Agnes)~~]

Therefore, examples such as (97), where the alternative reading is unavailable, are a better test case for the availability of the long-distance reading.

2.7.4.   Summary

In this section, I have shown that the apparent island non-repair in sprouting follows from an independent condition, that is, a scopal parallelism requirement such as the one adopted in Fox and Lasnik (2003). The reason why an implicit variable in the antecedent clause of sprouting cannot take a wide scope is a remaining problem in the theory of scope. However, we can conclude that the unacceptability of sprouting across a clause/island is irrelevant to the theory of island (non-)repair developed here.

2.8. *Asymmetry between swiping and pied-piped sluicing with respect to the ECP*

In Section 2.6., we have seen that there is an argument-adjunct asymmetry with respect to propositional islands (e.g. complex NP islands). We have concluded that the apparent island violation in adjunct sluicing out of an island is due to the ECP, and not due to the island violation at PF. This section extends the asymmetry with respect to propositional islands to two subtypes of PP-sluicing: swiping (see 2.3.1.2.) and pied-piped sluicing. "Swiping," as we have already seen in (25a) (repeated as (99a)), is a type of sluicing that involves an apparently 'inverted' PP, where a preposition follows the complement wh-phrase. We will call its non-inverted counterpart, where the preposition precedes its complement (as shown in (99b)) "pied-piped sluicing".

(99) a.   John left, but I don't know who *with*. (Van Riemsdijk 1978: 237) (= (25a))

   b.   John left, but I don't know *with who*.

2.8.1.   Swiping vs. pied-piping asymmetry

Nakao and Yoshida (2007) point out that pied-piped sluicing and swiping show different behavior with respect to propositional islands. Pied-piped sluicing out of a complex NP or an adjunct clause is unacceptable, as shown in (100a) and (101a), while corresponding examples of swiping are relatively acceptable, as (100b) and (101b) illustrate.[21]

(100)   a.   *John wants to hire [someone who fixes cars with something],

              but I don't know **with what**.

        b.   (?)John wants to hire [someone who fixes cars with something],

              but I don't know **what with**.

(101)   a.   *John will be mad [if Mary dances with a certain guy],

              but I don't know **with who**.

        b.   (?)John will be mad [if Mary dances with a certain guy],

              but I don't know **who with**.

Under the ECP account developed in 2.6.2., the above asymmetry has an implication for the structure of swiping. Note that all the examples in (100) and (101) involve sluicing of adjunct PPs (*with*-PPs). If the ECP account is on the right track,

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[21] I owe the judgment of these examples to my graduate student colleagues in the syntax seminar, Fall 2006 in University of Maryland. Note that, as we will see in (106), the best cases of swiping involve sprouting and some speakers find swiping with an adjunct antecedent PP slightly degraded (indicated by "?") regardless of islands.

swiping cannot have the representation in (102b), where the adjunct leaves an adjunct

PP trace. If it does, the adjunct PP trace inside an island should violate the ECP, in the

same way as (102a).

(102)   a.   I don't know **[with what]₁** ~~[John wants to hire [someone who fixes~~
             ~~cars *t₁]]~~.

        b.   I don't know **[what with]₁** ~~[John wants to hire [someone who fixes~~
             ~~cars *t₁]]~~.

The lack of the ECP effect in swiping indicates that an adjunct PP trace should not be

left in swiping.

2.8.2.   Previous analyses of swiping
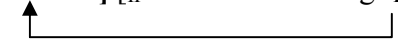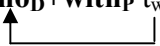
I will briefly review two of the recent analyses of swiping to make the above

point. I will summarize the analyses of swiping by Merchant (2002) and van

Craenenbroeck (2004), and point out that both analyses predict that swiping should

leave an offending adjunct trace, as illustrated in (102b), contrary to fact.

2.8.2.1.   Merchant (2002)

As was briefly discussed in 2.3.1.2., Merchant (2002) analyzes swiping as pied-

piped wh-movement followed by head-movement plus IP-deletion. Under his analysis,

the derivation of swiping is as illustrated in (103).

(103)   John was dancing, but I don't know who with.

   a.   [$_{CP}$ [$_{PP}$ **with who**] [$_{IP}$ John was dancing **t$_{PP}$**]]   pied-piping

   b.   [$_{CP}$ [$_{PP}$ **who$_D$+with$_P$** t$_{who}$] [$_{IP}$ John was dancing t$_{PP}$]]   head-inversion (PF)

   c.   [$_{CP}$ [$_{PP}$ who$_D$+with$_P$ t$_{who}$] [$_{IP}$ ~~John was dancing t$_{PP}$~~]]   IP-deletion (PF)

First, the PP *with who* moves to [Spec, CP] by wh-movement in overt syntax. Then, the wh-phrase *who*, which is a D head, head-adjoins to the preposition by head-movement at PF. Finally, the IP is deleted as in ordinary sluicing.

This analysis correctly accounts for the fact that only simple *wh*-elements can be swiped (e.g. *who*) and not complex *wh*-elements (e.g. *which person*), as shown in (104).

(104)   John was dancing, but I don't remember **who with/*which person with**.

He assumes that simple wh-elements are heads while complex wh-elements are phrases. Only simple wh-phrases allow head-movement in (103b) because phrases cannot be adjoined to heads.

However, this analysis does not predict absence of the ECP violation in swiping out of a propositional island. The derivation in (105) leaves an adjunct trace inside an

island, which should violate the ECP; it is not antecedent governed because it is inside the island, and not lexically governed, either, being an adjunct PP.

(105)   I don't know **[what+with** t_{what}**]₁** [John wants to hire [someone who fixes cars t₁]].

There is a generalization regarding the licensing condition of Swiping: explicit complement PPs do not license Swiping ((106d)), while implicit arguments ((106b)) and explicit as well as implicit adjunct PPs ((106a, c)) do (Rosen 1976, Merchant 2002).

(106)   a.   John fixed it, but I don't remember what with.

          b.   John was talking, but I don't remember who to.

          c.   (?)John fixed it *with something*, but I don't remember what with.

          d.   *John was *with someone*, but I don't remember who with.

Given the above data, Merchant argues that Swiping is licensed only if the relevant PP is not syntactically and semantically present in the antecedent of the elided IP. Observing that a Swiped preposition is always focused (which is indicated by focal stress), he argues that it cannot be "given" due to the condition in (107) (Merchant 2002: 306).[22]

---

[22] Although Merchant employs the expression "focused P", we do not consider it crucial that P is the locus of the narrow focus. The crucial point in the discussion of (107) is that the adjunct PP is "not given". The argument is compatible with the assumption that the whole PP is focused, rather than just the P head.

(107)   The content of the focused P should not be given.

Merchant calls this condition "AvoidF," following Schwarzchild's (1999) constraint, which is similar in concept: F-mark as little as possible, without violating GIVENness.

The condition in (107) correctly accounts for the data in (106). (106d) violates the Givenness Condition because the complement PP is present in the antecedent clause and hence it is given. On the other hand, (106a) and (106b) satisfy the Givenness Condition because the Swiped PP is not present in the antecedent clause, and hence it is not given.

At first glance, (106c) is problematic because the presence of the overt adjunct PP in the antecedent clause seems to violate (107). Merchant, however, circumvents this problem by (i) defining "givenness" in a syntactically constrained manner, and (ii) assuming that the VP can be the antecedent of the elided IP under the semantic identity approach to ellipsis (Merchant 2001). First, Merchant assumes that an adjunct PP is adjoined to VP (as in (108)) and therefore is "not given" *in the lowest VP segment*.

Note also that Merchant's definition of "givenness" in (107) slightly diverges from Schwartzchild's original definition. Traditionally, a linguistic expression is defined as "given" if it is not "new" in the discourse (Halliday 1967, Schwarzschild 1999). Merchant's definition of "givenness," on the other hand, is not totally discourse-oriented and crucially relies on a structural condition (therefore it incorporates a syntactic condition rather than a truly semantic condition). He assumes that "givenness" is calculated with respect to the existence of an element in a certain syntactic structure. If an element is absent from a category XP, it is considered to be "not given" in the category XP, as seen in the account of (106c) in (108).

(108)   John [VP [VP tJohn **fixed it**] with something],

but I don't remember [CP [PP what with] [IP John fixed it [PP with what]]].

Second, Merchant's (2001) theory of ellipsis allows a VP segment to be a potential antecedent for IP-ellipsis. (See Hornstein 1994 and Merchant 2000 along the same line of analysis of VP-ellipsis. See also Sag 1976 for a related discussion of VP-ellipsis.) He assumes that VP segment containing the trace/copy of the subject (VP-internal Subject Hypothesis: Fukui and Speas 1987, Kitagawa 1986, Kuroda 1988, Koopman and Sportiche 1991, Zagona 1988) can constitute a full proposition and thus can hold a mutual entailment relation with an elided IP. According to the semantic condition on ellipsis discussed in 2.5.1., the antecedent of sluicing in (108) can be the lowest VP-segment. The antecedent VP segment does not contain a corresponding PP and adjunct PP, so the swiped PP is "not given" in the antecedent phrase in this example. Thus the example (106c) also satisfies the condition in (107).

2.8.2.2.   Van Craenenbroeck (2004)

Van Craenenbroeck (2004) proposes a double-CP analysis for swiping. He claims that the CP of a swiped clause has a double-layer structure: one CP (CP1) selecting another (CP2) as its complement. He accounts for swiping as P-stranding at the Spec position of the innter CP layer, i.e. [Spec, CP2], as shown in (109).

(109)   John was dancing, but I don't know who with.

79

a.   [$_{CP2}$ **[$_{PP}$ with who]** [C$_2$ [$_{IP}$ John was talking **t$_{PP}$**]]]

b.   [$_{CP1}$ **who** [C$_1$ [$_{CP2}$ [$_{PP}$ **with t$_{who}$**] [C$_2$ [$_{IP}$ John was dancing t$_{PP}$]]]]]

c.   [$_{CP1}$ who [C$_1$ [$_{CP2}$ [$_{PP}$ with t$_{who}$] [C$_2$ [$_{IP}$ ~~John was dancing t$_{PP}$~~]]]]]

The derivation proceeds in the following way. First, the first C (C2) head is merged and the PP *with who* moves to [Spec, CP2]. Second, the second C (C1) head is merged, attracting the wh-phrase. The preposition *with* is stranded in [Spec, CP2]. Then the IP is deleted. The surface form *who with* is thus obtained.

He proposes that the inner CP layer (CP2) represents a focus projection. Therefore, the preposition in [Spec, CP2] in (109) needs to bear focus. This has two good consequences. First, it accounts for the fact that swiping with an antecedent PP is degraded, as shown in (106). Sprouting-swiping such as (106a, b) is better because the swiped P must bear focus and it needs to be 'new' information rather than 'old/given'. Thus the existence of a condition such as (107) is naturally derived from the assumption that P resides in a focus position. (He adopts Merchant's 2002 assumption that the adjunct correlate PP in (106c) does not count as 'given' because it is outside of the lowest VP segment.)

Second, it explains the prosodic pattern in swiping. It is observed that, in swiping, the preposition always gets a prosodic stress and not the wh-phrase, as shown in (110).

(110)   … I don't remember who TO/ *WHO to.

If the P is in the focus position, this prosodic pattern is naturally accounted for.

Again, however, the analysis does not predict that swiping is insensitive to the ECP effect under propositional islands. The first step of PP movement leaves an adjunct trace as in (111), which is not properly governed.[23]

(111)   I don't know [$_{CP1}$ **what** C$_1$ [$_{CP2}$ **[with t$_{what}$]$_1$**] C$_2$ [$_{IP}$ ~~John wants to hire~~ ~~[someone who fixes cars t$_1$]~~]]].

In sum, the contrast between pied-piped sluicing versus swiping observed in (100) and (101) is problematic for any analysis of swiping whose derivation involves pied-piping (at least for adjunct PP swiping). If swiping derivation leaves an adjunct PP trace, it should behave the same as pied-piped sluicing and violate the ECP.

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[23] Norbert Hornstein (p.c.) points out that van Craenenbrock's derivation could account for the lack of the ECP effect at LF by assuming reconstruction of P as in (i). The preposition, while pronounced in [Spec, CP2], is reconstructed at LF. Then the original trace would be properly governed by the P at LF.

(i)   [$_{CP1}$ **who** [C$_1$ [$_{CP2}$ [$_{PP}$ ~~with who~~] [C$_2$ [$_{IP}$ John was dancing [$_{PP}$ **with** ~~who~~]]]]]   (at LF)

This is not implausible given that, when you put a focus on a PP, it is usually the DP that gets the focus interpretation rather than the P itself. However, in the case of swiping, van Craenenbroeck observes that it is the P and not *who* that gets the focus, as (110) shows. Interpreting the P in the original position, but not in the focus position, as shown (i) undermines his original motivation of positing P in the focus projection. Note that placing focus on the preposition and not the complement is possible in other cases than swiping, as shown in (ii).

(ii)   a.   I talked about John, but I didn't talk TO John.
         b.   I know who you danced in front of, but I don't know who you danced WITH.

2.8.3.   PP shift analysis

2.8.3.1.   Derivation of swiping

I pointed out above that the previous analyses incorrectly predict ECP violation

of adjunct PP swiping due to the fact that it involves pied-piped wh-movement of an

adjunct PP as a first step of the derivation. Nakao and Yoshida (2007) propose an

alternative derivation of swiping, which is independent from pied-piped sluicing.

Similarly to Kim (1997), we argue that rightward PP shift is relevant in swiping.

Swiping is derived as follows.

(112)   John was dancing, but I don't know who with.

   a.   [$_{IP}$ [$_{IP}$ John was dancing _$_{PP}$] [$_{PP}$ **with who**]]

   b.   [$_{CP}$ **who$_1$** [$_{IP}$ [$_{IP}$ John was dancing _$_{PP}$] [$_{PP}$ with **t$_1$**]]

   c.   [$_{CP}$ **who$_1$** [$_{IP}$ ~~[$_{IP}$ John was dancing~~ _$_{PP}$] [$_{PP}$ with **t$_1$**]]

In this derivation, the PP *with who* undergoes rightward movement to the IP-adjoined

position, (PP shift) instead of movement to [Spec, CP]. Nakao, Ono and Yoshida

(2006) argue that this movement does not leave a trace behind, unlike wh-movement.

Then wh-movement occurs to the CP domain, stranding the preposition at the shifted

position. Then the IP is deleted, leaving the hanging position PP behind.

With the assumption that PP shift does not leave a trace, the proposed derivation

generates the desired swiping word order without involving an adjunct PP trace. As a result, the absence of the ECP violation in (100b) (repeated here as (113)) is expected. In the derivation of (113), which is illustrated in (114), there is no trace of the adjunct PP, and the only trace left by the wh-movement is an argument PP of *what,* which is lexically governed by the preposition *with*.

(113)   (?)John wants to hire [someone who fixes cars with something],

but I don't know **what with**.

(114)   [CP **what₁** [IP [IP ~~John [wants to hire [someone who fixes cars~~ _PP]]]

[PP with **t₁**]]

This way, the lack of ECP violation in swiping is correctly captured under this analysis.

2.8.3.2.   PP shift does not leave a trace: evidence from contraction

Let us review one of the pieces of evidence that PP shift does not leave a trace (Nakao, Ono and Yoshida 2006: See also Tanaka 2005 for a similar proposal) in this section. Lasnik (1984) points out that PP shift does not block contraction. Consider the paradigm in (115).

(115)   a.   John **is/'s** in the room (now).

b.   I don't know where₁ John **is/*'s** t₁ (now).

c.   John **is/'s** t_{PP} now [_{PP} in the room].

One observation on the distribution of *'s* is that the clitic *'s* needs to have a morphologically realized category *on its right* (Bresnan 1971; Boeckx 2000). Contraction is possible in (115a) and not in (115b) because, in (115b), the wh-trace on the right side of the copula blocks contraction. On the other hand, in the case of PP shift, the contraction is not blocked as shown in (115c). This naturally follows under the assumption that PP shift does not leave a trace.

Note that there is a potential alternative account of this paradigm.[24] Suppose that (115c) does not involve PP shift at all; the adverb is left-adjoined to VP and the PP stays in-situ as shown in (116b). Then there is no intervening trace on the right of the copula, and it is trivial that contraction is possible.

(116)   a.   I don't know **where₂** John **is/*'s₁** [_{VP} **t₂** [_{VP} (now) [_{VP} **t₁ t₂**]]].

          (cf. (115b))

          b.   John **is/'s₁** [_{VP} now [_{VP} **t₁** [_{PP} in the room]]].   (cf. (115c))

Turning to (115c), this sentence is derived as in (116a) under the assumption that wh-movement proceeds through adjoining to every maximal projection (Takahashi 1994a). There, wh-movement of *where* leaves an intermediate trace in the VP-adjoined position above the adverb *now* and this intermediate A'-trace blocks the contraction.

This analysis can capture the contrast under the assumption that intermediate

_____

[24] An anonymous *Syntax* reviewer pointed out this possibility.

traces block contraction. However, this assumption is problematic. Based on the *wanna*-contraction paradigm in (117) and (118), Lasnik and Saito (1984) argue that the wh-traces in intermediate A'-positions (if any) do not block contraction.

(117)   a.   ***Who*$_1$** do you want [***t'*$_1$** [PRO to talk to *t*$_1$]]?

          b.   Who do you **wanna** talk to?

(118)   a.   ***Who*$_1$** do you want [***t'*$_1$** [*t*$_1$ to talk to Bill]]?

          b.   *Who do you **wanna** talk to Bill?

The example (117) is well-known evidence to show that PRO does not block contraction.[25] It also shows that the intermediate trace in COMP either is absent or does not block *wanna*-contraction. On the other hand, the subject trace (t_1) in (118) does block contraction. (See Lasnik and Saito 1984 for the full account of the paradigm based on Pesetsky 1982.)

     Similarly, intermediate trace does not block the contraction of the copula *is*, either. Examples in (119) show that even if a wh-phrase moves out of a VP or an AP and adjoins to the VP/AP, the copula predicating it can be contracted (Howard Lasnik, p.c.).

(119)   a.   I wonder [$_{CP}$ ***where*$_1$** John **is/'s** [$_{VP}$ ***t'*$_1$** [$_{VP}$ going *t*$_1$]]].

          b.   I wonder [$_{CP}$ ***who*$_1$** John **is/'s** [$_{AP}$ ***t'*$_1$** [$_{AP}$ proud of *t*$_1$]]].

---

[25] See Lightfoot (1976), Boeckx (2000), Hornstein (2001), among others, for discussion of *wanna/gonna* contraction. Boeckx (2000) claims that contraction is acceptable in (i) because A-movement does not leave a copy (Lasnik 1998, 1999).
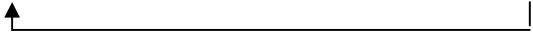
(i)   I'm *gonna* stay. (cf. I$_1$'m going t_1 to stay.)

This indicates that the intermediate trace in the adjoined position is either absent or does not block contraction. Given these examples, it is unlikely that the VP-adjoined intermediate trace blocks contraction as in (116b). If it does not, the asymmetry between (116a) and (116b) remains unaccounted for. Thus, we continue to assume that the example (115c) involves PP shift and that PP shift does not block contraction.

2.8.3.3.   Revised PP shift analysis

If the lack of the PP trace made by PP shift is established, the derivation of swiping under PP shift analysis in (120) (repeated from (112)) correctly predicts the absence of the ECP effects in swiping, which is observed in (100) and (101). The only trace left in the course of derivation is that of the argument PP in (120), thus it is predicted that swiping behaves in the same way as argument sluicing rather than adjunct sluicing with respect to the ECP.

(120)   John was dancing, but I don't know who with.

a.   [IP [IP John was dancing _PP] [PP **with who**]]

b.   [CP **who₁** [IP [IP John was dancing _PP] [PP with **t₁**]]

c.   [CP **who₁** [IP [IP John was dancing _PP] [PP with **t₁**]]

86

This can also accommodate the data set accounted for by Merchant (2002) and van Craenenbroeck (2004). Under the assumption that PP shift is induced by some focus requirement (Kim 1997), the two focus facts noted in 2.8.2.2. are explained in the same way as van Craenenbroeck (2004). First, the swiped P cannot be 'old/given' (as shown in (106)). Second, the fact that the swiped P is prosodically focused (as shown in (110)).

Finally, the fact that only simple wh-elements allow swiping will be accounted for by a slight modification of the derivation in (120). I speculate that, as discussed in Nakao and Yoshida (2007), the wh-movement out of a shifted PP in swiping is head-movement onto C head, rather than phrasal movement into [Spec, CP]. (121) illustrates the revised PP shift analysis of swiping.

(121)   John was dancing, but I don't know who with.

      a.   [$_{IP}$ [$_{IP}$ John was dancing **_PP**] [$_{PP}$ **with who**]]

      b.   [$_{CP}$ **who$_1$**+C^0 [$_{IP}$ [$_{IP}$ John was dancing **_PP**] [$_{PP}$ with **t$_1$**]]

      c.   [$_{CP}$ **who$_1$**+C^0 [$_{IP}$ [~~$_{IP}$ John was dancing~~ **_PP**] [$_{PP}$ with **t$_1$**]]

The wh-head *who* moves from the shifted PP and head-adjoins to C. This accounts for the fact that only minimal (head) type wh-elements but not phrasal type wh-elements undergo swiping ((104)), in the same way as Merchant's (2002)

analysis.[26, 27]

2.8.3.4.   A note on the Right Roof Constraint

Note that the PP shift in the derivation of (121) seems to violate the Right Roof

Constraint in (122).

(122)   *The Right Roof Constraint* (Ross 1967)

No element may be moved rightward out of the next higher S node.

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[26] One might argue that such a derivation should be excluded by the Head Movement Constraint (HMC) anyway. However, instances of long head-movement are reported in Roberts (1994), Lobeck (1995), Pan and Hu (2000), and Takahashi (2002) and the existence of HMC is doubted by Chomsky (1995). A question, however, remains open as to in what situations long head-movement is allowed.

[27] The derivation in (121) apparently violates the derived position island condition in (i) (Wexler and Culicover 1980, Takahashi 1994a, Merchant 2001), which prohibits derivations such as (ii).

(i)   *Derived position island*
      Wh-movement out of a moved element is not allowed.
(ii) a.   *[$_{CP}$ Who$_1$ did [$_{IP}$ you talk] yesterday [$_{PP}$ to t$_1$]]?
      b.   *I don't know [$_{CP}$ who$_1$ [$_{IP}$ you talked] yesterday [$_{PP}$ to t$_1$]].

In Nakao and Yoshida (2007) and Nakao (2007), we made the following speculation. In the derivation in (121), the first movement is a phrasal movement and the second movement is a head-movement. The condition (i) does not prohibit movement out of a moved element if the two successive movements are of different types.
      We must also assume that the wh-phrase *who* in examples in (ii) cannot be derived via the same type of head-movement as in (121). (Otherwise (ii) would not induce a derived position island violation.) I propose that in non-sluiced wh-questions, the existence of I-to-C movement blocks the head-adjunction of wh-heads onto C. (For an embedded question such as (iib), a covert counterpart of I-to-C movement must be posited.) On the other hand, I-to-C movement never occurs in sluiced configurations (Merchant 2001, Lasnik 2001). (iii) shows that the auxiliary *will* cannot survive IP-deletion, showing that I is not raised to C in sluicing. (See also Chapter 3, Section 3.2.2.2.)

(iii) a.   'John will meet someone.' '*Who$_1$ will ~~[John meet t$_1$]~~?'
       b.   *John will meet someone, but I don't know who$_1$ will ~~[John meet t$_1$]~~.

Under the PP shift analysis, when swiping occurs from inside an island as shown in (123a), the shifted PP needs to adjoin to the higher IP as illustrated in (123b), as it escapes the deletion of the higher IP.

(123)   a.   John wants to hire someone who fixes cars with something,

but I don't know what with.   (= (100a))

b.   I don't know **what₁** [IP ~~[IP John [wants to hire~~

~~[someone who [IP fixes cars PP]]]~~ [PP with **t₁**]].

This PP shift crosses the lower IP, which leads to violation of the Right Roof Constraint.[28]

We could tentatively assume that this Right Roof Constraint is also a PF constraint and it is repaired under sluicing.[29] If this is the case, the implication is that

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[28] Kim (1997) argues that swiping is sensitive to the Right Roof Constraint, using the following data.

(i)   Mary claimed that the opera was written in the 19th century, but we are not sure **who by**
   a.   *Long reading*
      *we are not sure **who** Mary claimed that the opera was written in the 19th century **by.**
   b.   Short reading
      we are not sure **who** the opera was written in the 19th century **by.**

However, (i) is an example of sprouting and the reading (ia) should be independently excluded due to the scopal parallelism constraint (See 2.7.3.). Long-distance swiping with an overt correlate such as (ii) is possible, as Kim himself observes.

(ii)   Mary claimed that the opera was written *by a certain composer*,
      but we are not sure **who by**.

[29] Lasnik (2006) reaches the opposite conclusion, based on properties of English multiple sluicing.

PF amelioration by sluicing not only saves an illicit representation (e.g. traces of movement that cross islands), but also saves an illicit operation that would have caused a PF-violation if there were no sluicing. The PP shift that violates the Right Roof Constraint in (123) does not leave a trace. Therefore, the representation (123) should not violate any conditions of trace distribution. As a consequence, the Right Roof Constraint is a constraint on operations, not on traces. If this is ameliorated by sluicing, that means the operation is allowed only when the structure that the illicit PP shift crosses is to be later eliminated by PF-deletion.

2.9. Conclusion of Chapter 2

In this chapter, I discussed a variety of phenomena related to sluicing, especially focusing on island-repair phenomena. I have compared three types of previous analysis of sluicing: the deletion analysis, the interpretive analysis, and the LF-copying analysis. I argued for the deletion analysis, and showed that all the potential counter-arguments against it in the previous literature can be accommodated under the PF-deletion analysis of Merchant (2001).

Following Merchant (2001), I claimed that sluicing is PF-deletion and ameliorates PF-island violations. Contra Merchant's claim that islands are classified into PF-island and propositional island, I argued that all islands are PF-islands, based on the argument-adjunct asymmetry in sluicing out of islands.

I accounted for the asymmetry in the following way: (i) Argument sluicing shows island-repair, because it only violates island (i.e. PF-violation), and PF-

violations are repaired by sluicing (i.e. PF-deletion). (ii) Adjunct sluicing (apparently) does not show island-repair, because it violates the ECP in addition to island, and although the island violation is ameliorated by sluicing, the ECP violation (i.e. LF-violation) cannot be. Finally, following Merchant's (2001) analysis of sprouting out of a weak island, I accounted for the apparent lack of amelioration of (strong) islands in sprouting in terms of scopal parallelism. (iii) Sprouting (apparently) does not show island-repair because the implicit variable in the antecedent clause of sprouting does not take the widest scope in the sentence when there is an island, and hence it does not satisfy the scopal parallelism with the wh-phrase in the sluice. In short, (ii) and (iii) are accounted for in ways that are independent from PF-deletion. Therefore the apparent lack of island-repair in these examples does not undermine the analysis of sluicing as a PF-repair strategy in (i).

Chapter 3: Stripping and island non-repair

This chapter considers another elliptical construction, stripping (also referred to as Bare Argument Ellipsis). Based on some of the diagnostics that Ross (1969) employed for sluicing, I will support the deletion analysis of stripping advocated by Heim and Kratzer (1998), Depiante (2000), Jones (2004) and Merchant (2003). I will specifically claim that stripping involves focus movement (movement to [Spec, FP]) followed by IP-deletion.

Despite their similarities, however, stripping shows two properties that are not observed in the case of sluicing. First, the IP-deletion seems to be obligatory when the stripped phrase undergoes focus movement. Second, stripping is island-sensitive, unlike sluicing. These properties are shared by the fragment answer construction (Merchant 2004).

I will attribute these differences to the difference between wh-movement (in sluicing) and focus movement (in fragment answers/stripping) in English. Unlike wh-movement, focus movement is usually covert in English. Given the strong/weak-feature distinction in Chomsky (1995), I argue that covert movement such as English focus movement is overtly realized only when its original position is included in the ellipsis site. Based on Chomsky's feature system (1995), I assume that covert movement is caused by a weak feature and it does not usually move categorical features of a phrase. I argue that category movement of such a phrase is caused as a last resort at PF. This is why whenever focus movement is overtly realized (in fragment answers/stripping), there is obligatory deletion.

I also argue that island amelioration happens at the timing of spell-out, so if such PF movement causes an island violation, it is too 'late' to repair. In this way, I will attribute the two differences between sluicing and stripping to the difference in the property of the categorical movement of the remnant.

The organization of the chapter is as follows: Section 3.1. discusses some basic properties of stripping. Section 3.2. and Section 3.3 review some previous analyses of stripping, and argue for the deletion type analysis of stripping. Section 3.4. reviews Merchant's (2004) analysis of fragment answers and discusses similarities between fragment answers and stripping examples. After discussing the above two differences between sluicing and stripping in Section 3.5., I will give an account on how focus movement can be overtly realized only when there is ellipsis, based on the feature distinction of Chomsky's (1995) theory, in Section 3.6. Section 3.7. concludes the chapter.

3.1. Stripping: introduction

Stripping is a construction where a non-wh remnant phrase occurs as a fragment, often with negation or other adverbs (such as *also* and *too*), as exemplified in (1) (Hankamer and Sag 1976, May 1991, Reinhart 1991, Fiengo and May 1994, Heim and Kratzer 1998, and Depiante 2000, Merchant 2003, and Jones 2004).

(1)   a.   John ate an apple, but not an orange.

      b.   John ate an apple, and also an orange.

c.   John ate an apple, and an orange, too.

A stripping remnant (e.g. *an orange* in (1)) is contrasted with another phrase of the same category in the previous sentence. Let us call this corresponding phrase (e.g. *an apple* in (1)) a 'correlate' and the previous sentence an 'antecedent clause,' as in the case of sluicing.

Stripping can happen with a variety of types of remnants. As shown in (2a) through (2d), the remnant and the correlate can be DPs, AdvPs, PPs, and APs, although the VP example in (2e) is degraded. The fact that (2f) is totally unacceptable presumably shows that this construction is limited to phrasal categories and not heads.[1]

(2) a.   ***John*** ate an apple, but not ***Mary***.   (subject DP)

     b.   John ate ***an apple***, but not ***an orange***.   (object DP)

     c.   John ran ***slowly***, but not ***quickly***.   (AdvP)

     d.   Mary studies ***in this room***, but not ***in that room***.   (adjunct PP)

---

[1] There is some variability on the acceptability of these sentences. Howard Lasnik (p.c.) points out that (2f) becomes marginally acceptable when the stripping remnant is an inflected V, as shown in (i).

(i)   ??Mary denounced John, not praised.

Norbert Hornstein (p.c.), on the other hand, judges all of the verbal remnant examples ((2e, f) and (i)) as unacceptable, but accepts examples such as (ii). (ii) is an instance of 'denial' type of fragment answer, which is discussed in Merchant (2004). See Section 3.5.1.2. for this type of fragment answers.

(ii)   A: John denounced Mary   B: No, praised.

I will leave open the question regarding the difference in judgments among those types of stripping/fragment answers.

e. John is ***tall***, but not ***big***.   (AP)

e. ??Mary denounced John, not praised him. (VP: McCawley 1998: 614)

f. *Mary denounced John, not praise.   (V: *ibid*)

A curious fact about stripping is that it is a matrix phenomenon; as Depiante (2000: 104) observes, stripping cannot occur inside an embedded clause, as shown in (3).

(3) *John ate an apple (for sure), but I think not an orange.

In this chapter, following Depiante (2000), Jones (2004) and Merchant (2003), I will present a movement and deletion analysis of stripping. Especially for stripping that follows negation (negation stripping; e.g. (1a)), I will give the structure in (4).

(4) John ate an apple, but [$_{CP}$ not [$_{FP}$ an orange$_1$ [$_{IP}$ John ate t$_1$]]]
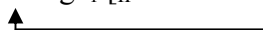
I assume, following the insight of Klima (1964), that negation can be base-generated in the CP-domain. The contrasted phrase *an orange* moves to the spec of the focus phrase (FP), which is directly below CP. I claim that fragment negation has an underlying sentential structure "John ate an orange," and the IP is deleted after the focus movement. In the next section, I will give arguments for such an analysis of stripping.

3.2. Deletion analysis

Depiante (2000) argues that stripping is derived via focus movement and IP-deletion, as illustrated below (See Jones 1994 and Merchant 2003 for similar analyses).

(5)   John ate an apple, but [FP [not an orange]₁ [IP ~~John ate t₁~~]]

I will discuss her arguments for this analysis in 3.2.1. I will slightly revise her analysis in 3.2.2. and argue that negation is base-generated in the CP domain, attracting the focused phrase as shown in (4).

3.2.1.   Supporting evidence for the deletion analysis

3.2.1.1.   P-stranding

Depiante observes that P-stranding is possible in English stripping as shown in (6b), while Spanish stripping forces pied-piping as shown in (6b).

(6)   a.   John talked about Mary, and (about) Susan, too.

      b.   Juan escribe para Clarín y *(para) La Nación también.

            Juan writes for Clarin and *(for) La Nacion too

As already discussed in 2.2.2.2., English allows P-stranding in leftward movement

such as wh-movement.[2] On the other hand, Spanish prohibits P-stranding in wh-movement, as shown in (7).

(7)   *Quién hablaste con?

      Who (you) talked to   "Who did you talk to?"

The correlation between the P-stranding possibility and the optionality of a preposition in stripping suggests that stripping is derived via leftward movement, in the same way as in the discussion of sluicing in 2.2.2.2.

      As already noted, German is another non-P-stranding language (See 2.2.2.2.). As predicted, a complement of a PP in German cannot independently undergo stripping, leaving out the preposition ((9): Johannes Jurka, p.c. See also Jones 2004).

(8)   Die Maria hat mit den Hans gesprochen, aber nicht *(mit) den Bill.

      The Mary has with the Hans spoken,   but not with the Bill

      "Mary spoke with Hans, but not *(with) Bill."

      (*Intended reading:* "Maria didn't talk with Bill.")

---

[2] As is well-known, however, rightward movement in English does not allow P-stranding. You can move the PP in (i) to the right side of *yesterday* as shown in (iia), but you cannot move only the DP *someone*, stranding the preposition *to*, as (iib) shows.

(i)   John talked to someone yesterday.
(ii)   a.   John talked yesterday *to someone*.
       b.   John talked *to* yesterday *someone*.

3.2.1.2. Islands

Depiante (2000: 113, 138-9), citing Reinhart (1991), shows that stripping is island-sensitive; stripping is prohibited when the correlate is inside an island, indicating that movement is involved in stripping. According to her analysis, (9a) is analyzed as in (9b), where the stripped DP (i.e. *the defense minister*) violates the Sentential Subject Condition (Ross 1967).[3]

(9) a. *[The fact that some politician has resigned] got much publicity, but not the defense minister.

   b. *… but [FP not **the defense minister₁**

       [IP [sent. subject the fact that [IP t₁ has resigned]] got much publicity]]

Similarly, my informants did not like the complex NP example (10a) and the adjunct clause example (10b) in the intended island-crossing readings, although they are

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[3] Norbert Hornstein (p.c.) points out that the example in (i) is better than (9a), presumably because the contrast between *the Prime Minister* and *the Defense Minister* is more readily available than that between *some politician* and *the Defense Minister* in (9a).

(i)   ??The fact that the Prime Minister resigned got lots of publicity,
     but not the Defense Minister.

He also claims that stripping out of a complex NP such as (ii) is fully acceptable, although he rejects the example in (iii), which I will discuss again as (80a) in Section 3.5.1.2.

(ii) John can find [someone for our panel who knows the Defense Minister],
     but not the Prime minister.
(iii) *Abby speaks [the same Balkan language [that Ben speaks]], but not Charlie.

The discussion in the remainder of this chapter is based on Rainhart and Depiante's judgment that stripping shows island sensitivity, but I would like to further examine the validity of this claim in future research.

acceptable with a short-distance reading (e.g. "I met [a boy who ate an apple but didn't eat an orange]" in (10a)).

(10) a.   *I met [a boy who ate *an apple*], but not *an orange*.

(*meaning*: … but I didn't meet [a boy who ate an orange].)

   b.   *John left [because you played this song], but not *that song*.

(*meaning*: … but John didn't leave [because you played *that song*].)

Long-distance stripping that crosses an embedded clause, on the other hand, is fine (Reinhart 1991). (11) can mean that "Lucie will admit that she stole the diamonds, but she will *not* admit that she stole the car."

(11) Lucie will admit that she stole the diamonds if you press her, but not the car.

(Reinhart 1991: 374)

Reinhart (1991) argues that stripping involves LF rightward movement of the correlate (*some politician*) onto the remnant (*the defense minister*) and does not assume any deletion operations in stripping, and argues that LF movement is sensitive to islands (See 3.3.1.). Putting aside the question of *what kind of* movement it is, the existence of island phenomena shows that some kind of movement is relevant in stripping. However, given the theory of island-repair by PF-deletion discussed in Chapter 2, why there is no island-repair in stripping remains as a problem. We will come back to this issue in Section 3.5.

3.2.1.3.   Relevance of focus

As May (1991) observes, sentences such as (12) are ambiguous between the subject and the object readings of the stripping remnant, as shown in the restatement in (13a) and (13b).

(12) Dulles suspected Philby, and Angleton, too.

(13) a.   Dulles suspected Philby, and **Angleton** suspected Philby, too.

(subject reading)

b.   Dulles suspected Philby, and Dulles suspected **Angleton**, too.

(object reading)

Under Depiante's (2000) analysis, this difference stems from the underlying structure. When *Angleton* is base-generated as a subject, the structure (14a) obtains, and when it is base-generated as an object, the structure is as shown in (14b). Either way, it moves to the same [Spec, FP] position, so in both cases, the resulting surface string is that in (12).

(14) a.   [$_{FP}$ **Angleton$_1$** too [$_{IP}$ ~~t$_1$ suspected Philby~~]]   (subject reading)

b.   [$_{FP}$ **Angleton$_1$** too [$_{IP}$ ~~Dulles suspected t$_1$~~]]   (object reading)

However, Depiante (2000: 135) shows that, when a phrase in the antecedent

clause bears focus, it is obligatorily interpreted as a correlate. In (15), the focused subject *JOHN* must be interpreted as a correlate, and hence, the stripping remnant (*Peter*) is interpreted as a subject, as shown in (15a).

(15) JOHN saw Mary, and Peter, too.   (subject reading only)

    a.   John saw Mary, and Peter saw Mary, too.

    b.   *John saw Mary, and John saw Peter, too.

She explains the fact in terms of a parallelism constraint. Following Chomsky (1971), she argues that focus involves LF movement. Thus the focused subject in the antecedent clause of (15) is in [Spec, FP] at LF as shown in (16). She proposes that conjuncts of a coordinated structure must be parallel with respect to the structural position of a focused phrase.[4] When the focused phrase is in the subject position in the first conjunct, the focus of the second conjunct must fall on the subject position, too, as is the case in (16a). On the other hand, the representation in (16b) is blocked because the focused phrase of the second clause originated in the object position, which violates the parallelism with the first conjunct.

(16) a.   [$_{FP}$ JOHN [$_{IP}$ **t$_1$** saw Mary]] and [$_{FP}$ **Peter$_2$** too [$_{IP}$ ~~t$_2$ saw Mary~~]]

    b.   *[$_{FP}$ JOHN [$_{IP}$ **t$_1$** saw Mary]] and [$_{FP}$ **Peter$_2$** too [$_{IP}$ ~~John saw t$_2$~~]]

---

[4] This parallelism is presumably not particular for syntactically coordinated clauses, because the same focus sensitivity effects work cross-sententially, as examples such as (i) shows (Norbert Hornstein, p.c.).

(i)   JOHN saw Mary. Peter, too?   (subject reading only)

This proposal is similar in spirit to the parallelism condition in ellipsis (Fox and Lasnik 2003; See 2.6.2.2.).

In sum, the fact that focus in the antecedent clause affects the possible interpretation of stripping supports an analysis where focus is relevant to the derivation of stripping. If stripping remnants undergo focus movement in the same way as the focused phrase (i.e. *JOHN*) in (15), the restriction can be accounted for in terms of a parallelism requirement.

3.2.1.4.   Non-linguistic antecedent

Depiante (2000: 109), citing Hankamer and Sag (1976: 409), shows that stripping does not allow non-linguistic antecedents. (See also footnote 5 in Chapter 2.)

(17) [Mary is reading El Quijote]

   John says: #But not Hamlet?

According to Hannkamer and Sag's diagnostic under which only deep anaphora allow non-linguistic control, the data is compatible with the deletion analysis of stripping.

However, as we have seen in 2.3.1.1., there are instances of stripping that allow a non-linguistic antecedent. Van Riemsdijk's (1978) example (repeated here as (18)), where stripping is not accompanied with the conjunctive *but*, can serve as a fragment

question without any preceding utterlance.[5]

(18) [Hankamer, standing in front of a table-tennis table, a second bat in his hand,

looking at one of the bystranders:]

You?   (Van Riemsdijk 1978: 234)

I do not have a full account of such a type of stripping, but there are ways to give

different account for the two types of stripping. In the type of stripping exemplified in

(1), the stripped XP is always contrasted with the correlate phrase. On the other hand,

you in the stripping in (18) need not be contrasted with any of the other bystranders

present in at the scene. If we assume that the FP proposed for our stripping analysis

involves contrastive focus, it is not implausible that the non-contrastive stripping such

as (18) resides in some other functional projection, which can take a deep anaphora

complement (indicated by Δ) as shown in (19).

(19) [$_{?P}$ You [Δ]]

In the remainder of the section, I will concentrate on the contrastive type of stripping

such as (1), which I claim involves movement to FP.

Taken together, the above pieces of evidence constitute an argument for the

movement plus deletion type of analysis for stripping, in the same way as sluicing,

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[5] Although van Riemsdijk's example is an instance of 'bare' stripping without negation, but
Norbert Hornstein (p.c.) shows that even negation stripping allows a non-linguistic
antecedent in absence of *but*, as shown in (i).

(i)   [Mary is reading El Quijote]   John says: Not Hamlet?

and against any interpretive or LF-copying analysis of stripping. Unfortunately, however, the other three arguments for the underlying structure of sluicing in Ross (1969) other than Case-connectivity cannot be applied to sripping, because, as shown in (3), embedded stripping is not allowed. Ross' diagnostics such as number agreement, subcategorization, and extraposition (Section 2.2.1.2. - 2.2.1.4.) all employed embedded sluicing.

3.2.2.   Sentence-initial negation

3.2.2.1.   Negative stripping as sentential negation

In Depiante's (2000) analysis, *not* in negation stripping seems to make a constituent with the focused element and resides in [Spec, FP], as shown in (20a). As for the adverbs such as *too*, she seems to be assuming that they are base-generated somewhere between [Spec, FP] and the IP projection (presumably in an IP-adjoined position) as shown in (20b), judging from her index notations.

(20) a.   John ate an apple, but [$_{FP}$ [not an orange]$_1$ [$_{IP}$ ~~John ate t$_1$~~]]   (= (5))

     b.   John ate an apple, and [$_{FP}$ an orange$_1$ too [$_{IP}$ ~~John ate t$_1$~~]]

However, it is rather unclear how the negation in (20a) is base-generated adjacent to the focused phrase. Such a constituent negation structure is impossible in non-elliptical contexts, as shown in (21) (Lasnik 1972, Horn 1989).

(21) a.   *[Not John] ate an apple.   (subject DP: cf. (2a))

    b.   *John ate [not an orange].   (object DP: cf. (2b))

    c.   *John ran [not quickly].   (AdvP: cf. (2c))

    d.   *Mary studies [not in that room].   (adjunct PP: cf. (2d))

Instead, I assume that the semantics of negative stripping is that of a sentential negation. As shown in (22), negation stripping examples such as (2) have a sentential negation alternatives.

(22) a.   John ate an apple, but not Mary.   (= but Mary didn't eat an apple)

    b.   John ate an apple, but not an orange.   (= but John didn't eat an orange)

    c.   John ran slowly, but not quickly.   (= but John didn't run quickly)

    d.   Mary studies in this room, but not in that room.

                            (= but Mary didn't study in that room)

Following Klima (1964) and Lasnik (1972), I will assume that negation is base-generated in a sentence-initial position ([Spec, CP] in my analysis, as illustrated in (23a)[6]), although it lowers to the position after Infl in usual cases, as shown in sentential negation examples in (22). McCawley (1998) also argues that sentential negation is base-generated higher than the entire sentence and that the rule of Neg-placement adjoins the negation marker to the tense morpheme. As for non-negative adverbs such as *too*, I can just assume that they stay in their usual position (post-

---

[6] In the same line of analyses, Merchant assumes negation to be in [Spec, NegP] above IP, and Jones (2004) posits negation in [Spec, ΣP], instead of [Spec, CP] in (23a).

sentential position in the case of *too*), as shown in (23b).

(23) a.   John ate an apple, but [CP not [FP an orange₁ [IP ~~John ate t₁~~]]]   (= (4))

   b.   John ate an apple, and [FP an orange₁ [IP ~~John ate t₁~~]], too.

However, a question arises as to why negation stays in the sentence-initial position and does not lower in the case of stripping, unlike usual sentential negation. Here, let us assume that there is some operation such as Neg-placement, and that it is a PF operation, which is not an implausible assumption, given that the meaning of a negation after Infl is still a sentential negation, which negates the entire sentence. I claim that, in (23a), the Infl head is deleted at PF, and therefore *not* cannot be adjoined to Infl at PF. If it did, the negation marker would not be pronounced and the meaning of negation would not be retrieved. Therefore, the negation marker *not* stays in situ.

There are some potential arguments for the sentential negation analysis in (23a). Klima's (1964) argument that negation is base-generated in a sentence-initial position is based on examples of negative inversion, such as (24).

(24) *Never* have I believed that it happened.

Some negative forms such as *never* can occur in the sentence-initial position and induce negative inversion as shown in (24). (I have no account of why *never*, unlike *not*, does not obligatorily lower to the post-Infl position in a non-elliptical sentence.)

Pool (2004) notes that, for some speakers, embedded negative inversion such as (25) is unacceptable, and for the speakers who accept it, it definitely sounds 'marked' (which presumably means 'less acceptable compared to its non-inverted counterpart').

(25) ?I predict that never will she make a million. (Pool 2004)

As seen in (26) (repeated from (3a)), embedded negative stripping is impossible. If embedded negative inversion is degraded, this similarity serves as a piece of evidence for the unified analysis of negative inversion and negative stripping, where both involve a sentence-initial negation.

(26) *John ate an apple (for sure), but I think that not an orange.

Another potential argument is that *not* can appear not only in stripping, but also in gapping, as shown in (27) (Lasnik 1972).

(27) Bill saw Harry, not Harry Bill. (Lasnik 1972: 14)

(27) definitely does not merely involve constituent negation of *Harry*; it is negating the *saw*-relationship between Harry and Bill. Thus, an analysis under which *not* and *Harry* constitute a constituent is implausible for this sentence. If negation in such a type of sentence should be treated in the same way as the one in negation stripping, it supports the sentential negation analysis for negation stripping.

Given these considerations, I will take the sentential negation analysis in (23a) over a constituent negation analysis in (20a). However, the choice depends on the theory of negation and is not crucially relevant for the rest of my discussions.[7]

3.2.2.2.   Negation stripping and Subject Auxiliary Inversion

In the above argument, I proposed that *not* in negation stripping resides in [Spec, CP], in the same way as *never* in the negative inversion example (24). However, a potential question arises as to why the inversion of the Infl does not occur in negation stripping. Negative inversion, as its name represents, involves Subject Aux Inversion (SAI) as in the case of questions (as shown in (28a)). On the other hand, there is no such inversion under the negation stripping in (28b). If there were, the resulting sentence would look like (29a) or (29b), depending on how far the Infl goes.

(28) a.   ***Never*** have I believed that it happened. (= (24))

    b.   John ate an apple, but [$_{CP}$ ***not*** [$_{FP}$ an orange$_1$ [$_{IP}$ ~~John ate t$_1$~~]]]   (= (23a))

(29) a.   *John ate an apple, but [$_{CP}$ not **did** [$_{FP}$ an orange$_1$ [$_{IP}$ ~~John ate t$_1$~~]]]

    b.   *John ate an apple, but [$_{CP}$ not [$_{FP}$ an orange$_1$ **did** [$_{IP}$ ~~John ate t$_1$~~]]]

I propose that the lack of SAI in negation stripping such as (28b) should be explained in a parallel way as in the matrix sluicing such as (30). (See also, footnote

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[7] Merchant (2003) considers both structures without choosing one over the other, but he notes that the sentential negation analysis (e.g. (23a)) "has the advantage that the semantics is entirely usual and straightforward, negation being a one-place propositional function (Merchant 2003: 5)."

26 of Chapter 2.) As Merchant (2001) and Lasnik (2001) observe, there is no SAI in sluicing; the auxiliary must be deleted under sluicing as shown in (30). Under the IP-deletion analysis of sluicing, this means that the auxiliary stays inside the IP, without undergoing SAI ((30a)). Of course, in a non-elliptical question such as (31), SAI is obligatory.

(30) a.   A: John will meet someone.   B: Who$_1$ [John will meet t$_i$]?

    b.   A: John will meet someone.   B: *Who$_1$ will [John meet t$_i$]?

(31) a.   Who will John meet?

    b.   *Who John will meet?

Lasnik (2001) accounts for the fact in the following way. He argues that SAI is caused by a strong feature on C, which needs to be checked with the corresponding feature on I. The feature movement results in a phonologically defective I (but not phonologically defective C) as shown in (32).

(32)

```
                      CP
              ┌────────┴────────┐
             NP                 C'
              │          ┌──────┴──────┐
            who          C             IP
                         │        ┌─────┴─────┐
                      strong F   NP           I'
                                  △     ┌─────┴─────┐
                                John    I           VP
                                  │     │           │
                              *will[F]  V'
                                  │  ┌──┴──┐
                                  │  V     NP
                                  │  │     │
                                 see      t
```
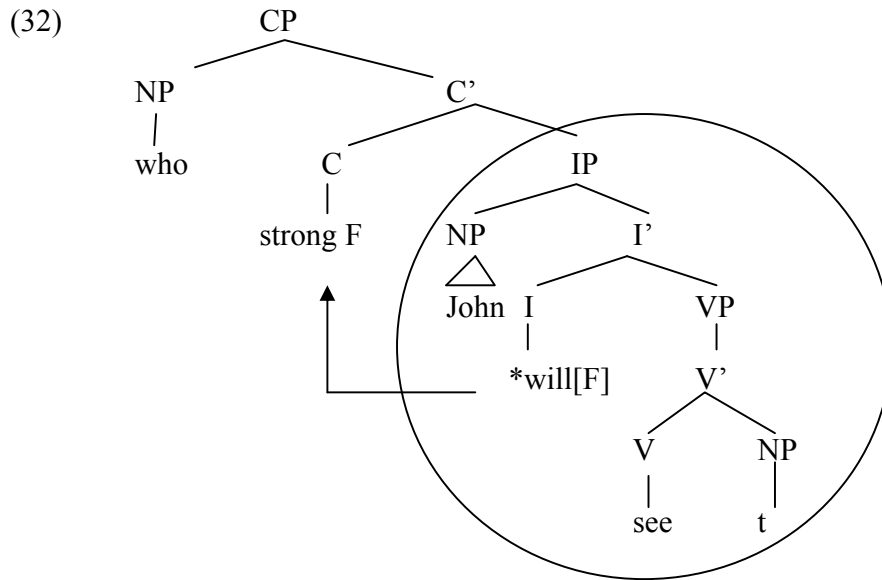
To avoid a PF crash, this feature movement needs to pied-pipe the whole category of I (the lexical item *will*), which is the usual SAI in (31a). However, when there is sluicing, such pied-piping is not necessary. The whole circled IP in (32) including the Infl is deleted, and the phonological defectiveness of Infl is eliminated. Thus, SAI is only necessary in non-elliptical context such as (31), and not in sluicing such as (30).

Given this account, the lack of SAI in examples such as (28b) is not problematic. The Infl in this example is inside a deletion site, so the defectiveness caused by the lack of categorical movement of Infl is repaired by PF-deletion, as illustrated in (33).

(33) John ate an apple, but [CP ***not*** C[Strong F] [FP an orange₁ [IP ~~John~~ ****Infl*[F]** ~~ate t₁~~]]]

In this way, the absence of SAI under negation stripping is fully compatible with the deletion analysis of stripping, which treats negation stripping in a parallel way as sluicing.

In this section, I will take up two alternative types of movement analyses: Reinhart's (1991) LF rightward movement analysis and McCawley's (1998) 'discontinuous constituent' analysis. Both of them treat negative stripping (e.g. (34a)) as phrasal conjunction, as illustrated in (34b).

(34) a.   John came, but not Bill.

    b.   [NP [NP John] but not [NP Bill]] came.

Below, I will show that the claimed evidence for such analyses can well be accommodated under the deletion analysis, too.

3.3.1.   Reinhart's (1991) LF rightward movement analysis

Reinhart (1991) argues that the correlate of stripping undergoes covert rightward movement (what she calls non-quantificational QR) and adjoins to the remnant.[8] Under her analysis, the stripped fragment is merely adjoined to the whole sentence in the surface structure. The correlate phrase (i.e. *John* in (35)) undergoes covert rightward movement to adjoin to the stripped phrase, as shown in (35b), yielding the LF structure in (35c).

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[8] See Fox and Nissenbaum (1999) for a claim that rightward QR exists.

(35) a.   John came, but not Bill.

b.

```
                              IP
                  ┌───────────┴───────────┐
                 IP                        NP
            ┌─────┴─────┐            ┌──────┴──────┐
           NP           I'          ▲    but not Bill
            |           |           │
          John        came          │
            └──────────────────────┘
```
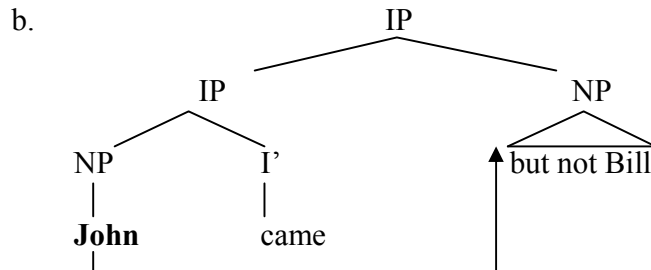
c.   [IP [IP t_1 came] [NP John$_1$ [NP but not [NP Bill]]]

d.   (John but not Bill) (λx (x came))

Reinhart argues that this LF structure corresponds to the semantics in (35d), where

the λ-abstraction made from the IP takes the whole adjunction structure (*John but not*

Bill) as an argument.

  Reinhart gives the island-sensitivity of stripping as evidence for the LF

movement analysis, as we have seen in (9a), repeated as (36).

(36) *[The fact that some politician has resigned] got much publicity, but not the

  defense minister.

In her analysis, the covert rightward movement of the correlate is the cause of island

effect. As shown in 3.2.1.2., however, this fact can also be captured under the deletion

analysis, because the deletion analysis also assumes that movement is involved in

stripping, that is, overt leftward movement of the remnant. Thus the data would not

choose Reinhart's analysis over the deletion analysis.

There is a potential problem in accounting for the island effects under Reinhart's analysis. Unlike the deletion analysis, her analysis crucially relies on the assumption that covert movement is sensitive to islands in the same way as overt movement (Nishigauchi 1986, Fiengo, Huang, Lasnik and Reinhart 1988), assuming that the rightward QR obeys the same restriction as covert wh-movement. However, as Depiante (2000) points out, this assumption is controversial; the standard view based on the observations on wh-in-situ has been that LF-movement obeys the ECP but not Subjacency (Huang 1982 and Chomsky 1986). Our sluicing data in Chapter 2 also showed that deletion at PF obviates island effects, which indicates that islands are PF-phenomena, but not LF-phenomena.

Moreover, even if the view that covert movement such as covert wh-movement is island-sensitive were correct, why the rightward QR in (35b) needs to behave the same way as such covert movement is unclear. It has been assumed that QR is clause-bounded, as indicated by the contrast in (37). Unlike (37a), (37b) does not allow the wide scope reading of *every*, which shows that *every* cannot scope outside of the embedded clause.

(37) a. Somebody loves everybody ($\exists > \forall$, $\forall > \exists$)

    b. Somebody thinks that John loves everybody ($\exists > \forall$, $*\forall > \exists$)

On the other hand, although it is island-sensitive, stripping is not clause-bounded as Reinhart's example in (11) shows (repeated as (38)).

(38)   Lucie will admit that she stole the diamonds if you press her, but not the car.

        (= (11))   (Reinhart 1991: 374)

To account for this piece of data, she needs to assume that rightward QR and leftward QR obey different locality restrictions.

In sum, the deletion analysis is preferable because it accounts for the island sensitivity in terms of overt movement and it does not need the extra assumption with respect to the status of covert rightward movement.

Another potential problem with Reinhart's analysis is that it is unclear how the LF configuration in (35c) generates the semantics in (35d). The subject trace left by the QR in (35c), after all, has the same index as *John*. Under the Copy Theory of Movement, it is a copy of *John*. On the other hand, the binder of the variable is the whole conjoined phrase *John but not Bill*, which is headed by *Bill* according to Reinhart's proposal. How the operator and the variable with conflicting indices (or, non-identical copies, under the Copy Theory of Movement) can form a legitimate chain is rather mysterious.

Given these problems, I will conclude that the deletion analysis fares better than the LF movement analysis.

3.3.2.   McCawley's (1998) 'discontinuous constituent' analysis

3.3.2.1.   The analysis

Reinhart (1991) argues that stripping (*but not Bill*) is turned into phrasal

conjunction (*John but not Bill*) via QR at LF. On the other hand, McCawley (1998)

proposes an analysis where stripping *is* phrasal conjunction in the overt syntax. Based

on McCawley (1982), he proposes that movement operations can switch word orders

without affecting the constituent structures. Under his analysis, the stripped phrase

and the correlate in (39) are a conjoined NP (i.e. *John but not Bill*), but this NP is

discontinuous because of the order-switching operation.

(39) a. John came, but not Bill.

    b.
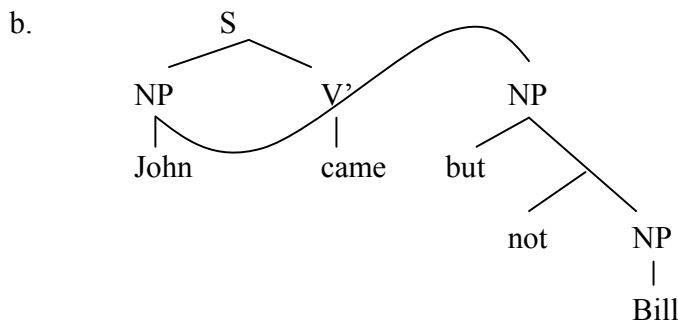
Although this analysis has some virtues (as we will see in the following

subsections), the locality data noted in 3.2.1.2. favors the deletion analysis over it. In

McCawley's system, the word-order switching operation illustrated in (39b) derives

various other kinds of sentences including heavy NP shift such as (40a), which has

traditionally been treated as rightward movement of a heavy NP. Under his analysis,

the heavy NP undergoes the switching operation and shows up on the right side of the

sentence, although there is no change in constituency, as shown in (40b).

(40) a. John sent to his mother [the statue that he had spent the whole summer

carving]. (McCawley 1998: 93)

b.

```
                        S
          ┌─────────────┴───────────┐─────────────────┐
         NP                        V'                  NP
          │                    ┌────┴────┐        [the statue that…]
        John                  V'        P'
                               │    ┌────┴────┐
                             sent   to his mother
```
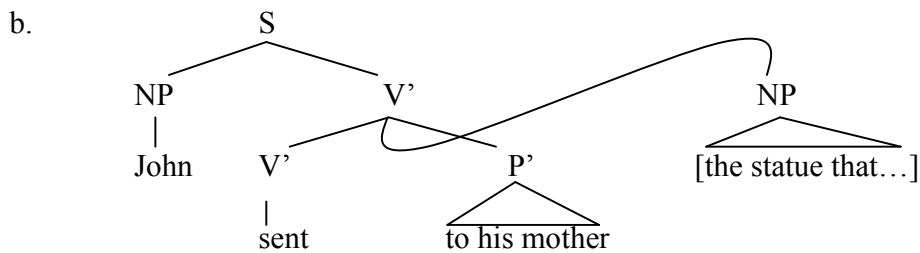
If stripping (e.g. (39)) is derived from the same mechanism as so-called rightward movement (e.g. (40a)), they should show the same properties. However, there are at least two differences between rightward movement such as heavy NP shift and stripping. First, they do not obey the same locality condition. As is well-known, the locality of rightward movement such as heavy NP shift is stricter than that of leftward movement in that it obeys Right Roof Constraint (Ross 1967). Long-distance heavy NP shift is impossible, as shown in (41).

(41) *Mary said [that John broke t_1] to her mother [the statue that he had spent the whole summer carving]$_1$.

Recall that, on the other hand, stripping is island-sensitive as shown in (42), but it is not clause-bounded, as shown in (43).[9]

---

[9] McCawley (1998: 615) himself notes that stripping such as (ia) allows long-distance interpretation. There is ambiguity as to whether the stripping is interpreted in the embedded clause or main clause. He claims that this ambiguity is due to the scope of negation, in the same way as (ib).

(i) a. Lucy told me that John drinks tea, not coffee.   (matrix/embedded readings)
     b. Lucy told me that John drinks not coffee but tea.   (matrix/embedded readings)

(42) *[The fact that some politician has resigned] got much publicity, but not the

defense minister.   (= (9a))

(43) Lucie will admit that she stole the diamonds if you press her, but not the car.

(= (11))   (Reinhart 1991: 374)

Second, heavy NP shift cannot strand a preposition, unlike leftward movement such as wh-movement. The NP *a total stranger* in (44a) cannot undergo rightward movement stranding the preposition on as shown in (44b). If you pied-pipe the preposition and the whole PP moves to the right as in (44c), the sentence is fine. On the other hand, wh-movement allows P-stranding as shown in (44d).

(44) a.   John counted *on* **a total stranger** for support.   (Jayaseelan 1990: 66)

b.   John counted *on* for support **a total stranger**.

c.   John counted for support **on a total stranger**.

d.   **Who** did John count *on* for a support?

As we have already seen in Section 3.2.1.1., stripping also allows P-stranding (Depiante 2000); the stripping remnant need not be accompanied by the preposition as shown in (45).

What I am pointing out in (43), on the other hand, is the purely syntactic fact that the stripped phrase can appear on the right side of the matrix phrase (*if you press her*) when it has the matrix reading. This would require the word-order changing operation to work across a matrix phrase, which is apparently impossible in (42).

(45) John talked about Mary, and (about) Susan, too. (= (6a))

These data show that stripping obeys the constraints of overt leftward movement, rather than those of overt rightward movement. To accommodate these differences, McCawley would have to make a principled analysis of how these two types of word-order switching operations differ. Thus, these contrasts between heavy NP shift and stripping are more straightforwardly explained under our deletion analysis, which involves leftward movement of the remnant.

3.3.2.2.   The *either ... or* construction

Although I will not adopt McCawley's analysis in this thesis because of the above problem, there are some data that seem to favor McCawley's analysis over the deletion analysis. In this and the following sections, I will discuss each of them and seek a possible explanation of the data under the deletion analysis.

First, McCawley (1998) shows that the phrase *either* can attach to the correlate of stripping, as shown in (46).

(46) John gave either Mary a birthday gift, or Lucille. (McCawley 1998: 281)

Assuming that the expression *either ... or ...* must be licensed at S-structure, he takes this to be evidence that *either Mary or Lucille* is a constituent (at least at some point of the derivation). If the remnant of the stripping is base-generated independently

from the correlate, *either* must attach only to *Mary* without licensing the *or … phrase*, which should be illegitimate.

Under the deletion analysis, we need to abandon the assumption that the phrase *either ... or ...* needs to be licensed in the overt syntax. Instead, I propose that the correlate in this sentence obligatoily undergoes focus movement at LF. Note that the correlate in this type of sentence must get a prosodic focus, as shown in (47). If the phrase *either Mary* undergoes focus movement, the LF-structure would be as shown in (48). In this structure, *either ... or ...* takes two sentential elements, both of which have a focused phrase.

(47) John gave either MARY a birthday gift, or Lucille.

(48) [$_{FP}$ Either MARY$_1$ [$_{IP}$ John gave t$_1$ a birthday gift]]

   or [$_{FP}$ Lucille$_2$ [[$_{IP}$ John gave t$_2$ a birthday gift]]

Thus, if the licensing of *either ... or ...* is done at LF, instead of in overt syntax, the acceptability of (46) would not be incompatible with the deletion analysis of stripping.

3.3.2.3.   Lack of CSC violation

Second, McCawley shows that wh-questions such as (49) are possible. He claims that if the stripping is conjoined to the entire first sentence, the extraction of *to which country* must involve extraction from a coordinated phrase, which should be excluded due to the Coordinate Structure Constraint (Ross 1967).

119

(49) To which country does John send letters by airmail, but not parcels?

   (McCawley 1998: 281)

Thus, he claims that only the noun phrase *letter*, rather than the entire first sentence, is conjoined with the stripped phrase in (49). Then, the extraction of *to which country* occurs outside of the coordinated noun phrases and the CSC is irrelevant.

   Under the deletion analysis, we assume the underlying structure of stripping as illustrated in (50).

(50) [$_{CP}$ **To which country$_1$** does [$_{IP}$ John send letters t_1 by airmail],

   but [$_{CP}$ not [$_{FP}$ parcels$_2$ [$_{IP}$ ~~John send t_2 t_1 by airmail~~]]]?

Note that the sentence (49) can be restated as "which country x is such that John sends letters to x by airmail but John doesn't send parcels to x by airmail." This indicates that, under the deletion analysis, we should assume that there should be a variable that is bound by the wh-phrase not only in the first conjunct, but also in the second conjunct. Thus, I propose that this sentence has the structure in (50), which is involves ATB-movement. Examples of ATB-movement such as (51) show that movement out of two conjuncts is possible as long as it parallelly occurs out of both conjuncts (See Chapter 5 for more on ATB-movement).

(51) **What₁** does [$_{IP}$ John like **t₁**] and [$_{IP}$ Mary hate **t₁**]?

As long as ATB-movement does not violate the CSC, the acceptability of (49) is not surprising.

3.3.2.4.　Tag question

Finally, McCawley shows that sentences with negation stripping take a negative tag question, but not a positive one, as shown in (52). Given that the polarity of a tag question must contrast that of the attached clause, this shows that the scope of negative stripping is not the entire sentence.

(52) John gave Linda the money, not Karen, didn't he? (*did he?)

　　(McCawley 1998: 619)

This is apparently problematic for the analysis of negation stripping as sentential negation, because the full sentence negation counterpart of (52) takes a positive tag question, as shown in (53).[10]

(53) John gave Linda the money, but John didn't give Karen the money, did he?

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[10] Tag questions can attach to sentences with negative inversion, which shows that the placement of negation in the sentence-initial position is not the crucial factor for the unavailability of the tag question in the structure in (52).

(i)　　?Never did he believe that Mary would come, did he?

To account for the unavailability of the positive tag in (52) under the deletion analysis, you may assume that tag questions attach to IPs (or lower), rather than CPs (Norbert Hornstein, p.c.), as shown in (54). Under this structure, polarity of the tag is determined at the CP level, but the tag question itself is inside the deletion site, so it cannot be pronounced as it is.

(54) *[$_{CP}$ not [$_{FP}$ Karen$_1$ [$_{IP}$ ~~John gave t$_1$ the money], did he~~]]]?
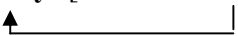
On the other hand, the negative polarity tag in (52) is attached to the IP of the first sentence rather than to the negative stripping, as shown in (55). For this account to work, I need to clarify how the stripping CP is attached to the first sentence, and how it is possible for the tag question to show up across the stripped CP, etc.

(55) [$_{IP}$ [$_{IP}$ John gave Linda the money] [$_{CP}$ not Karen], **didn't he**]?

In sum, the three pieces of data discussed in McCawley (1998) might be better accommodated in his 'discontinuous constituent' analysis, but with a few extra assumptions, it is not impossible to account for them under the deletion analysis. I will leave open the question of whether these extra assumptions have any independent motivation.

3.4. Stripping and fragment answers

In the above sections, I have argued for the 'movement and deletion' analysis of stripping. Further evidence for such an analysis comes from Merchant's (2004) argument on the derivation of fragment answers. Based on some diagnostics including the ones used for the deletion analysis of sluicing (Case-matching effects and P-stranding generalization: See Chapter 2), Merchant (2004) claims that fragment answers, such as B's response to A's wh-question in (56a), are derived by focus movement to [Spec, FP] followed by IP-deletion as illustrated in (56b).

(56)   a.   A: Who does John like?   B: Mary.

         b.   B: [FP **Mary₁** [IP ~~John likes t₁~~]].

In this section, I will review Merchant's analysis of fragment answers and show that stripping behaves the same with respect to his diagnostics. The similarities further corroborate the analysis where stripping is derived via focus movement in the same way as the derivation of fragment answers illustrated in (56b).

3.4.1.   Merchant's (2004) deletion analysis of fragment answers

3.4.1.1.   Case-matching

Recall from Chapter 2, Section 2.2.1.1. that Ross (1969) uses the Case-matching effect in sluicing as evidence that there is an underlying clausal structure in sluicing.

Merchant (2004) shows that the same Case-matching phenomenon is observed in fragment answers, suggesting that they are also derived by movement and deletion. (57) illustrates the Case-matching effect in German fragment answers.

(57) a. A: Wem folgt Hans?   B: Dem/*Den Lehrer.

          Who.DAT follows Hans   The.DAT/*The.ACC teacher

          "Who is Hans following?"   "The teacher."

     b. A: Wem sucht Hans?   B: *Dem/Den Lehrer.

          Who.ACC seeks Hans   *The.DAT/The.ACC teacher

          "Who is Hans looking for?"   "The teacher."

     (Merchant 2004: 677)

The Case of the fragment answer B utters in each example has to match the Case of the wh-phrase in A's question. This is straightforwardly accounted for in an analysis where B's utterance has an underlying clausal structure, in the same way as sluicing. Merchant (2004) shows that the same Case-matching phenomenon is observed in Greek, Korean, English, Hebrew, Russian, and Urdu.

3.4.1.2. P-stranding

The P-stranding generalization is exemplified in the contrast between (58) and (59). P-stranding languages such as English allow fragment answers of a complement

of P only ((58)), while in non-P-stranding languages such as German, P must accompany the fragment answer ((59)).

(58) A: Who was Peter talking with?   B: Mary.

(59) A: Mit wem hat Anna gesprochen?   B: Mit dem Hans./*Dem Hans.

            With whom has Anna spoken   With the Hans The Hans

            "With whom has Anna spoken?"   "With Hans."   "*Hans."

3.4.1.3.   Binding connectivity

In addition to these data, Merchant (2004) gives two more pieces of evidence for his analysis of fragment answers: binding connectivity (this section) and complementizer deletion (the next section). Fragment answers show connectivity effects with respect to Binding Condition A, B (e.g. (60a)) and C (e.g. (60b)).

(60) a.   A: Who does John$_1$ like?   B: Himself$_1$./*Him$_1$.

      b.   A: Where is he$_1$ staying?   B: *In John$_1$'s apartment.

The anaphor *himself* in (60a) is acceptable even though there is no apparent antecedent to bind it. Under Merchant's analysis, there is an underlying antecedent *John* in the elided structure and Condition A is satisfied. Similarly, the pronominal *him* in (60a) and the R-expression *John* are unacceptable because they have a binder in the underlying structure (i.e. *John* in (60a) and *he* in (60b)), violating Condition B

125

and C, respectively. Thus, the existence of binding connectivity effects is evidence for the deletion analysis.

3.4.1.4. Complementizer deletion

Finally, Merchant (2004) points out that complementizer deletion is impossible when a fragment answer is a CP. The complementizer *that* in an embedded clause is optionally deleted, as shown in (61a). When an embedded clause is dislocated as shown in the topicalization example (61b), however, the complementizer is obligatory. This, the impossibility of complementizer deletion is a hallmark for movement.[11]

(61) a.   No one believes (that) I'm taller than I really am.

b.   *(That) I'm taller than I really am, no one believes.

A CP fragment answer such as B's utterance in (62) behaves like a dislocated CP in that it does not allow complementizer deletion.

(62) A: What does no one believe?   B: *(That) I'm taller than I really am.

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[11] However, under his account it remains unclear why a moved CP does not allow complementizer deletion. There may be a larger generalization on environments that do not allow complementizer deletion. For example, complementizer deletion is prohibited in a subject clause, and in a variety of configurations such as pseudocleft, gapping, and Right Node Raising, etc. (Bošković 1997). Stowell (1981) generalizes that complementizer deletion is allowed only when the C is properly governed by the V and thus satisfies the ECP. Bošković and Lasnik (2003) account for the same paradigm by claiming that a null complementizer is allowed when it can undergo affix hopping. I leave open here whether all of these other configurations can be analyzed as instances of movement or not.

Merchant argues that this parallelism between a moved CP and a stripped CP supports the analysis under which stripping involves movement.

3.4.2.   Application of the diagnostics to stripping

Among the four properties to support the 'movement and deletion' type of analysis of fragment answers, we have already seen in Section 3.2.1.1. that the P-stranding data holds also for stripping (Depiante 2000). Below, I will apply the other three diagnostics and show that stripping shows the same property as fragment answers, which serves as further evidence to support the deletion analysis of stripping.

3.4.2.1.   Case-matching

As we have already seen in Chapter 2, Section 2.2.1.1., the German verb 'flatter' assigns Dative Case to its complement, while the verb 'please' assigns Accusative Case. When the correlate of stripping (i.e. *the secretary*) is an object of Dative-assigning verb as shown in (63a), the stripped phrase (i.e. *the boss*) also gets Dative Case; when the correlate gets an Accusative Case, the stripped phrase must be Accusative.

(63) a.   Peter will der Sekretaerin gefallen, aber nicht dem/*den Chef.

Peter wants the.$_{DAT}$ secretary please, but not the.$_{DAT}$/*the.$_{ACC}$ boss

"Peter wants to please the secretary, but not the boss."

b.   Peter will die Sekretaerin loben, aber nicht *dem/den Chef.

Peter wants the.$_{ACC}$ secretary praise, but not *the.$_{DAT}$/the.$_{ACC}$ boss

"Peter wants to praise the secretary, but not the boss."

The examples show that the Case of the remnant has to match that of the correlate. This indicates that there is an underlying verb that assigns Case to the remnant, which is exactly the case in the deletion analysis. If you assume a stripping counterpart of the interpretive analysis (Section 2.3.) of sluicing, the Case-matching effect would be hard to account for.[12]

Note that, under McCawley's (1998) analysis, too, the Case-matching fact is not problematic. The surface structure of the (63a) under his analysis is (64), where the correlate and the stripping remnant are a constituent. If the whole phrase *the secretary but not the boss* gets Dative Case from the verb *please*, it is not surprising that both NPs have the Dative forms.

(64) Peter wants [the.$_{DAT}$ secretary but not the.$_{DAT}$ boss] please

The fact might be difficult to capture under Reinhart's (1991) analysis. The stripped phrase is base-generated in the IP-adjoined position. Under the standard

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[12] It may be not problematic for an LF-copying analysis of stripping, under the assumption that Case is checked at LF. See Chapter 2, Section 2.4.1. for a similar discussion for Chung, Ladusaw and McCloskey's (1995) LF-copying analysis of sluicing.

assumption that Case is assigned configurationally (e.g. the verb *please* assigns Dative Case to its sister), how the stripping remnant (*the boss*) in the adjoined position gets Case remains mysterious.

(65) [$_{IP}$ [$_{IP}$ Peter wants t$_1$ please] [$_{NP}$ the.$_{DAT}$ secretary$_1$ [$_{NP}$ but not [$_{NP}$ the.$_{DAT}$ boss]]]]

3.4.2.2.   Binding connectivity

Fragment negation shows Binding Connectivity effects in the same way as fragment answers such as (60). The acceptability of *himself* in (66a) indicates that Condition A is satisfied even when there is no obvious binder for it. On the other hand, the pronominal *him* in (66a) and the R-expression in (66b) cause Conditions B and C violations, respectively.

(66) a.   John$_1$ likes Bill, but not himself$_1$/*him$_1$.

   b.   *He$_1$ is staying in Bill's apartment, but not John$_1$'s apartment.

Under the deletion analysis, there are underlying clausal structures, which involve a binder for the stripped phrase. Thus the data are straightforwardly accounted for under the deletion analysis.

Note that these data can also be accommodated under McCawley's (1998) analysis. He assumes that the surface constituent structures of these sentences are as shown in (67). The stripped element (i.e. *himself/him* in (67a) and *John's apartment* in

129

(67b)) is c-commanded by *John* and *he*, respectively, without assuming any hidden structures.

(67) a. John$_1$ likes [Bill but not himself$_1$/*him$_1$].

  b. *He$_1$ is staying in [Bill's apartment but not John$_1$'s apartment].

How the data are accounted for under Reinhart's LF rightward movement analysis, on the other hand, depends on the definition of adjoined positions and binding theory. Under her analysis, the stripping remnant resides in the IP-adjoined position, to which the stripping correlate attaches to at LF as shown in (68).

(68) [$_{IP2}$ [$_{IP1}$ **John$_1$** likes t$_2$] [$_{NP}$ Bill$_2$ [$_{NP}$ but not [$_{NP}$ himself$_1$/*him$_1$]]]]

If the adjoined position is somehow in the binding domain of the subject *John*, the facts are correctly captured under her analysis. In Reinhart (1976, 1981), she proposes the definition of c-command as show in (69).

(69) Node A c(onstituent)-commands node B iff the branching node α$_1$ most immediately dominating A either dominates B or is immediately dominated by a node α$_2$ which dominates B, and α$_2$ is of the same category type as α$_1$. (Reinhart 1981: 612)

Under this definition of c-command, the node IP$_2$, which the stripping is adjoined to,

is "of the same category type" as IP$_1$, which is the node most immediately dominating the subject. Thus the adjoined position dominated by IP$_2$ is c-commanded by the subject, and the pronominalization if correctly prohibited inside this adjunct.[13] I will not discuss this matter further here.

3.4.2.3. Complementizer deletion

Finally, the complementizer is obligatory in a sentential fragment negation (e.g. (70)), in the same way as a sentential fragment answer. According to Merchant (2004), the obligatoriness of the complementizer is evidence for displacement of an embedded CP from its original position.

(70) He believes that I'm tall, but not *(that) I'm taller than I really am.

On the other hand, Reinhart's (1991) and McCawley's (1998) analyses do not assume movement of the stripped CP. Under Reinhart's analysis, the stripped CP is base-generated in the IP-adjoined position without any movement. Under McCawley's analysis, the stripped CP undergoes a word-order switching operation, but still is a sister to the verb *believe* in the same way as an in-situ complement CP. Why the stripped CP behaves in the same way as the CP that undergoes regular leftward movement (e.g. topicalization in (71)) is less straightforwardly accounted for

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[13] Alternatively, one could adopt Pesetsky's (1995) cascade analysis where adjoined positions are interpreted lower than the whole clause to capture the fact that the IP-adjoined position is c-commanded by the subject.

in these analyses.

(71) *(That) I'm taller than I really am, no one believes. (= (61b))

In sum, the above data of stripping show the same behavior with fragment answers, and that the 'movement and deletion' analysis of fragment answers should also be applied to stripping. Although some of these data might be compatible with Reinhart's (1991) and McCawley's (1998) analyses, too, I am not going to pursue the analyses because of their problems pointed out in Section 3.3.

3.5. Differences between stripping (plus fragment negation) and sluicing

In Chapter 2, I argued for the analysis of sluicing as wh-movement and ellipsis, as shown in (72).

(72) John met someone, I don't know **[CP who [IP John met]]**.

Based on the discussion so far in this chapter, I argued that fragment answers and stripping are derived by focus movement and ellipsis.

(73) John ate an apple, but [CP not [FP an orange₁ [IP John ate t₁]]]
(74) A: Who does John like?   B: [FP **Mary₁ [IP John likes t₁]**]. (cf. (56))

Although their derivations are similar, there are two properties which are shared only by stripping and fragment answers but not sluicing: the obligatoriness of ellipsis and island effects. I will discuss each of these differences in this section, and how these properties are explained under Merchant's (2004) analysis of fragment answers.

3.5.1. Two differences

3.5.1.1. Obligatory ellipsis

The first difference between sluicing and the other two fragment constructions lies in the obligatoriness of ellipsis. A sluicing sentence such as (75a) has a non-elliptical counterpart as shown in (75b). This indicates that the deletion of IP illustrated in (75a) may or may not happen. In this sense, the IP-deletion is optional when wh-movement occurs in this example.

(75) a. John likes someone, but I don't know [$_{CP}$ who$_1$ [$_{IP}$ ~~John likes t$_1$~~]].

  b. John likes someone, but I don't know **who John likes**.

On the other hand, the fronting of a constituent in fragment answers and stripping is observed only in these elliptical constructions. Under the deletion analysis, the fragment answer in (76a) and the stripping in (77a) have elided IP-structures. However, these elided IPs cannot be overtly realized as the unacceptability of (76b)

and (77b) show.[14] In these constructions, the deletion of IP is obligatory, unlike in sluicing.

(76) a.   A: Who does John like?   B: [FP Mary₁ [IP John likes t₁]].

   b.   A: Who does John like?   B: ***Mary John likes.**

(77) a.   John ate an apple, but [CP not [FP an orange₁ [IP John ate t₁]]].

   b.   *John ate an apple, but **not an orange John ate.**

The fact that both fragment answers and stripping require ellipsis further corroborates the assumption that the same type of movement (focus movement to [Spec, FP]) is relevant in both constructions.

3.5.1.2.   Island effects

We have observed in Chapter 2 that sluicing of an argument that has an overt correlate shows island-repair phenomena, as exemplified in (78).

(78) John wants to hire [CNP someone [who speaks *a Balkan language*]],

   but I don't know *which*. (Merchant 2004: 705)

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[14] There are environments where a focused phrase can be fronted in English.

(i)   I made a lot of sweetbreads. A COUPLE of POUNDS I think I made for her.
      (Ward 1988)

Such a fronted phrase, however, cannot be an answer to a wh-question as (76b) shows. This indicates that at least the kind of focus movement involved in the derivation of fragment answers is possible only under ellipsis.

Merchant (2004) shows that, unlike sluicing, fragment answers are island-sensitive as shown in (79). He assumes that the denial of part of the previous utterance such as (79B) is also a type of fragment answer. When the fragment *Charlie* in this example takes the NP *Ben* inside an island as a correlate, it is unacceptable as shown in (79B), whose intended reading is what is shown in (79B').

(79) A: Does Abby speak [CNP the same Balkan language [that *Ben* speaks]]?

    B: *No, *Charlie*.

    B': No, she speaks the same Balkan language that *Charlie* speaks.

    (Merchant 2004: 688)

Stripping is also island-sensitive, as we have already seen in (9), Section 3.2.1.2. Another example of stripping out of an island, which is parallel to the fragment answer example in (79), is shown in (80). The stripping in (80a), which is intended to have the same reading as (80b), is impossible.

(80) a.   *Abby speaks [CNP the same Balkan language [that *Ben* speaks]],

          but not *Charlie*.

    b.   Abby speaks the same Balkan language that Ben speaks,

         but Abby doesn't speak the same Balkan language that Charlie speaks.

In this respect, too, stripping behaves in the same way as fragment answers, but not

sluicing.

3.5.2.   Merchant's (2004) account of the differences

3.5.2.1.   Obligatory ellipsis

Merchant (2004: 675) argues that the deletion of the IP in fragment answers such as (81a) is induced by an ellipsis feature on F, as illustrated in (81b). The feature [E] on the F head causes non-pronounciation of its complement at PF.

(81) a.   A: Who does John like?   B: Mary.

b.

```
                        FP
                ┌────────┴────────┐
              DP                   F'
               │            ┌──────┴──────┐
            Mary₁         F[E]           IP
               ▲                      ┌───┴───┐
               │                    John likes t₁
               └──────────────────────┘
```
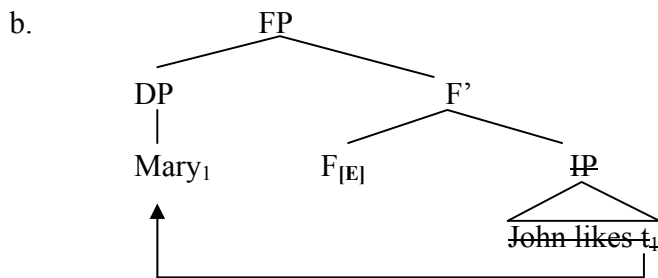
In order to account for the asymmetry between sluicing on one hand and fragment answers (and stripping) on the other, Merchant will have to assume that E-feature on F is obligatory, while E-feature on C is optional. The choice between the two sentences in (75) depends on whether the C comes with an E-feature, as shown in (82). In the case of fragment answers in (76a) and stripping in (77a), on the other hand, the head F always has E-feature. Thus the ellipsis is obligatory as shown in (83a) and (84a), and the non-elliptical counterparts in (83b) and (84b) are not available.

(82) a. I don't know [$_{CP}$ who$_1$ **C$_{[E]}$** [$_{IP}$ ~~John likes t$_1$~~]].

  b. I don't know [$_{CP}$ who$_1$ **C** [$_{IP}$ John likes t$_1$]].

(83) a. A: Who does John like? B: [$_{FP}$ Mary **F$_{[E]}$** [$_{IP}$ ~~John likes~~]].

  b. A: Who does John like? B: *[$_{FP}$ Mary **F** [$_{IP}$ John likes]].

(84) a. John ate an apple, but [$_{CP}$ not [$_{FP}$ an orange$_1$ **F$_{[E]}$** [$_{IP}$ ~~John ate t$_1$~~]]].

  b. *John ate an apple, but [$_{CP}$ not [$_{FP}$ an orange$_1$ **F** [$_{IP}$ John ate t$_1$]]].

However, a problem with this account is that such a distinction between C and F is ad hoc and is not derived by a further reasoning.

3.5.2.2. Island effects

Merchant (2004) accounts for the fact that fragment answers are island sensitive while sluicing is not in terms of the difference in the length of movement in these two constructions. First, consider how island violations are repaired by PF-deletion under his analysis of sluicing. He claims that the sluicing in (85a) has the structure in (85b). Following Fox (1999), he assumes that wh-movement targets every maximal projection (the assumption also employed in Fox and Lasnik (2003), which we adopted in Chapter 2), and further assumes that every intermediate trace gets a *-feature when it crosses an island. As a result, the vP-adjoined intermediate trace and the IP-adjoined intermediate trace in (85b) are marked with a *.

(85) a. John wants to hire [CNP someone [who speaks *a Balkan language*]], but I don't know *which*. (= (78), Merchant 2004: 705)

    b. [CP **which₁** C [IP ***t"₁** [IP John [vP ***t'₁** [vP want to hire [someone who speaks **t₁**]]]]]]

    c. [CP **which₁** C [IP ~~***t"₁**~~ [IP ~~John~~ [vP ~~***t'₁**~~ [vP ~~want to hire [someone who speaks~~ ~~**t₁**]~~]]]]]

Under sluicing, however, the whole IP undergoes PF-deletion. Both of the *-marked, offending traces are deleted at PF, as shown in (85c), and the resulting structure is acceptable.

In fragment answers, on the other hand, the remnant phrase moves to the Spec position of FP, which he claims to be projected higher than CP. In this configuration, the remnant leaves one more trace than in the case of sluicing; as illustrated in (86b), another intermediate trace (t"') is left in CP projection, in addition to the ones in vP and IP.

(86) a.   A: Does Abby speak [CNP the same Balkan language [that *Ben* speaks]]?

        B: *No, *Charlie*. (= (79a))

    b. [FP **Charlie₁** F [CP ***t"'₁** C [IP ***t"₁** [IP Abby [vP ***t'₁** [vP speaks [the same language that **t₁** speaks]]]]]]]]

    c. [FP **Charlie₁** F [CP ***t"'₁** C [IP ~~***t"₁**~~ [IP ~~Abby~~ [vP ~~***t'₁**~~ [vP ~~speaks [the same language that **t₁** speaks]~~]]]]]]]

Merchant argues that, when the IP is deleted at PF as shown in (86c), this topmost intermediate trace fails to be deleted because it is outside of the deletion site. The clausal deletion does not save all of the violation in this case. Thus, he attributes the difference between the two types of elliptical constructions to the size of movement, rather than the quality of movement.

To accommodate the assumption that there is an intervening projection CP between FP and the ellipsis site (IP), he modifies his previous assumption that F has an E-feature and claim that C has an elliptical feature instead (Merchant 2004: 707). Under his new assumption, an E-feature has a specification of [uC^*, uF], which means E occurs on C and check the uninterpretable feature on F via Agree. This is to encode that C has an obligatory E-feature *only when* there is a FP above the CP as in fragment answers. As discussed above, however, why the E-feature is *optional* when there is no FP as shown in the wh-movement examples in (82) remains unclear under this new assumption.

Another concern arises as to why the violation (*-marking on traces) only occurs in intermediate traces. In (85b), for example, the first step of the movement crosses an island. Thus one could imagine that some violation is marked on the original trace of this step (*t*) or the resulting trace of this step (*t'*), or on the entire chain (all of the traces). On his analysis, however, the violation is marked on all of the traces after the violating step, except for the head of the chain (that is, *t'*, and *t''*, but not the topmost copy of *which*). Why only every *intermediate* trace gets a * is rather stipulative.

Note that this type of violation on intermediate traces in his analysis cannot be subsumed under Fox and Lasnik's (2003) ban on intermediate traces under sluicing,

which is reviewed in Chapter 2. Fox and Lasnik claim that all the intermediate traces are problematic under elliptical constructions such as sluicing, because intermediate traces violate the parallelism between the antecedent and the elided clause. Let us discuss the analysis of Fox and Lasnik once more.

Under their analysis, the island-repair under sluicing (87a) and the lack of island-repair under VP-ellipsis (e.g. (88a)) are explained in the following way. In both types of ellipsis, the wh-movement undergoes one-fell-swoop movement; existence of intermediate traces in syntax would introduce extra λ-abstraction in semantics, and cause a violation of the scopal parallelism between the elided clause and the antecedent clause. Thus, the elided structures of sluicing and VP-ellipsis have the structures in (87b) and (88b), respectively.

(87) a. They want to hire someone who speaks a Balkan language,

but I don't know which.

b. I don't know [CP which₁ [IP they [AspP [VP want to hire [someone who speaks

t₁]]]]]

(88) a. *They want to hire someone who speaks a Balkan language, but I don't

know which they do.

b. *I don't know [CP which₁ [IP they [AspP do [VP want to hire [someone who

speaks t₁]]]]]

In the case of IP-deletion ((87b)), every intermediate projection below CP is deleted and thus the violation caused by the otherwise illicit long-distance movement is saved.

On the other hand, two maximal projections (IP and AspP) remain undeleted in the case of VP-deletion ((88b)). Since you do not have an intermediate traces in these undeleted projections, locality violations remain. The asymmetry between sluicing and VP-deletion is thus explained in terms of the size of deletion in a similar way to Merchant's (2004) analysis.

One crucial prediction of this analysis, however, is that VP-deletion cannot save the locality violations of any kind. If you force one-fell-swoop movement under ellipsis, even long-distance extraction out of a complement clause causes a locality violation (as we have seen in Chapter 2, Section 2.6.2.2.) that is unrepairable by VP-deletion. This prediction is borne out in (89a).

(89) a.   *I know that John said that Mary read a certain book, but I don't know

which one he did. (Fox and Lasnik 2003:151)

b.   I don't know [$_{CP}$ which one$_1$ [$_{IP}$ he [$_{AspP}$ did [$_{VP}$ say [$_{CP}$ that Mary read t$_1$]]]]]

(89a) has the structure in (89b). Due to the unavailability of successive cyclic movement, again, the unelided projections above VP cause locality violations.

Unlike extraction out of VP-ellipsis such as (89), however, Merchant (2004) shows that fragment answers are not clause-bounded, as we have seen in (90).

(90) A: Does Abby claim that she speaks *Greek* fluently? (Merchant 2004: 688)

B: No, Albanian.

(*meaning*: "No, Abby claims that she speaks Albanian fluently.")

In analogy to his analysis in (86), this sentence should have the following structure. To account for the acceptability of (90), the intermediate trace in CP cannot be an offending trace.

(91) [FP **Albanian₁** F [CP **t''''₁** C [IP t'''₁ [IP Abby [vP t''₁ [vP claims [CP that t'₁ she speaks t₁ fluently]]]]]]]

In sum, unlike in Fox and Lasnik (2003), Merchant (2004) should not prohibit intermediate traces in general. He must assume that only the intermediate traces of island-violating movement gets a *. As noted above, this assumption is not well motivated.

3.5.3.   Uniting the two differences: the PF category movement analysis

Given the above problems, I suggest an alternative analysis of island repair. We have seen that sluicing on the one hand and fragment answers and stripping on the other have two differences: (i) the difference in the obligatoriness of ellipsis and (ii) the difference in island repairability. In the analysis I propose below, I try to tie these two properties. Movement such as English wh-movement is overt with or without ellipsis; such movement allows island repair. On the other hand, English focus movement is usually covert and it becomes overt only under elliptical environments (e.g. fragment answers and stripping); this type of movement does not allow island

repair. In this way, I will attribute the difference in island repairability to the qualitative difference between two types of movement, but not to the quantitative difference as is proposed by Merchant (2004).

3.5.3.1.   Strong vs weak features and ellipsis

Under Chomsky's (1995) feature-based system, overt movement is triggered by a strong feature, while covert movement is caused by a weak feature. In the case of English wh-movement, he assumes that the interrogative C head has a strong wh-feature as illustrated in (92a) and it "attracts" a wh-phrase to its Spec position to delete this strong feature in overt syntax. As a result, the overt movement in (92b) obtains. Under his (1993, 1995) Copy Theory of Movement, a duplicated "copy" of a moved element is merged in the destination and the original copy is left unpronounced in the case of the overt movement.

(92) a.   [$_{CP}$ C$_{wh[Strong]}$ [$_{IP}$ … Wh …]]

 b.   [$_{CP}$ Wh C$_{wh[Strong]}$ [$_{IP}$ … ~~Wh~~ …]]

In the case of covert movement, on the other hand, the relevant head has a weak feature. In Chomsky's (1993, 1995) system, a weak feature is checked at LF rather than overt syntax. He argues that copying the phrasal category (e.g. (92b)) is necessary in movement in overt syntax for phonological reasons, while LF movement can only move formal features of the attracted phrase, leaving the phonological

category in the original position. He argues that the latter is a more economical option, so weak feature movement does not happen at overt syntax (this is called 'Procrastination'). As a result, a weak feature attracts only the formal features [FF] of a phrase at LF.

I will assume that this is the case for English focus movement, which is usually covert. Suppose that the focus head F in (93a) has a weak feature. A weak feature does not require checking in overt syntax by moving categorical features, so only formal features move at LF, as shown in (93b). Because the phonological category of XP does not move, the focused phrase XP is pronounced in the original position at PF.

(93) a. [$_{FP}$ F $_{[weak]}$ [$_{IP}$ … XP$_{[FOC]}$ …]]

   b. [$_{FP}$ FF$_{XP}$ F $_{[weak]}$ [$_{IP}$ … XP$_{[FOC]}$ …]]

Here, I will further assume that in the case of fragment answers and stripping, too, the focus head has the same weak feature as the non-elliptical case in (93). If you argue that the head F has a strong feature *only when* ellipsis follows, such a distinction between a strong F and a weak F would be too arbitrary. Instead, I claim that categorical movement of XP can only happen as a 'last resort'. The head F only has a weak feature, it does not attract a category. However, suppose that a focused element XP undergoes formal feature movement at LF in (94), and not overt categorical movement. When there is clausal ellipsis at PF, the phonological category of XP cannot be pronounced in its original position. In fact, it cannot be pronounced anywhere.

(94) *[FP FF~~XP~~   F [weak]   [~~IP~~ ... ~~XP~~[~~FOC~~] ...]]
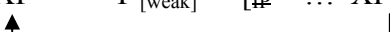
I claim that such deletion violates a recoverability condition. As is obvious from the simple example in (95), the focused element in a fragment answer is new information. The phrase *Mary* is not given in the antecedent clause. If you delete the whole categorical information of *Mary* altogether, it cannot be recovered.

(95) A: Who does John like?   B: [FP Mary ~~[IP John likes t]~~]

I argue that, only in such a case, the category movement of the focused phrase is allowed as a last resort *at PF*, as shown in (96). Even though the focus head F does not have a strong feature, the category of XP is copied onto its formal feature position only to satisfy the recoverability condition.

(96) [FP   XP   F [weak]   [~~IP~~ ... ~~XP~~[~~FOC~~] ...]]

Given the above distinction between strong and weak features and the difference between wh-movement and focus movement with respect to islands, the following generalization obtains.

(97) Generalization:

    a.   When a movement is caused by a strong feature, island violations caused by that movement are repairable by PF-deletion (e.g. wh-movement in sluicing).

    b.   When a movement is caused by a weak feature, island violations caused by that movement are not repairable (e.g. focus movement in fragment answers and stripping).

The next subsection tries to account for this generalization.

3.5.3.2.   Island non-repair in PF categorical movement

The range of facts we need to account for on the locality of sluicing, fragment answers and stripping are recapitulated in the following.

(98) *Sluicing is island insensitive and not clause-bounded*

    a.   John wants to hire [CNP someone [who speaks *a Balkan language*]], but I don't know *which*. (= (78), Merchant 2004: 705)

    b.   Fred said that I talked to a certain girl, but I don't know *which girl*. (Fox and Lasnik 2003: 149; See Chapter 2, Section 2.6.2.2.)

(99) *Fragment answers are island sensitive and not clause-bounded*

    a.   A: Does Abby speak [CNP the same Balkan language [that *Ben* speaks]]?

            B: *No, *Charlie*. (= (79a))

b. A: Does Abby claim that she speaks *Greek* fluently?

B: No, Albanian. (= (90))

(100) *Stripping is island sensitive and not clause-bounded*

a. *[The fact that some politician has resigned] got much publicity, but not the defense minister. (= (9a))

b. Lucie will admit that she stole the diamonds if you press her, but not the car. (= (11))
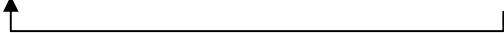
Wh-movement in sluicing is island insensitive and unbounded. On the other hand, fragment answers and stripping are not clause-bounded but island sensitive.

Recall also from Chapter 2, Section 2.6.2.2. that according to Fox and Lasnik (2003), the wh-movement in sluicing such as (98) is not successive-cyclic. The wh-movement of the sluiced phrase (i.e. which girl in (98)) must be scopally parallel to the binding of the indefinite phrase (i.e. *a certain girl* in (98)). Because the latter binding relationship does not involve any intermediate steps as shown in (101a), the corresponding wh-movement must not have an intermediate trace, as shown in (101b).

(101) a. $\exists$ **f**λ**f'**[Fred said that I talked to **f'(girl)**]

b. **which g girl** λ**g'**[Fred said that I talked to **g'(girl)**]

To satisfy this semantic parallelism, Fox and Lasnik conclude that the syntactic derivation of sluicing must have been one-fell-swoop movement, as illustrated in (102). The locality violation yielded by such long-distance movement is left as a

illegitimate uninterpretable feature *on the trace.

(102)   Fred said that I talked to a certain girl,

but I don't know [CP **which girl₁** [IP Fred said [CP that I talked to *t₁]]].

An important implication on wh-movement under this analysis is that long distance wh-movement in overt syntax is in principle possible. The illegitimate feature * caused by long-distance wh-movement is filtered out at PF, unless there is a PF-deletion operation that delete the *.

I make two extra assumptions here on the status of PF-deletion. First, PF gets an order to delete the IP-structure at the point of spell-out. (I am agnostic about whether this order is derived by an optional E-feature or not.) Second, spell-out strips away uninterpretable features inside the ellipsis site, which does not need to be interpreted at PF anyway due to the deletion. (103a) illustrates the derivation of (102) at the point of spell-out. The IP is activated for deletion at the spell-out, and the * is exempted at this point. In the course of PF-derivation, the actual PF-deletion operation applies as shown in (103b). As a result, the IP is not pronounced at the spell-out/

(103)   a.   but I don't know [CP **which girl₁** [IP Fred said [CP that I talked to t₁]]].

b.   but I don't know [CP **which girl₁** [IP Fred said [CP that I talked to t₁]]].

In other words, I distinguish between two steps of deletion. First, you calculate what is to be deleted and activate it for deletion (e.g. (103a)), which happens at spell-out.

Second, you actually erase what was activated for deletion (e.g. (103b)), which happens at PF. I hypothesize that it is at the first step of deletion where the illegitimate * gets stripped away. This is crucial for the analysis of the fragment answers (and stripping) below.

Now let us turn to the derivation of fragment answers (and stripping). I have claimed that these constructions are derived via focus movement that is caused by a weak feature on F. The fragment answer in (99) is derived as follows. The head F bears a weak feature, so it does not induce any overt categorical movement before spell-out. On the LF side of the derivation, it attracts the formal features on the focused phrase *Albanian*, as shown in (104).

(104)　　A:　Does Abby claim that she speaks *Greek* fluently?

　　　　　B:　No, [FP **FF**_{**Albanian**} **F**_{**[weak]**} [IP Abby claim [CP that she speaks **Albanian₁** fluently]]].

If there is no deletion operation applied on the PF side of the derivation, the full-fledged answer in (105) instead of a fragment answer is yielded, where the focused phrase is pronounced in situ.

(105)　　B:　No, Abby claim that she speaks ALBANIAN fluently.
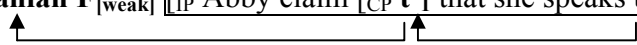
If there is deletion at PF, the situation changes. At the point of spell-out, the IP gets activated for deletion, as shown in (106). No violation is 'ameliorated' at this

point because no illegitimate * was created in overt syntax.

(106)   [FP   F$_{[weak]}$ [IP Abby claim [CP that she speaks **Albanian$_1$** fluently]]].

However, as I have proposed in (96), deleting the IP-structure in (106) as it is causes a recoverability condition violation. The activation for deletion at spell-out is the point when the derivation realizes that you are trying to delete unrecoverable material (i.e. the focused phrase, which is not present in the previous sentence).

   Then, the derivation tries to move the focused phrase (*Albanian*) out of the activated IP as a last resort, in order to satisfy the recoverability condition. However, this last resort movement of the category is not induced by a strong feature. Unlike the strong feature movement in (102), there is no head to attract a phrase from any distance. As a result, I speculate that this last resort movement at PF must proceed successive cyclically, as shown in (107a), presumably motivated by an edge feature of each phase. [15] Finally, the IP-deletion is actually executed as shown in (107b), yielding the fragment answer in (108).

(107)   a   [FP **Albanian F$_{[weak]}$** [IP Abby claim [CP **t'$_1$** that she speaks **t$_1$** fluently]]].
         b.   [FP **Albanian F$_{[weak]}$** [IP Abby claim [CP t'$_1$ that she speaks t$_1$ fluently]]]
(108)   B: No, Albanian.

Note that this successive cyclic movement is PF-movement, so it does not affect the

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[15] This proposal is similar in essence to Ochi's (1999) theory.

λ-calculation in semantics. No parallelism violations in the sense of Fox and Lasnik (2003) are supposed to occur due to the intermediate steps.

Finally, let us consider the case where fragment answers/stripping involves an island (e.g. (109)).

(109) A: Does Abby speak [CNP the same Balkan language [that *Ben* speaks]]?

B: *No, *Charlie*.

(110a) illustrates the derivation at the spell-out point. The IP is activated for deletion, which is parallel to the non-island example (106). Due to the recoverability condition, you try to move out the focused material *Charlie*, in the same way as (107a). Here, I assume that PF movement obeys the same locality constraints as overt movement; this movement causes an island-violation, as shown in (110b). Crucially, PF-movement is past the point of spell-out, and * created at this point cannot get stripped away via spell-out. As a result, the illegitimate structure remains after the deletion/erasure of the IP, as shown in (110c).

(110) a. [FP   **F[weak]** [IP Abby speak [CNP the same Balkan language that **Charlie₁** speaks]]].

b. [FP **Charlie₁ F[weak]** [IP Abby speak [CNP the same Balkan language that ***t₁** speaks]]].

c. [FP **Charlie₁ F[weak]** [IP ~~Abby speak~~ [CNP ~~the same Balkan language that~~

~~*t₁ speaks~~]]].

In sum, the difference between sluicing and fragment answers/stripping with respect to the repairability of island violations lies in the difference in timing of movement. In the former, the category movement happens before spell-out, due to the strong feature on C. In the latter, the category movement happens after spell-out as a last resort, due to the recoverability condition. The latter is past the timing when you can get the * off. In this way, I reduce the difference in violation-repairability to the difference in feature-strength.

3.5.3.3. Summary and potential problems

In summary, the analysis displayed above attributes the two differences between wh-movement in sluicing and focus movement in fragment answers/stripping to one difference in strong/weak features. Movement caused by a strong feature can occur long-distance at overt syntax, and the representational violation caused by the long-distance movement is repaired on condition of PF-ellipsis, but at the point of spell-out. Movement caused by a weak feature can only move a category at PF as a last resort only when the IP is activated for deletion. This movement, due to the lack of motivation for long-distance movement, obeys successive cyclicity, and the locality violations caused by such movement are too late to repair because it is after spell-out. Thus only the latter causes an unrepairable island violation.

(111) summarizes the key assumptions employed in the above analysis. At first sight, some aspects of this analysis might seem stipulative.

(111)   a.   Overt movement is caused by a strong feature, and covert movement is caused by a weak feature.

          b.   A strong feature moves a category in overt syntax; a weak feature moves formal features at LF, which is more economical.

          c.   A strong feature can attract a category via long-distance movement.

          d.   When the deletion operation is about to be executed in violation of recoverability condition, a last-resort category movement can occur at PF even in a weak feature movement.

          e.   PF-deletion can be executed via two steps: activation at spell-out and deletion at PF.

          f.   Illegitimate uninterpretable feature * inside an ellipsis site is stripped away at spell-out.

(111a) is a stipulation, but it is a necessary stipulation to account for any differences between overt and covert movement. There is a solid empirical basis to distinguish these two, so as long as movement is caused by features, giving them different types of features is necessary. (111b) is based on Chomsky's argument on procrastinate and is well-motivated as long as his argument is on the right track. (111c) is a natural consequence of Fox and Lasnik's (2003) analysis of sluicing, as we have seen above. (111d) is speculative, but this speculation is motivated by the recoverability condition

of deletion. The observation that focus movement is overt only when ellipsis follows is accounted for if such movement is a last-resort option under ellipsis. Moreover, the claim that the last resort movement should wait until PF is compatible with the assumption in (111b) that moving formal features is more economical and an unnecessary category movement should be procrastinated (Chomsky 1993, 1995).[16]

Given these considerations, (111e-f) are the only stipulations that my analysis needs to make. By assuming these, the difference in feature-strength and the difference with respect to island amelioration are united and the cross-constructional study becomes simpler.

Other than reducing the two differences between two types of movement to one difference, this analysis has another advantage: it does not require a cross-component 'look ahead'. To account for the mere fact that "focus movement becomes overt when there is ellipsis," you could argue that overt focus movement happens (e.g. (112a)) only when there is ellipsis at PF (e.g. (112b)).

(112)   A: Does Abby claim that she speaks *Greek* fluently?

   a.   B: No, [$_{FP}$ **Albanian$_1$ F** [$_{IP}$ Abby claim [$_{CP}$ that she speaks **t$_1$**

         fluently]]]. (overt syntax)

   b.   B: No, [$_{FP}$ **Albanian$_1$ F** ~~[$_{IP}$ Abby claim [$_{CP}$ that she speaks t$_1$~~

         ~~fluently]]~~]. (PF)

However, such an account would require a 'look ahead' in the syntax component. You

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[16] Nevertheless, if last resort categorical movement *does* happen at PF in my system, both formal features and categorical features eventually move. Even if Procrastinate tries to choose an economical option in overt syntax, in the end, it may not result in moving 'less stuff'.

need to foresee if the deletion in PF (e.g. (112b)) happens or not and then decide whether to have an overt movement in (112a) or not. Such an account needs a mechanism in which syntax can see the later component (i.e. PF) and thus requires an additional complication. Merchant (2004), as we have seen in Section 3.5.2.1., posits an ellipsis feature [E] on the category so that overt syntax knows what will be deleted at PF. In his system, however, what heads can or cannot have an [E] is arbitrary.

In my system, PF ellipsis happens irrelevant of the syntactic status. Deletion can occur equally in the cases of strong feature movement (e.g. (102)) and weak feature movement (e.g. (107)) so the distinction between heads with respect to the E feature availability is not necessary. Also, the elided material gets activated for deletion only at the point of spell-out (as illustrated in (107a), so syntax does not need to look ahead to the PF component. Local look-ahead is required, however; the activated material in (107a) at spell-out foretells the existence of PF-deletion before it is actually executed, so that a phrase inside can still undergo a last resort movement out of it. Such a local look-ahead occurs within the PF-component. Although such a dual execution of deletion potentially complicates the computation, it does not require a special mechanism to enable communication between components.

3.6. Conclusion of Chapter 3

This chapter discussed properties of stripping and compared it with other fragment constructions in English. I have supported Depiante's (2000) analysis where stripping is derived via ellipsis in a way similar to sluicing (Merchant 2001) and

fragment answers (Merchant 2004). Sluicing is derived by wh-movement and IP-deletion, while fragment answers and stripping are derived by focus movement and IP-deletion.

Despite the similarities, however, sluicing and the other two constructions behave differently: (i) overt wh-movement in sluicing is allowed when there is no ellipsis, while focus movement in fragment answers and stripping is only overt in the fragment constructions, and (ii) island repair phenomenon is only observed in sluicing. I reviewed Merchant's (2004) account of (i) based on ellipsis features and his account of (ii) based on the difference in the size of movement (focus movement is longer than wh-movement), and pointed out difficulties with them.

Instead, I gave the following generalization and proposed that both (i) and (ii) are derived from the difference in the feature strength triggering the movement.

(113)   Generalization:

    a.   When a movement is caused by a strong feature, island violations caused by that movement are repairable by PF-deletion (e.g. wh-movement in sluicing).

    b.   When a movement is caused by a weak feature, island violations caused by that movement are not repairable (e.g. focus movement in fragment answers and stripping).

Under this analysis, overt focus movement in fragment answers and stripping actually does not involve an overt category movement, unlike the case of wh-movement in

sluicing. They are a result of the 'last resort' category movement at PF, combined with a usual formal feature movement caused by the weak feature. Speculating that the island violations are repaired in an environment of PF-deletion *but at the point of spell-out*, the (un)availability of island repair is reduced to the timing of movement. This way, the analysis suggests a way to account for the variations across different elliptical constructions.

Chapter 4: Japanese sluicing and island non-repair

Chapter 3 proposed the generalization that movement caused by a strong feature allows island repair by PF-deletion while movement caused by a weak feature does not, based on the data of English sluicing and stripping. This chapter considers island repair phenomena in Japanese sluicing and extends the generalization to the Japanese sluicing data.

Japanese is a wh-in-situ language and it does not have obligatory wh-movement. As shown by Hoji (1990), Japanese (Case-marked) sluicing is island-sensitive and lacks island repair phenomena. Following the analysis of Hiraiwa and Ishihara (2002), I argue that sluicing in Japanese involves movement to FP, just like English stripping and unlike English wh-movement. Under this analysis, it is natural that Japanese sluicing behaves in the same way as English stripping with respect to lack of island repair: they both involve last-resort movement caused by a weak feature, not obligatory wh-movement caused by a strong feature.

4.1. Japanese sluicing: introduction

Inoue (1976) notes that Japanese has a construction that is similar to English sluicing, as exemplified in (1a). I will refer to it as (Japanese) sluicing, without assuming that its structure is analogous to its English counterpart. In this example, the wh-phrase *nani-o* 'what-Acc' shows up in front of the interrogative complementizer

ka, and this incomplete embedded clause is interpreted in the same way as the usual interrogative embedded clause in (1b).[1]

(1) a. Mary-ga   nanika-o   kat-ta   ga,

        Mary-Nom   something-Acc   buy-Past but

        boku-wa [**nani-o**   ka] wakara-nai.

        I-Top   **what-Acc**   Q   know-not

        "Mary bought something, but I don't know what."

    b. …, boku-wa [Mary-ga   **nani-o**   kat-ta   ka] wakara-nai.

          I-Top   Mary-Nom   **what-Acc**   buy-Past Q   know-not

        "… I don't know what Mary bought."

Based on some similarities between Japanese and English sluicing constructions (discussed below in Section 4.2.), Takahashi (1993, 1994b) argues that Japanese sluicing involves overt wh-movement followed by IP-deletion in the same way as the deletion analysis of English sluicing (which is originated in Ross 1969), as illustrated in (2).

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[1] I argued in Chapter 2 that the fragmental wh-phrase in English sluicing (e.g. *who* in (i)), although apparently a DP, has an underlying clausal structure, using Ross' (1969) various diagnostics.

(i)   Mary bought something, but I don't know **who**.

The clausal status of Japanese sluicing seems to be clearer than the English sluicing case because of the existence of the interrogative complementizer *ka*. Because of this, I will call the sequene "wh + *ka*" as an "incomplete embedded clause" rather than a fragment wh-phrase.

(2) …, boku-wa [CP **nani-o₁** ~~[IP Mary-ga t₁ kat-ta]~~ ka] wakara-nai.

I-Top **what-Acc** Mary-Nom buy-Past Q know-not

Despite the similarities, however, Japanese sluicing behaves differently from English sluicing in some respects. First, an optional copula can be included in the incomplete embedded clause of sluicing, as shown in (3).

(3) Mary-ga nanika-o kat-ta ga,

Mary-Nom something-Acc buy-Past but

boku-wa [nani-o **(da)** ka] wakara-nai.

I-Top what-Acc **be** Q know-not

"Mary bought something, but I don't know what."

Second, a Nominative pronoun *sore-ga* 'it-Nom' can optionally show up as an apparent subject of the incomplete embedded clause, with or without the copula, as shown in (4a). Nakao and Yoshida (2005) call sluicing with this pronominal subject 'pronominal sluicing'. This is apparently similar to so-called pseudo-sluicing in (4b), which involves a pronominal *it* inside an embedded question.[2]

(4) a. … boku-wa [**(sore-ga)** nani-o (da) ka] wakara-nai.

I-Top **it-Nom** what-Acc be Q know-not

b. Mary bought something, but I don't know what **it is**."

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[2] See Merchant (2001: Section 4.2.) for an argument that English sluicing is not derived from pseudo-sluicing.

Third, Japanese sluicing does not necessarily show Case-connectivity. That is, the Case-marker on the sluiced wh-phrase can be optionally dropped, as shown in (5).[3, 4]

(5) … boku-wa [(sore-ga)   nani**(-o)**   (da) ka] wakara-nai.

      I-Top   it-Nom   what**-Acc**   be Q   know-not

I will refer to sluicing with and without a Case-marker as 'Case-marked (CM) sluicing' and 'Non-Case-marker (non-CM) sluicing', respectively.[5]

Finally, and most importantly for our purpose, Japanese CM sluicing is island-sensitive (Takahashi 1994b), unlike English sluicing, as shown in (6).[6] In other words, the island-repair phenomena that are observed in English sluicing are not observed in

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[3] There is some variability in the acceptability of various type of CM sluicing. I personally accept any of these bracketing combinations illustrated in (5). Some authors, however, do not like CM sluicing with Nominative or Accusative Case, as will be noted in Footnote 10. Also, Hiraiwa and Ishihara (2002) argue that pronominal sluicing cannot be CM sluicing. (See also footnote 13.)

[4] Japanese independently allows optional Nominative/Accusative Case-drop in a colloquial speech, as shown in (i).

(i) John(-ga)   ringo(-o)   tabe-ta.
    John-Nom   apple-Acc   eat-Past
    "John ate an apple."

Case-marker drop in sluicing such as (5), on the other hand, is not restricted to colloquial registers.

[5] This naming distinction is analogous to Hoji's (1990) distinction between CM/non-CM clefts and CM/non-CM stripping.

[6] Takahashi (1994b) acknowledges Ross' (1969) original judgment under which English sluicing out of an island is still marginally degraded (See Chapter 2, Section 2.2.2.3). Thus, the island sensitivity of Japanese sluicing is not a difference but a similarity between sluicing in the two languages. However, based on the judgment by Merchant (2001) and many others, I will treat English sluicing as island-insensitive, as was assumed in Chapter 2.

Japanese CM sluicing.[7]

(6) John-wa   [[otooto-ni   *nanika-o*   okutteki-ta]   hito]-o

John-Top   brother-Dat *something-Acc*   send-Past   person-Acc

syootaisi-ta   rasii   ga, boku-wa [**nani(*-o)**   (da) ka] sira-nai

invite-Past   seem   but I-Top   **what-Acc**   be Q   know-not

"John invited [a person who sent something to his brother], but I don't know

what."   (Hiraiwa and Ishihara 2002: 40)

In the following sections, I will introduce three alternative analyses of Japanese

sluicing, and argue for Hiraiwa and Ishihara's (2002) analysis where Japanese

sluicing is derived by focus movement. I will claim that such focus movement is

derived by the same weak feature as discussed for English stripping in Chapter 3.

This way I will try to accommodate the island sensitivity of Japanese sluicing under

the generalization proposed in Chapter 3, Section 3.5.3.1., which is repeated in (7).

(7) Generalization:

a.   When a movement is caused by a strong feature, island violations caused by

that movement are repairable by PF-deletion (e.g. wh-movement in

sluicing).

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[7] Japanese non-CM sluicing, on the other hand, is island-insensitive (Takahashi 1994b: 294). I will return to the differences in Section 4.3.1.4.

b. When a movement is caused by a weak feature, island violations caused by that movement are not repairable (e.g. focus movement in fragment answers and stripping).

In the following, I will review three lines of previous analyses of Japanese sluicing: the wh-movement analysis in Takahashi (1993, 1994b), the cleft-based analysis claimed by Nishiyama, Whitman and Yi (1996), Kizu (1997), Kuwabara (1996, 1997), and Merchant (1998), and the focus movement analysis by Hiraiwa and Ishihara (2002).

4.2. The wh-movement analysis

4.2.1. Evidence for deletion in Japanese sluicing

4.2.1.1. Non-linguistic antecedents

Takahashi (1994b) points out that Japanese sluicing exhibits a number of properties of deletion, in the same way as English sluicing. First, Japanese sluicing does not allow licensing by a non-linguistic antecedent, as shown in (8).

(8) a. A: Celtics-no   sukauto-ga   dareka-o   sagasi-tei-ru   mitaida.
       Celtics-Gen   scout-Nom   someone-Acc look-for-Prog-Pres seems
       "It seems that the scout from the Celtics is looking for someone."

B: Boku-wa dare-o   ka   wakara-nai.

I-Top   who-Acc Q   know-not

"I don't know who."

b. [Context: The Huskies are practicing in the Gampel Pavilion. They see the
scout from the Celtics hanging around there.]

B: #Boku-wa   dare-o   ka   wakara-nai.   (Takahashi 1994b: 267)

I-Top   who-Acc Q   know-not

As we have seen in Chapter 2, Section 2.3.1.1., English embedded sluicing also requires a linguistic antecedent, as shown in the unavailability of (9b) in contrast to (9a) (Hankamer and Sag 1976, van Riemsdijk 1978).[8]

(9) a. Hankamer: Someone's just been shot.

Sag: Yeah, I wonder who.

b. [Hankamer produces a gun, points it offstage and fires, whereupon a scream
is heard]

Sag: #Jesus, I wonder who.   (Hankamer and Sag 1976: 408)

Hankamer and Sag (1976) claim that Surface Anaphora, which requires a linguistic antecedent, is derived by deletion. Base-generated anaphora that does not involve deletion allows non-linguistic control, which is called Deep Anaphora. According to this classification, the unavailability of a non-linguistic antecedent in sluicing is a

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[8] As was discussed in Chapter 2, Section 2.3.1.1., matrix sluicing behaves differently in this respect and allows a non-linguistic antecedent (van Riemsdijk 1978).

hallmark of deletion.

4.2.1.2.   Sloppy identity

Ross (1969) shows that English sluicing allows sloppy readings. The sentence in (10a) allows the sloppy reading in (10b) as well as the strict reading in (10a).

(10) I know how to say I'm sorry, and Bill knows how, too. (Ross 1969: 274)

    a.   Bill knows how to say I'm sorry.   (strict reading)

    b.   Bill knows how to say he's sorry.   (sloppy reading)

Takahashi (1994b) points out that Japanese sluicing has the same property. Sentences such as (11) allow both strict and sloppy readings.[9]

(11) UConn-wa   [soko-no basukettobooru   tiimu-ga   dare-o

    UConn-Top   it-Gen   basketball   team-Nom   who-Acc

    sukautosi-ta   ka] happyoosi-ta.

    scout-Past   Q   announce-Past

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[9] In this example, Takahashi employs the pronominal *soko* (literally, 'that place') that refers to an institution, group, etc. As Hoji (1990) observes, personal pronominals such as *kare* 'he' and *kanojo* 'she' cannot be bound variables and do not allow a sloppy reading under ellipsis.

Duke-mo   [dare(-o) (da) ka] happyoosi-ta. (cf. Takahashi 1994b: 272)

Duke-also   who-Acc be   Q   announce-Past

"UConn announced who its basketball team scouted. Duke also announced who."

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

b.   Duke also announced who Duke's basketball team scouted. (sloppy)

If Ross' (1969) deletion analysis (which we defended in Chapter 2) is on the right track, this parallelism between Japanese and English sluicing indicates that Japanese sluicing should also be treated as deletion.

Interestingly, Takahashi (1994b) observes that pronominal sluicing does not allow sloppy reading, unlike regular sluicing. (12) has the strict reading in (11a), but not the sloppy reading in (11b). The presence or absence of the Case-marker or the copula in (11) and (12) does not affect the availability of the sloppy reading (my judgments).

(12) Duke-mo   [**sore-ga** dare(-o) (da) ka] happyoosi-ta. (cf. *ibid*: 272)

Duke-also   **it-Nom** who-Acc be   Q   announce-Past

"Duke also announced who it was."   (strict reading only)

Based on this contrast, Takahashi argues that, while pronominal sluicing is a variant of the copular sentence with a base-generated pro subject in (13), regular sluicing is distinct from such a pronominal subject sentence. Thus he concludes that regular

sluicing involves a deletion process rather than base-generated anaphora.

(13) Duke-mo   [**pro**   dare(-o) (da) ka] happyoosi-ta.

   Duke-also   who-Acc be   Q   announce-Past

4.2.1.3.   Licensing by an agreeing head

Fukui and Speas' (1987) classify functional heads into two types, agreeing heads and non-agreeing heads, as is summarized in (14). Agreeing heads show agreement with the element in their specifier positions (e.g. subject verb agreement with a sentence with a tensed I), while non-agreeing heads do not.

(14)   Agree   Not Agree

   I   tensed I   *to*

   D   *'s*   *a(n), the*

   C   +wh   *that, whether*

Based on this classification, Lobeck (1990) and Saito and Murasugi (1990) make a generalization that only agreeing heads license deletion. For example, VP deletion is licensed when the deleted VP is selected by a tensed I, but not when it is selected by a non-finite I, as shown in (15). Similarly, they show that the possessive *'s* is an agreeing D and licenses NP-deletion, while non-agreeing D such as the indefinite and definite articles *a* and *the* do not, as shown in (16).

(15) a.   John loves Mary, and [IP Bill [I' **does** ~~[VP love Mary]~~]], too.

   b.   *I believe Mary to be smart, and I believe [IP Pam [I' **to** ~~[VP be smart]~~]], too.

   (Takahashi 1994b: 273)

(16) a.   John's criticism of Mary is interesting,

   but [DP Bill [D' **'s** ~~[NP criticism of Mary]~~]] is annoying.

   b.   *John's book about Mary was interesting, but we found

   [DP [D' **a/the** ~~[NP book about Mary]~~]] disappointing.   (*ibid*: 273)

Finally, Lobeck (1990) and Saito and Murasugi (1990) show that IP-deletion is only licensed with a [+wh] C (as shown in the sluicing example in (17a)), but not with non-agreeing C such as *that* and *whether*, as shown in (17b, c).

(17) a.   John met somebody, but I don't know [CP who₁ [C' **C[+wh]** ~~[IP John met t₁]~~]].

   b.   *Jim says that UConn will win the NCAA,

   but I'm not sure [CP [C' **whether** ~~[IP UConn will win the NCAA]~~]].

   c.   *Jim says that UConn will win the NCAA,

   but I don't believe [CP [C' **that** ~~[IP UConn will win the NCAA]~~]]. (*ibid*: 274)

Takahashi argues that this restriction also applies to Japanese sluicing. He claims that omplementizers such as *kadooka* 'whether' and *to* 'that' are not compatible with elliptic structures, as shown in (18), unlike the [+wh] complementizer *ka* in sluicing.

(18) a. *Jim-ga [UConn-ga   NCAA-ni   katu to] it-tei-ru   ga

Jim-Nom UConn-Nom NCAA-in   win that say-Prog-Pres but

boku-wa [$_{CP}$ [$_{IP}$ ~~UConn-ga   NCAA-ni   katu~~]   kadooka]wakara-nai.

I-Top   UConn-Nom NCAA-in   win   whether know-not

"Jim says that UConn will win the NCAA, but I don't know whether."

b. *Jim-ga [UConn-ga   NCAA-ni   katu to] it-tei-ru   ga

Jim-Nom UConn-Nom NCAA-in   win that say-Prog-Pres but

boku-wa [$_{CP}$ [$_{IP}$ ~~UConn-ga   NCAA-ni   katu~~]   to] omowa-nai.

I-Top   UConn-Nom NCAA-in   win   that think-not

"Jim says that UConn will win the NCAA, but I don't think that."

If the generalization in Lobeck (1990) and Saito and Murasugi (1990) that only agreeing functional heads license deletion is on the right track, and the observation that only [+wh] agreeing C licenses sluicing, it provides supporting evidence that sluicing involves deletion.

4.2.2.   Evidence for wh-movement in Japanese sluicing

The above three properties indicate that Japanese sluicing involves deletion. Takahashi (1994b) further argues that Japanese sluicing involves wh-movement as shown in (19). In this analysis, Japanese sluicing is derived by wh-movement followed by IP-deletion, in the same way as English sluicing.

169

(19) Mary-ga   nanika-o   kat-ta   ga,

Mary-Nom   something-Acc   buy-Past but

boku-wa [CP **nani-o** ~~[IP Mary-ga t₁   kat-ta]~~ ka] wakara-nai.

I-Top   **what-Acc**   Mary-Nom   buy-Past Q   know-not

"Mary bought something, but I don't know what."

4.2.2.1.   Wh-phrase in [Spec, CP]

Takahashi (1994b) gives the following two arguments for the existence of wh-movement in Japanese sluicing. First, he argues that the wh-phrase in sluicing resides in [Spec, CP] rather than in an IP-adjoined position, based on Lobeck's (1990) argument that deletion is licensed by an agreeing functional head. If the licensing relation between the functional head C and the elided IP is defined as a head-complement relationship, then it follows that the elided IP must be the complement of C. (Takahashi argues that such a definition based on a head-complement relationship fares better than an alternative definition where an agreeing C licenses deletion of IP that it head-governs, because the minimalist framework of Chomsky and Lasnik 1991 and Chomsky 1993 eliminate the notion of government.) Therefore, deletion of only the inner IP segment, as illustrated in (20), would not be licensed by the agreeing C head. Given this, Takahashi concludes that the wh-phrase is in the [Spec, CP] position (e.g. (19)) rather than in an IP-adjoined position (e.g. (20)).

(20) *… boku-wa [$_{CP}$ [$_{IP}$ **nani-o** [$_{IP}$ ~~Mary-ga t₁~~ ~~kat-ta~~]] ka] wakara-nai.

　　I-Top　　**what-Acc**　　Mary-Nom　buy-Past　Q　know-not

　"Mary bought something, but I don't know what."

4.2.2.2.　Island effects

　Second, the existence of island effects in Japanese sluicing shows that there is overt movement involved. Besides the Complex NP Constraint example in (6), Takahashi (1994b) shows that Japanese sluicing is constrained by a variety of islands such as adjunct islands (e.g. (21)) and wh-islands (e.g. (22)).

(21) Mary-ga　　dareka-ga　　kubi-ni-nat-ta　kara]

　Mary-Nom　　someone-Nom be-fired-Past　because

　okot-tei-ru　　　　sooda.

　be-angry-Prog-Pres I-heard

　"I heard that Mary is angry because someone was hired."

　*?Boku-wa　　[$_{CP}$ dare-ga　　　ka] sit-tei-ru yo　(Takahashi 1994b: 280)

　I-Top　　　　　who-Nom　　Q　know-Prog-Pres

　"I know who."

171

(22) Mary-ga   Bill-ni [_{CP}   John-ga   nanika-o   kat-ta

Mary-Nom   Bill-Dat   John-Nom   something-Acc   buy-Past

kadooka]   kii-ta   sooda.

whether   ask-Past I-heard

"I heard that Mary asked Bill whether John bought something."

??Boku-wa   [_{CP} nani-o   ka] siri-tai   naa.   (*ibid*: 281)

I-Top   what-Acc Q   know-want

"I want to know who."

These data indicate that the wh-phrase in Japanese sluicing undergoes movement (See also footnote 6 for the lack of island repair in sluicing in his analysis). Combined with the argument in the previous subsection that the wh-phrase resides in [Spec, CP], Takahashi concludes that Japanese sluicing is derived via overt movement to [Spec, CP] of the [+wh] complementizer, that is, overt wh-movement.

4.2.2.3.   Overt wh-movement in Japanese

Japanese is a wh-in-situ language, and a wh-phrase can stay in its thematic position at the surface structure, as shown in (23). Thus it has been widely assumed that Japanese lacks overt wh-movement.

172

(23) John-wa **nani-o** kat-ta no?

John-Top **what-Acc** buy-Past Q?

"What did John buy?"

Contra this traditional assumption, Takahashi (1993) argues that Japanese has optional overt wh-movement. If wh-movement is independently available in Japanese, his analysis discussed above, where sluicing is derived by wh-movement, is not problematic.

His argument that Japanese has overt wh-movement comes from the fact that long-distance movement of a wh-phrase cannot be 'undone' at LF, unlike regular long-distance scrambling. Consider the difference between (24a) and (24b). In the wh-in-situ example in (24a), the wh-phrase *nani-o* 'what-Acc' can either be interpreted in association with the embedded Q or the matrix Q. Therefore, the sentence is ambiguous between the embedded question reading and the matrix question reading. On the other hand, if you front the wh-phrase as shown in (24b), the fronted wh-phrase only allows the matrix question reading.

(24) a. Kimi-wa [CP John-ga [CP Mary-ga **nani-o** tabe-ta ka]

You-Top John-Nom Mary-Nom **what-Acc** eat-Past Q

sit-tei-ru to] omot-tei-ru no?

know-Prog-Pres C think-Prog-Pres Q

"Do you think that John knows that Mary ate?"   (embedded question)

"What do you think that John knows whether Mary ate?"(matrix question)

b. **Nani₁-o**   kimi-wa [CP John-ga [CP Mary-ga **t₁**   tabe-ta   ka]

   What-Acc   you-Top   John-Nom   Mary-Nom   eat-Past   Q

   sit-tei-ru   to] omot-tei-ru   no?

   know-Prog-Pres   C   think-Prog-Pres   Q

   "What do you think that John knows whether Mary ate?"

   (matrix question only)   (Takahashi 1993: 658)

This contrasts with Saito's (1992) observation that scrambling of wh-phrase can freely be 'undone' at LF. The scrambled wh-phrase in (25b) is interpreted in its original position inside the embedded clause (the position illustrated in (25a)), when the matrix clause does not have a Q to be associated with the wh-phrase.

(25) a. John-ga [CP Mary-ga   **nani-o**   kat-ta   ka] sit-tei-ru.

   John-Nom   Mary-Nom   **what-Acc**   buy-Past Q   know-Prog-Pres

   "John knows what Mary bought."

   b. **Nani₁-o**   John-ga [CP Mary-ga **t₁**   kat-ta   ka] sit-tei-ru.

   What-Acc   John-Nom   Mary-Nom   buy-Past Q   know-Prog-Pres

   "John knows what Mary bought."

To account for the lack of undoing effects in (24), Takahashi proposes the generalization in (26), and claims that the movement in (24b) is overt wh-movement rather than scrambling.

174

(26) Movement of a wh-phrase to the initial position of a clause headed by a [+WH]

COMP counts as wh-movement in Japanese.

He claims that this generalization stems from the economy principle in (27), which is

proposed by Epstein (1992).

(27) Satisfy filters by using the fewest possible applications of Affect α.

Assuming that the landing site of both long-distance scrambling and wh-movement is

[Spec, CP], he proposes the following structure for (24b).

(28) [CP **Nani₁-o** [IP kimi-wa [CP John-ga [CP Mary-ga **t₁** tabe-ta ka]

What-Acc you-Top John-Nom Mary-Nom eat-Past Q

sit-tei-ru to] omot-tei-ru] no]?

know-Prog-Pres C think-Prog-Pres Q

Here, assume that there are wh-filters in (29), which apply at LF (similarly to the ones

proposed by Lasnik and Saito 1984, 1992).

(29) a. A [+WH] COMP must have a wh-phrase in its SPEC.

b. A wh-phrase must be in the SPEC of a [+WH] COMP.

(Takahashi 1993: 671)

The fronted wh-phrase in (28) is already in [Spec, CP] at S-structure and it satisfies the filter in (29) without any applications of movement at LF. On the other hand, to yield the embedded question reading, you have to apply LF-movement of the wh-phrase to the embedded [Spec, CP] position. The latter option violates the economy principle in (26). This is why the overt long-distance scrambling to a [+WH] sentence is always interpreted as wh-movement.

In sum, Takahashi's analysis claims that wh-movement is optional in Japanese, but if a wh-phrase ever fronts to [Spec, CP] of the [+WH] sentence, it must be interpreted as wh-movement. Based on this assumption, he argues that sluicing involves wh-movement to the [Spec, CP] of the sluiced embedded questions, in the same way as English sluicing.

4.3. Cleft-based analysis

Another type of analysis of Japanese sluicing is the cleft-based analysis (Nishiyama, Whitman and Li 1996, Kuwabara 1997, Kizu 1997, Merchant 1998, among others), which claims that sluicing in Japanese is an elliptical cleft. Under this analysis, the sluicing example in (1a), repeated here as (30a), has an underlying cleft structure in (30b).

(30) a.   Mary-ga   nanika-o   kat-ta   ga,

Mary-Nom   something-Acc   buy-Past but

boku-wa [**nani-o**   ka] wakara-nai.

I-Top   **what-Acc**   Q   know-not

"Mary bought something, but I don't know what."

b.   boku-wa [[$_{CP}$ [$_{IP}$ Mary-ga **e$_1$** kat-ta   no]]-ga **nani$_1$-o** ka] wakara-nai.

I-Top   Mary-Nom   buy-Past C-Nom **what-Acc** Q   know-not

"I don't know what it is that Mary bought."

(31) exemplifies a simpler case of Japanese cleft. In Japanese cleft, the presuppositional clause with a gap *John-ga kat-ta* ("John bought") is followed by a so-called nominalizing complementizer *no*. A CP that is predicated by the nominalizer behaves like a nominal in that it can be accompanied by a Case marker or a Topic marker *–wa*. This nominalized sentence is the apparent subject of the cleft. Then the displaced phrase (e.g. *hon* 'book'), accompanied with the copula *da* 'be' follows it. Merchant (1998) calls this pre-copular phrase the 'pivot' of the sentence.

(31) [$_{CP}$ John-ga **e$_1$** kat-ta   no]-wa **hon$_1$-o**   da.

John-Nom   buy-Past C-Top **book-Acc**   be

"It is a book that John bought."

Under the cleft-based analysis, the structure of sluicing is the cleft sentence such as the embedded clause in (30b), whose pivot is a wh-phrase.

177

4.3.1. Argument for the cleft-based analysis

This subsection reviews some drawbacks of the wh-movement analysis pointed out in the previous literature.

4.3.1.1. Existence of a copula

First, as we have seen in (3) (repeated as (32)), the incomplete embedded question in Japanese sluicing has an optional copula *da* 'be'. Nishiyama, Whitman and Yi (1996), Kuwabara (1996) and Kizu (1997) argue that, if sluicing is derived by wh-movement as illustrated in (20) (repeated as (33)), the existence of the copula is hard to capture, because there is no copula position in the underlying embedded question in (33).

(32) Mary-ga   nanika-o   kat-ta   ga,

    Mary-Nom   something-Acc   buy-Past but

    boku-wa [nani-o   **(da)** ka] wakara-nai.

    I-Top   what-Acc   **be** Q   know-not

    "Mary bought something, but I don't know what."

(33) … boku-wa [CP [IP **nani-o** [IP Mary-ga t₁ kat-ta]] ka] wakara-nai.

        I-Top   **what-Acc**   Mary-Nom   buy-Past Q   know-not

If, on the other hand, (30a) is derived from the cleft sentence (30b), the presence of the copula can easily be accounted for; an optional copula can show up in the corresponding cleft sentence, as the example (34) shows.

(34) boku-wa [$_{CP}$ [$_{IP}$ Mary-ga **e$_1$** kat-ta no]]-ga [nani$_1$-o (**da**) ka] wakara-nai.

I-Top Mary-Nom buy-Past C-Nom what-Acc **be** Q know-not

"I don't know what it is that Mary bought."

4.3.1.2. Case-marker drop

Second, the fact that non-CM sluicing is possible in Japanese (e.g. (35), see also (5)) is problematic for the wh-movement analysis, as is argued by Kizu (1997); the regular wh-phrase in the non-elliptical interrogative questions cannot be dropped, as shown in (36a). On the other hand, the pivot of the cleft can optionally drop its Case marker, as shown in (36b).[10]

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[10] Kizu (1997) judges CM sluicing and CM cleft with a Nominative marker –*ga* or an Accusative marker –*o* (examples such as (30a) and (30b)) as marginally degraded. (Nishiyama, Whitman and Yi 1996 judge them ungrammatical.) She uses the parallelism in judgment as the basis for the unified analysis of cleft and sluicing. Other authors, including Kuwabara (1996, 1997) and Hiraiwa and Ishihara (2002), do not observe the degradability of Accusative CM cleft/sluicing. I am sympathetic with the latter judgment and accept Accusative CM cleft/slucing.

As for Nominative CM cleft/sluicing, Merchant (1998), following Shimoyama (1995), claims that they are even worse than the marginal status of Accusative cleft/sluicing. I agree that Nominative CM cleft such as (ii) is unacceptable, but do not think that Nominative CM sluicing in (i) is as degraded as (ii). (Kuwabara's example of a non-wh sluicing in (43a) is also judged acceptable with a Nominative Case on the remnant.) I leave open the question of whether there is a discrepancy between judgments of CM sluicing and CM cleft.

(i) ?Dareka-ga ringo-o tabe-ta ga, boku-wa **dare-ga** ka
    Someone-Nom apple-Acc ate-Past but I-Top **who-Nom** Q

179

(35) Mary-ga   nanika-o   kat-ta   ga,

Mary-Nom   something-Acc   buy-Past but

boku-wa [**nani(-o)**   ka] wakara-nai.

I-Top   **what-Acc**   Q   know-not

"Mary bought something, but I don't know what."

(36) a.   boku-wa [$_{CP}$ **nani$_1$*(-o)**   [$_{IP}$ Mary-ga **t$_1$**   kat-ta   ka]] wakara-nai.

I-Top   **what-Acc**   Mary-Nom   buy-Past Q   know-not

"I don't know what Mary bought."

b.   boku-wa [$_{CP}$ [$_{IP}$ Mary-ga **e$_1$**   kat-ta   no]]-ga   [**nani$_1$(-o)** ka] wakara-nai.

I-Top   Mary-Nom   buy-Past C-Nom   **what-Acc** Q know-not

"I don't know what it is that Mary bought."

Hoji (1990) refers to cleft with a Case-marker as CM cleft, and cleft with Case-marker drop as non-CM cleft. Under the cleft-based analysis of sluicing, you can assume that CM sluicing (e.g. (30a)) is derived from CM cleft (e.g. (30b)), and non-CM sluicing (e.g. (35)) is derived from non-CM cleft (e.g. (36b)). Such a correspondence between cleft and sluicing provides an argument for the cleft-based analysis of sluicing.

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wakara-nai.
know-not
"Someone ate an apple, but I don't know who."
(ii)   *Boku-wa [e$_1$ ringo-o   tabe-ta   no]-ga   **dare-ga**   ka   wakara-nai.
I-Top   apple-Acc   eat-Past   C-Nom   **who-Nom** Q   know-not
"I don't know who it is that ate an apple."

4.3.1.3. Word order restriction

Third, Kizu (1997) observes that there is a restriction on the order with a wh-phrase in sluicing and a numeral quantifier that associates with it. As shown in (37), a numeral quantifier that modifies a noun (in this case, the fronted wh-phrase *nani-o* 'what-Acc') can precede it or follow it.

(37) a. Boku-wa [**nani(-o) takusan** [IP Mary-ga   kat-ta   ka]] wakara-nai.

          I-Top   **what-Acc many**   Mary-Nom   buy-Past Q   know-not

      b. Boku-wa [**takusan nani-o** [IP Mary-ga   kat-ta   ka]] wakara-nai.

          I-Top   **many   what-Acc**   Mary-Nom   buy-Past Q   know-not

    "I don't know what a lot Mary bought." (modified from *ibid*: 237)

However, in a sluicing sentence, the numeral quantifier must follow the sluiced wh-phrase that it modifies, as shown in (38). This is unexpected if the sluicing in these examples is derived by an interrogative clause with a fronted wh-phrase as shown in (37).

(38) Mary-ga   nanika-o   takusan kat-ta   ga,

     Mary-Nom   something-Acc   many   buy-Past but

     a. boku-wa [**nani(-o)**   **takusan** ka] wakara-nai.

         I-Top   **what-Acc**   **many**   Q   know-not

b. *boku-wa[**takusan   nani(-o)**   ka] wakara-nai.

I-Top   **many   what-Acc**   Q   know-not

"Mary bought something a lot, but I don't know what a lot."

(modified from *ibid*: 237)

The same order restriction between the numeral quantifier and the noun is observed in the pivot of a cleft, as the contrast in (39). This is naturally predicted if a cleft structure underlies sluicing in (38).

(39) a. [Mary-ga e_1 kat-ta   no]-wa   **[hon-o   takusan]$_1$**   da.

Mary-Nom   buy-Past C-Top   book-Acc   many   be

b. *[Mary-ga e_1 kat-ta   no]-wa   **[takusan hon-o]$_1$**   da.

Mary-Nom   buy-Past C-Top   many   book-Accbe

"It was many books that Mary bought." (modified from *ibid*: 237)

4.3.1.4.   Island effects

Recall that Takahashi (1994b) attributes the island-sensitivity of Japanese CM sluicing (e.g. (6), repeated as (40)) to wh-movement. Unlike CM sluicing, however, non-CM sluicing is not island sensitive (Fukaya and Hoji 1999, Hiraiwa and Ishihara 2002).[11] Thus, the wh-movement analysis would need to treat non-CM sluicing as a

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[11] Contrary to their judgment, Kizu (1997: 241) judges an example of non-CM sluicing out of a relative-clause island as unacceptable, while other islands can be (apparently, under her analysis) violated by non-CM sluicing. Merchant (1998: 8), following Shimoyama (1995),

different construction from CM sluicing that does not involve wh-movement, which may or may not be a drawback.

(40) John-wa   [[otooto-ni   *nanika-o*   okutteki-ta]   hito]-o

John-Top   brother-Dat   *something-Acc*   send-Past   person-Acc

syootaisi-ta   rasii   ga,   boku-wa [**nani(*-o)**   (da) ka]   sira-nai

invite-Past   seem   but   I-Top   **what-Acc**   be   Q   know-not

"John invited [a person who sent something to his brother], but I don't know what."   (Hiraiwa and Ishihara 2002: 40)

Under the cleft-based analysis, the island sensitivity of CM sluicing is directly derived from the island sensitivity of CM cleft (Kizu 1997, Merchant 1998). As is observed by Hoji (1990), CM cleft is island-sensitive, unlike non-CM cleft, as shown in (41). Fukaya and Hoji (1999) claim that the facts naturally follow if CM and non-CM cleft corresponds to CM and non-CM sluicing, respectively. Thus the data are compatible with the cleft analysis.

(41) [John-ga [[e_1 kai-ta   hito]-o   hihansi-ta   no]-wa

John-Nom   write-Past   person-Acc   criticize-Past   C-Top

kono   **ronbun$_1$(*-o)** da.   (*ibid*: 37)

this   **paper-Acc**   be

"It is this paper$_1$ that John criticized the person who wrote e_1."

---

claims that all instances of non-CM sluicing out of an island are unacceptable.

As we have seen in 4.2.1.3., Takahashi (1994b) claims that Japanese sluicing is only licensed by an agreeing head, that is, [+WH] C, and claims that non-agreeing C such as *to* 'that' and *kadooka* 'whether' do not license sluicing. He takes that as evidence for IP-deletion.

(42) a.   *Jim-ga   [UConn-ga   NCAA-ni   katu to]   it-tei-ru   ga

      Jim-Nom UConn-Nom NCAA-in   win that say-Prog-Pres but

      boku-wa [CP [IP UConn-ga   NCAA-ni   katu]   kadooka]wakara-nai.

      I-Top   UConn-Nom NCAA-in   win   whether know-not

      "Jim says that UConn will win the NCAA, but I don't know whether."

    b.   *Jim-ga   [UConn-ga   NCAA-ni   katu to]   it-tei-ru   ga

      Jim-Nom UConn-Nom NCAA-in   win that say-Prog-Pres but

      boku-wa [CP [IP UConn-ga   NCAA-ni   katu]   to]   omowa-nai.

      I-Top   UConn-Nom NCAA-in   win   that think-not

      "Jim says that UConn will win the NCAA, but I don't think that."

However, as Takahashi (1994: fn 8) himself observes, elliptical constructions with a non-agreeing C are possible when a remnant phrase is left inside the incomplete embedded clause, as shown in (43). In these examples, a non-wh remnant phrase such as *Tanaka* and *Suzuki* is present inside the incomplete embedded clause, and the same structure as sluicing is possible with non-agreeing C heads.

(43) a.   Haha-wa [CP [IP boku-no rusutyuu-ni   Tanaka-ga   tazuneteki-ta]

            Mother-Top   I-Gen   absence-during   Tanaka-Nom come-to-see-Past

            to] it-ta   ga, boku-wa [Tanaka-ga   **to**] omowa-nai.

            that say-Past but I-Top   Tanaka-Nom **that** think-not

            "Mother said that Tanaka came to see me during my absence, but I don't

            think that Tanaka." (Kuwabara 1997: 63)

     b.   Boku-wa itinen   mae soko-de Suzuki-ni   at-ta   yooda   ga,

            I-Top   one-year ago there-at Suzuki-Dat   meet-Pastseem   but

            boku-wa [Suzuki-ni   **kadooka**]   oboe-tei-nai.

            I-Top   Suzuki-Dat   **whether**   remember-Pres-not

            "It seems that I met Suzuki there one year ago, but I don't remember

            whether Suzuki." (modified from *ibid*: 63)

The cleft-based analysis can accommodate these examples because the pivot of a cleft is not necessarily a wh-phrase. On the other hand, if these data were to be accounted for under the wh-movement analysis, you would have to posit movement of such a non-wh remnant out of the elided IP as shown in (44), and must abandon Lobeck's (1990) generalization that only agreeing C licenses IP-deletion.

(44) boku-wa [_{CP} **Tanaka₁-ga** ~~[_{IP}boku-no rusutyuu-ni t₁ tazuneteki-ta]~~

I-Top   **Tanaka-Nom** I-Gen   absence-during   come-to-see-Past

to]   omowa-nai.

that think-not

4.3.2.   Potential problem of the cleft-based analysis

In sum, the wh-movement analysis cannot account for these similarities between the cleft and sluicing constructions such as the optional copula, the possibility of Case-marker drop, and the word order restriction. The cleft-based analysis fares better than wh-movement analysis in these respects.

However, the exact mechanism of the derivation of sluicing under the cleft-based analysis has not been discussed in detail. For example, you can argue that the presuppositional clause in cleft is deleted at PF as shown in (45a), or that it is empty at overt syntax and its content is recovered at LF. Alternatively, you can argue, following Merchant (1998), that the presuppositional clause is replaced with a pro as shown in (45b).

(45) Mary-ga   nanika-o   kat-ta   ga,

Mary-Nom   something-Acc   buy-Past but

a.   boku-wa [[_{CP} ~~[_{IP} Mary-ga e₁ kat-ta no]]~~ ga **nani₁-o** ka] wakara-nai.

I-Top   Mary-Nom buy-Past C-Nom **what-Acc** Q know-not

b. boku-wa   [*pro* **nani₁-o**   ka] wakara-nai.

    I-Top   **what-Acc**   Q   know-not

"Mary bought something, but I don't know what (it is that Mary bought)."

Also, authors have different views on the internal structure of cleft (See Kizu 1997: fn2 for discussion). I do not argue for or against any of the above possibilities here. Instead, I will introduce another line of analysis, the focus movement analysis, which captures all the facts that motivate the cleft-based analysis, and also capture the data observed by Takahashi (1994).

4.4. The focus movement analysis

Hiraiwa and Ishihara (2002) propose an analysis under which cleft and sluicing are both derived from a focus construction, which they call "*no da*" in situ focus construction. "*No da*" construction is a construction where a sentence with an ordinary word order is followed by the nominalizing complementizer *no* and the copula *da*, as exemplified in (46).

(46) [CP Taro-ga   kono   ringo-o   tabe-ta   no] da.

       Taro-Nom   this   apple-Acc   eat-Past   C   be

    "It is that Taro ate this apple."   (Hiraiwa and Ishihara 2002: 38)

Any phrase inside the sentence followed by "*no da*" gets a focused interpretation.

Especially, if a phrase has a prosodic prominence, it is interpreted as the focus, as shown in (47).

(47) a. [CP TARO-ga   kono   ringo-o   tabe-ta   no] da.

          TARO-Nom   this   apple-Acc   eat-Past C   be

      "It is taro that ate this apple."

   b. [CP Taro-ga   KONO RINGO-o   tabe-ta   no] da.

          Taro-Nom   THIS   APPLE-Acc eat-Past C   be

      "It is this apple that Taro ate."

   c. [CP Taro-ga   kono   ringo-o   TABE-TA   no] da.

          Taro-Nom   this   apple-Acc   EAT-Past   C   be

      "Taro DID eat this apple."   (*ibid*: 39)

Below I describe their analysis where CM cleft and CM sluicing are derived from "*no da*" construction. In this view, too, the similarities between cleft and sluicing pointed out by the advocates of the cleft-based analysis are correctly captured because they have the same underlying structure.

4.4.1.   Similarities between "*no da*" construction and CM cleft

Hiraiwa and Ishihara (2002) compare properties of CM cleft, non-CM cleft and "*no da*" construction, and claim that "*no da*" construction underlies CM cleft based on their similarities. First, multiple CM cleft is possible, while multiple non-CM cleft

is not, as shown in (48). In other words, when there are multiple pivots in a cleft, all of them must have a Case-marker on them.

(48) [Taro-ga   age-ta   no]-wa   Hanako**(-ni)** ringo**(-o)**   da.

        Taro-Nom   give-Past C-Top   Hanako-**Dat**   apple-**Acc**   be

        "It is an apple to Hanako that Taro gave."   (modified from *ibid*: 36)

"*No da*" construction behaves in the same way as CM cleft in that it allows multiple focus phrases, as shown in (49).

(49) [_{CP} TARO-ga   KONO   RINGO-o   tabe-ta   no] da.

        TARO-Nom   THIS   APPLE-Acc   eat-Past   C   be

        "(*lit*.) It is taro, this apple that he ate."   (*ibid*: 39)

Second, the nominalizing complementizer –*no* in non-CM cleft can be substituted with a nominal phrase (e.g. *mono* 'thing' and *kudamono* 'fruit') as shown in (50b)), while such substitution is impossible in CM cleft, as (50a) shows.

(50) a.   [Taro-ga   tabe-ta   **no/*mono/*kudamono**-wa ringo-o   da.

            Taro-Nom   give-Past **C/thing/fruit**-Top   apple-Acc   be

     b.   [Taro-ga   tabe-ta   **no/mono/kudamono**]-wa   ringo   da.

            Taro-Nom   give-Past **C/thing/fruit**-Top   apple   be

        "The thing/the fruit that Taro ate is an apple."   (*ibid*: 37)

Similarly to CM cleft, *-no* in "*no da*" construction does not allow such "NP substitution," as shown in (51).[12]

(51) [Taro-ga　　　KONO　RINGO-o　　　tabe-ta　**no/*mono/*kudamono**]da.

　　　Taro-Nom　　this　　apple-Acc　　give-Past **C/thing/fruit**　　　　be

　　　"It is this apple that/the thing/the fruit Taro ate."　(modified from *ibid*: 39)

Third, CM cleft does not allow Nominative-Genitive Conversion (NGC), unlike non-CM cleft. NGC is a phenomenon where a Nominative DP is optionally converted to a Genitive DP inside a sentence with an adnominal inflection on its verb. (See Hiraiwa 2002 for the analysis of NGC.) As the contrast in (52) shows, the Nominative DP in non-CM cleft can alternate with the Genitive DP, while NGC in CM cleft is degraded as shown in (52b).

---

[12] The original example from Hiraiwa and Ishihara (2002) is (i), whose focus is on the subject. I give the example in (51) instead to make the example minimally different from the cleft examples in (50), whose pivot is an object.

(i)　[TARO-ga　　　kono　　　ringo-o　tabe-ta　**no/*mono/*kudamono**]　da.
　　　TARO-Nom　　this　　　apple-Acc eat-Past　**C/thing/fruit**　　　　be

Their example in (i) becomes good if the nominalizer C is replaced with a regular noun phrase *hito* 'person', which can describe the subject *Taro*, as shown in (iia). However, I assume that such a sequence consists of a relative clause that is headed by *hito* 'person', as shown in (iib). It does not necessarily show that C in a "*no da*" sentence can be replaced with the regular noun *hito*.

(ii)　a.　[TARO-ga　　　kono　　　ringo-o　　　tabe-ta　**hito**]　　　da.
　　　　　TARO-Nom　　this　　　apple-Acc　　eat-Past　**person**　　be
　　　b.　Taro-ga　[$_{DP}$ [e_1 kono　　　ringo-o　　　tabe-ta]　**hito$_1$**]　　da.
　　　　　Taro-Nom　　　　this　　　apple-Acc　　eat-Past　person　　be
　　　　　"Taro is [the person who ate the apple]."

(52) a. [Taro-**ga/??no**   tabe-ta   no]-wa   ringo-o   da.

Taro-**Nom/Gen**   eat-Past C -Top   apple   be

b. [Taro-**ga/no**   tabe-ta   no]-wa   ringo   da.

Taro-**Nom/Gen**   eat-Past C -Top   apple   be

"It is an apple that Taro ate." (*ibid*: 37)

(53) shows that "*no da*" construction also disallows NGC.

(53) [Taro-**ga/*no**   KONO   RINGO-o   tabe-ta   no] da.

Taro-**Nom/Gen**   THIS   APPLE-Acc   eat-Past C   be

"It is that Taro ate this apple." (*ibid*: 39)

In these three respects, CM cleft, but not non-CM cleft, has properties in common with "*no da*" construction.

However, "*no da*" construction is an in-situ focus construction and the focused phrase does not obey locality constraints. As we have seen in (41) (repeated here as (54)), CM cleft shows island effects. On the other hand, the "*no da*" sentence in (55) can have the in-situ focus inside an island.

(54) [John-ga [[e₁ kai-ta hito]-o hihansi-ta no]-wa

John-Nom write-Past person-Acc criticize-Past C-Top

kono ronbun₁(*-o) da. (*ibid*: 37)

this paper-Acc be

"It is this paper₁ that John criticized the person who wrote e₁."

(55) [John-ga [[e₁ KONO RONBUN-o kai-ta] hito₁]-o

John-Nom THIS PAPER-Acc write-Past person-Acc

hihansi-ta no] da. (*ibid*: 39)

criticize-Past C be

"It is this paper₁ that John criticized the person who wrote e₁."

Based on the above three similarities and one difference in locality constraints, Hiraiwa and Ishihara (2002) claim that CM cleft (but not non-CM cleft) is derived as "*no da*" construction plus overt movement that is constrained by islands.

4.4.2.   Similarities between "*no da*" construction, CM cleft, and CM sluicing

Hiraiwa and Ishihara (2002) expand the similarity between "*no da*" construction and CM cleft to CM sluicing examples. For example, we have seen in Section 4.3.1.4. that cleft and sluicing show parallel behavior with respect to islands: only CM sluicing shows island sensitivity in the same way as CM cleft, while non-CM sluicing and non-CM cleft are island insensitive (compare (54) with (56), repeated from (40): Fukaya and Hoji 1999).

(56) John-wa   [[otooto-ni   ***nanika-o***   okutteki-ta]   hito]-o

John-Top   brother-Dat   ***something-Acc***   send-Past   person-Acc

syootaisi-ta   rasii   ga,   boku-wa   [**nani(*-o)**   (da) ka]   sira-nai

invite-Past   seem   but   I-Top   **what-Acc**   be   Q   know-not

"John invited [a person who sent something to his brother], but I don't know

what."   (Hiraiwa and Ishihara 2002: 40)

Also, the previous subsection observed that CM cleft and "*no da*" construction

allow multiple foci, while non-CM cleft does not (e.g. (48) and (49)). Similarly to the

former examples, multiple CM sluicing is possible, while multiple non-CM sluicing

is not, as shown in (57); multiple wh-phrases in sluicing need to have Case-markers.

(See Takahashi 1994b, Kuwabara 1996, 1997, and Kizu 1997 for more discussion on

multiple sluicing.)

(57) Taro-ga   dareka-ni   nanika-o   age-ta   rasii   ga

Taro-Nom   someone-Dat   something-Acc   give-Past   seem   but

boku-wa   dare*(-ni)   nani*(-o)   (da) ka   wakara-nai.   (*ibid*: 40)

I-Top   who-Dat   what-Acc   be   Q   know-not

"It seems that Taro gave something to someone, but I don't know who what."

Based on the parallelism between the three constructions, that is, "*no da*" construction,

CM cleft and CM sluicing, Hiraiwa and Ishihara (2002) propose that both CM

sluicing and CM cleft stem from "*no da*" construction with overt focus movement.[13] I will describe the derivation of cleft and sluicing under their proposal in the next subsection.

4.4.3.   Derivation of CM cleft and CM sluicing

(58b) is the structure of "*no da*" construction (e.g. (58a)) in Hiraiwa and Ishihara's (2002) analysis. Assuming Rizzi's (1997) split-CP hypothesis, they assume that the copula *da* appears as a Foc head inside the focus phrase.

(58) a.   [_{CP} Taro-ga   kono   ringo-o   tabe-ta   no]   da.   (= (46))

           Taro-Nom   this   apple-Acc   eat-Past   C   be

           "It is that Taro ate this apple."   (Hiraiwa and Ishihara 2002: 38)

---

[13] The other difference between CM sluicing and non-CM sluicing, that is, substitution of the nominalizer C –*no* with an NP (see (50) and (51)), cannot be tested as it is in sluicing, because sluicing does not involve *no*. Hiraiwa and Ishihara, however, take the pronominal subject in pronominal sluicing as an instance of 'NP substitution' and claim that this type of 'NP substitution' is only applicable in non-CM sluicing (e.g. (i)). Takahashi (1994: 270), however, accepts a sentence such as (i) with one "?" mark even with a Case-marker on the wh-phrase. Nakao and Yoshida (2005) and Nakao (2005) discuss this type of pronominal sluicing, based on the latter acceptability.

(i)   Mary-ga   nanika-o   kat-ta   rasii   ga
     Mary-Nom   something-Acc buy-Past   seems   but
     boku-wa   sore-ga   nani(*-o)   (da) ka   wakara-nai.
     I-Top   it-Nom   what-Acc   be   Q   know-not
     "It seems that Mary bought something, but I don't know what it is."

b.

```
                    TopP
             _____/    \
          FocP            Top
      ___/    \
   FinP/CP      Foc(-da)
   /    \
 TP    Fin/C(-no)
```
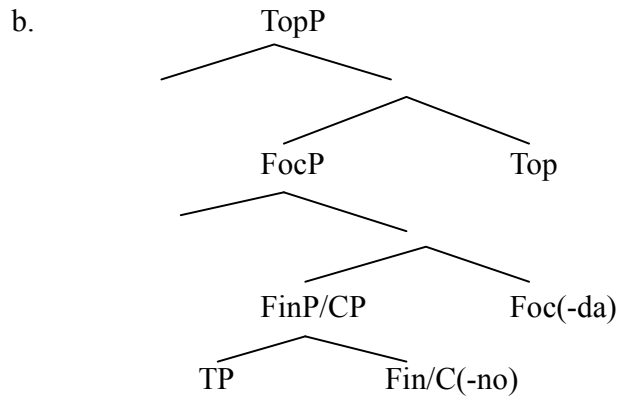
The focus phrase is usually licensed in situ. In cleft construction, however, it moves overtly to [Spec, FocP] as illustrated in (59).

(59)

```
                     TopP
             _____/    \
          FocP            Top
      ___/    \
 (Focus)    FinP/CP      Foc(-da)
    ↑      /    \
        TP     Fin/C(-no)
       /  \
      XP
```
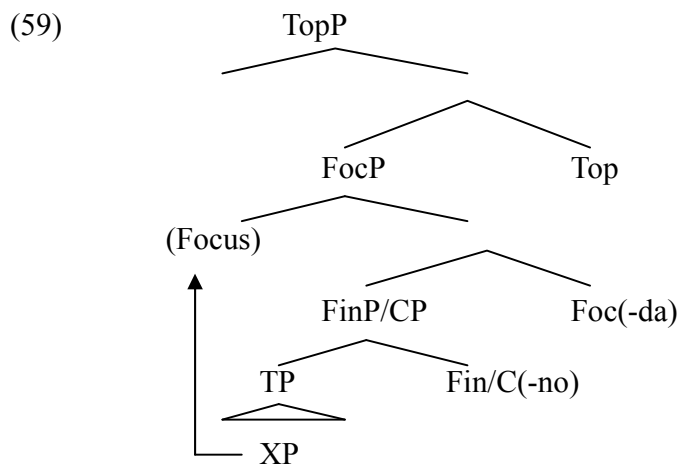
The second step of the derivation of CM cleft consists of remnant topicalization. Specifically, they assume that, after the focused XP moved out, the remnant FinP/CP moves to [Spec, TopP], receiving the Topic marker –*wa*. The cleft sequence in (60a) is thus generated.

(60) a. [$_{CP}$ Taro-ga   tabe-ta   no]-wa   ringo-o   da.

         Taro-Nom   eat-Past C-Top   apple-Acc   be

    "It is an apple that Taro ate."

b.
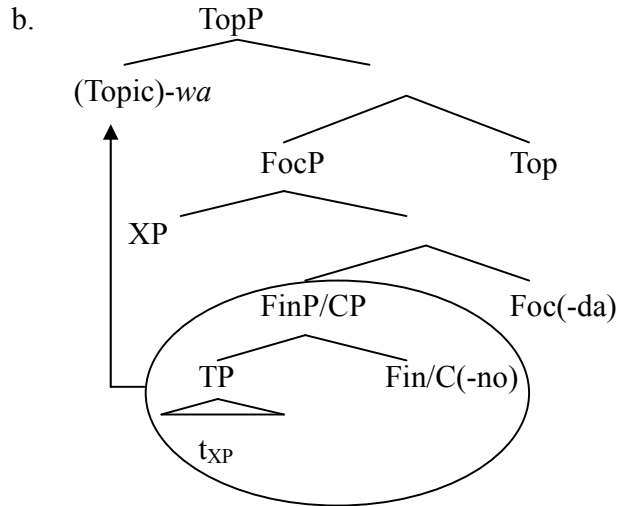
In CM sluicing, too, the focused phrase undergoes the same focus movement to [Spec, FocP] as CM cleft, as illustrated in (59). This time, the focused phrase XP is a wh-phrase (e.g. *nani-o* 'what-Acc' in (61a)), but it can presumably be a non-wh-phrase, given the existence of non-wh-sluicing (See Section 4.3.1.5., (43)). The second step of the derivation of CM sluicing is deletion of FinP/CP, as illustrated in (61b), instead of topicalization in (60b). In this way, CM sluicing and CM cleft share the same step of derivation.

(61) a. Taro-ga   nanika-o   tabe-ta ga,

Taro-Nom   something-Acc   eat-Past but

boku-wa nani-o   (da) ka wakara-nai.

I-Top   what-Acc   be   Q   know-not

"Taro ate something, but I don't know what."

b.
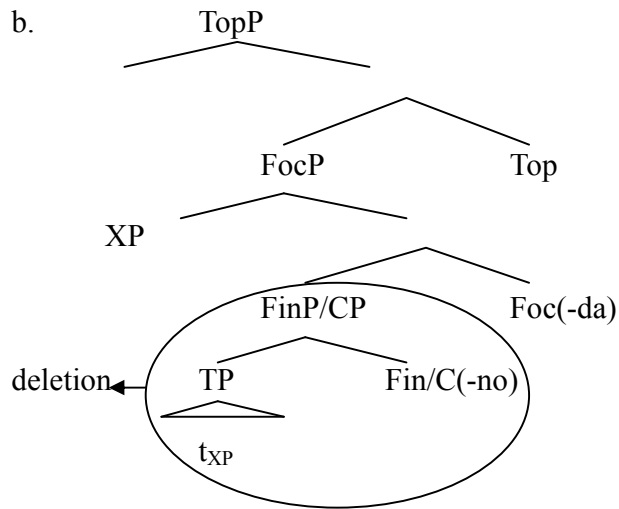
4.4.4.   Data accounted for under the focus movement analysis

Let us consider how the sluicing properties noted in the previous analyses are accounted for under the focus movement analysis. It turns out that the properties of deletion (non-linguistic antecedents, sloppy reading), the movement property (island effects), and the similarities with cleft (existence of a copula, Case-marker drop, and word order restriction) are all captured under the analysis which treats sluicing as focus movement plus deletion.

4.4.4.1.　Non-linguistic antecedents and sloppy reading

As is noted in Section 4.2.1.1., Takahashi (1994b) observes that sluicing does not allow a non-linguistic antecedent (e.g. (62), repeated from (8b)). According to Hankamer and Sag's (1976) distinction, the requirement of a linguistic antecedent is an indication of deletion (i.e. Surface Anaphora).[14]

(62) [Context: The Huskies are practicing in the Gampel Pavilion. They see the scout from the Celtics hanging around there.]

　　B:　#Boku-wa　　dare-o　　ka　wakara-nai.

　　　　I-Top　　　　who-Acc Q　know-not

　　　　"I don't know who."　　　　　　　　(Takahashi 1994b: 267)

Another of Takahashi's argument that sluicing involves deletion was the availability of sloppy identity in examples such as (63) (repeated from (11)). He claims that sloppy identity is a property of deletion constructions, considering examples of English sluicing (See (10)).

(63) UConn-wa　　[soko-no basukettobooru　　tiimu-ga　　　dare-o

　　　UConn-Top　it-Gen　basketball　　　　team-Nom　　who-Acc

　　　sukautosi-ta　ka]　happyoosi-ta.

　　　scout-Past　　Q　　announce-Past

---

[14] However, Merchant (2004: Section 5), for example, argues against this diagnostic and claims that "fragment utterances" (including fragment answers discussed in Chapter 3) allow non-linguistic antecedents but they are derived by deletion.

Duke-mo   [dare(-o) (da) ka] happyoosi-ta. (Takahashi 1994b: 272)

Duke-also   who-Acc be   Q   announce-Past

"UConn announced who its basketball team scouted.

Duke also announced who."

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

b.   Duke also announced who Duke's basketball team scouted.   (sloppy)

Under the focus movement analysis, sluicing involves focus movement followed by deletion, similarly to Takahashi's analysis where it is derived via wh-movement and deletion. Thus, both analyses are compatible with the above two pieces of evidence to show that sluicing involves a deletion operation.

4.4.4.2.   Licensing by a non-agreeing head and overt wh-movement in Japanese

As noted in Section 4.2.1.3., Takahashi (1994b) claims that only [+WH] C licenses sluicing and he takes that as an argument for overt wh-movement of the sluiced wh-phrase to the agreeing [Spec, CP] position. As noted in Section 4.3.1.5., however, a non-agreeing C such as *to* 'that' allows sluicing if there is a remnant phrase inside the incomplete embedded clause (e.g. (64), repeated from (43a)).

(64) Haha-wa   [CP [IP boku-no rusutyuu-ni   Tanaka-ga   tazuneteki-ta]

Mother-Top   I-Gen   absence-during Tanaka-Nom come-to-see-Past

to] it-ta   ga, boku-wa [Tanaka-ga   **to**] omowa-nai.

that say-Past but I-Top   Tanaka-Nom **that** think-not

"Mother said that Tanaka came to see me during my absence, but I don't think

that Tanaka." (Kuwabara 1997: 63)

This fact is easily accommodated under the focus movement analysis. In the derivation of sluicing in (59b) and (61a), a sluicing remnant escapes the deletion site via focus movement. The moved material does not need to be a wh-phrase, unlike in the wh-movement analysis.

In short, the focus movement analysis treats both wh sluicing and non-wh sluicing as instances of stripping. (We have seen in Chapter 3 that English stripping is derived by focus movement followed by clausal deletion.) Thus, the existence of non-wh sluicing is not problematic under the focus movement analysis.

Note that the focus movement analysis does not independently exclude the existence of wh-movement. Recall that Takahashi (1993) argues that radical reconstruction of long-distance fronting is blocked, only when it moves to a [+WH] C (e.g. (65), repeated from (25b)), taking it as an instance of wh-movement.

(65) [CP **Nani₁-o** [IP kimi-wa [CP John-ga [CP Mary-ga **t₁** tabe-ta ka]

      What-Acc you-Top John-Nom Mary-Nom eat-Past Q

      sit-tei-ru to] omot-tei-ru] no]?

      know-Prog-Pres C think-Prog-Pres Q

It may turn out to be the case that movement in (65) is an instance of wh-movement, independent of the analysis of sluicing. The possibility of non-wh sluicing, however, suggests that wh-movement is not crucially relevant to the derivation of sluicing.

4.4.4.3. Island effects

We saw in Section 4.2.2.2. that the wh-movement analysis attributes the island sensitivity in CM sluicing to overt movement in sluicing (e.g. (66), repeated from (6)). The cleft-based analysis attributes the island sensitivity of sluicing to that of cleft, as was discussed in Section 4.3.1.4.

(66) John-wa [[otooto-ni *nanika-o* okutteki-ta] hito]-o

     John-Top brother-Dat *something-Acc* send-Past person-Acc

     syootaisi-ta rasii ga, boku-wa [**nani(*-o)** (da) ka] sira-nai

     invite-Past seem but I-Top **what-Acc** be Q know-not

     "John invited [a person who sent something to his brother], but I don't know what." (Hiraiwa and Ishihara 2002: 40)

The fact is also compatible with the focus movement analysis. Under the focus movement analysis, both CM cleft and CM sluicing involve focus movement. Thus, the island sensitivity of those constructions is naturally expected.

4.4.4.4.   Existence of a copula and Case-marker drop

The focus movement analysis argues that cleft and sluicing are both derived from "*no da*" construction. The nominalizer *no* and the copula *da* in the cleft (67b) and the copula *da* in sluicing (67c) stem from the original "*no da*" sentence in (67a).

(67) a.   [$_{CP}$ Taro-ga   kono   ringo-o   tabe-ta   no] da.   (= (46))

            Taro-Nom   this   apple-Acc   eat-Past   C   be

            "It is that Taro ate this apple."   (Hiraiwa and Ishihara 2002: 38)

     b.   [$_{CP}$ Taro-ga   tabe-ta   no]-wa   ringo(-o)   da.

            Taro-Nom   eat-Past C-Top   apple-Acc   be

            "It is an apple that Taro ate."

     c.   Taro-ga   nanika-o   tabe-ta   ga,

            Taro-Nom   something-Acc   eat-Past   but

            boku-wa nani(-o)   (da) ka   wakara-nai.

            I-Top   what-Acc   be   Q   know-not

            "Taro ate something, but I don't know what."

Hiraiwa and Ishihara (2002) assume that the copula *da* is optionally visible in the embedded clause in (67c). If so, the optional existence of the copula is expected under sluicing.

As for the optional existence of the Case-marker on the sluiced wh-phrase in (67c), Hiraiwa and Ishihara (2002) take a similar approach to the cleft-based analysis. They also assume that non-CM cleft and non-CM sluicing are related constructions, and they are different from CM cleft/sluicing, based on their differences reviewed in Section 4.4.1.-4.4.2. Although they do not discuss non-CM cleft/sluicing in detail, they assume that they are some type of base-generated equative constructions, which do not involve movement. See Hoji (1990) for this line of analysis of non-CM cleft. Following this view, I will only treat CM cleft and CM sluicing as focus movement constructions from this point on.

4.4.4.5.   Word order restriction

Finally, let us consider the word order restriction between the quantifier and the modified NP, which is discussed in Section 4.3.1.3. As was shown in (39) and (38), cleft and sluicing obey the same word order restriction: a numeral quantifier must follow the NP it modifies. The examples are repeated in (68) and (69), respectively. Kizu (1997) takes this fact as evidence that sluicing is derived from cleft.

(68) a.   [Mary-ga **e₁**   kat-ta   no]-wa   **[hon-o   takusan]₁**   da.

          Mary-Nom   buy-Past C-Top   **book-Acc   many**   be

b. *[Mary-ga   e₁   kat-ta   no]-wa   [takusan hon-o]₁   da.

   Mary-Nom   buy-Past C-Top   **many   book-Acc**   be

   "It was many books that Mary bought."

(69) Mary-ga   nanika-o   takusan   kat-ta   ga,

   Mary-Nom   something-Acc   many   buy-Past but

   a. boku-wa [**nani-o   takusan** ka] wakara-nai.

       I-Top   **what-Acc   many**   Q   know-not

   b. *boku-wa[**takusan   nani(-o)**   ka] wakara-nai.

       I-Top   **many   what-Acc**   Q   know-not

   "Mary bought something a lot, but I don't know what a lot."

   Kizu (1997) notes that the sequence "NP-Case marker, numeral quantifier (NQ)" in the (a) examples above forms a single constituent, based on the fact that it is coordinatable as shown in (70a). The "NQ, NP-Case marker" sequence, on the other hand, cannot be coordinated as shown in (70b).

(70) a. John-wa [**ringo-o   takusan**] to [**mikan-o   sukosi**] kat-ta.

       John-Top **apple-Acc   many**   and **orange-Acc   few**   buy-Past

       "John bought a lot of apples and a few oranges."

   b. *John-wa[**takusan ringo-o**]   to [**sukosi   mikan-o**]   kat-ta.

       John-Top **many   apple-Acc**   and **few   orange-Acc** buy-Past

The focus movement analysis can capture this fact by assuming that only a single constituent can undergo focus movement. The "NP-Case marker, NQ" sequence in (68a) and (69a) is a single constituent, and it undergoes focus movement. On the other hand, "NQ, NP-Case marker" sequence in the (b)-examples does not form a constituent. Moreover, they cannot independently undergo focus movement, because multiple focus movement is limited to the cases where both constituents are Case-marked, as the multiple cleft/sluicing examples in (71) and (72), repeated from (48) and (57), respectively.

(71) [Taro-ga   age-ta   no]-wa   Hanako*(-ni) ringo*(-o)   da.

      Taro-Nom   give-Past C-Top   Hanako-**Dat**   apple-**Acc**   be

      "It is an apple to Hanako that Taro gave."   (modified from *ibid*: 36)

(72) Taro-ga   dareka-ni   nanika-o   age-ta   rasii   ga

      Taro-Nom   someone-Dat something-Acc   giva-Past seem   but

      boku-wa dare*(-ni)   nani*(-o)   (da) ka   wakara-nai.   (*ibid*: 40)

      I-Top   who-**Dat**   what-**Acc**   be   Q   know-not

      "It seems that Taro gave something to someone, but I don't know who what."

In this way, all the properties of Japanese sluicing observed in the discussion of the wh-movement analysis and the cleft-based analysis can successfully be captured under the focus movement analysis.

4.5.1. Lack of island-repair in CM sluicing

We have repeatedly seen that Japanese (CM) sluicing is island-sensitive (Section 4.2.2.2., Section 4.3.1.4., and Section 4.4.4.3.). The example of sluicing out of an island is again repeated in (73).

(73) John-wa   [[otooto-ni   ***nanika-o***   okutteki-ta]   hito]-o

John-Top   brother-Dat ***something-Acc***   send-Past   person-Acc

syootaisi-ta   rasii   ga, boku-wa [**nani(*-o)**   (da) ka] sira-nai

invite-Past   seem   but I-Top   **what-Acc**   be Q   know-not

"John invited [a person who sent something to his brother], but I don't know what."   (Hiraiwa and Ishihara 2002: 40)

The fact is compatible with all of the three analyses of Japanese sluicing. Under the wh-movement analysis, Japanese sluicing is island-sensitive because wh-movement is island-sensitive. The cleft-based analysis assumes that Japanese sluicing is island-sensitive because whatever movement is involved in cleft (presumably an operator movement) is island-sensitive. The focus movement analysis claims that the island-sensitivity of Japanese indicates the island-sensitivity of focus movement.

However, it has been a puzzle that Japanese sluicing does not repair island-violations while English sluicing does. Especially, wh-movement analysis and focus movement analysis argue for existence of clausal deletion, as shown in (74) and (75),

respectively. If this is the same type of deletion as in English sluicing, you might expect island-repair.

(74) boku-wa [CP **nani₁-o** [IP ~~John-ga~~ [[~~otooto-ni t₁ okutteki-ta~~]

   I-Top   **what-Acc**   John-Nom   brother-Dat   send-Past

   ~~hito-o~~   ~~syootaisi-ta~~]   ka] sira-nai.

   person-Acc   invite-Past   Q   know-not

(75) boku-wa [CP [FP **nani₁-o** [CP ~~John-ga~~ [[~~otooto-ni t₁ okutteki-ta~~]

   I-Top   **what-Acc**   John-Nom   brother-Dat   send-Past

   ~~hito-o~~   ~~syootaisi-ta no~~]   (da)]ka] sira-nai.

   person-Acc   invite-Past   be Q   know-not

The same holds for a version of cleft-based analysis where PF-deletion of the presuppositional clause is assumed, as illustrated in (76).[15]

---

[15] Nakao and Yoshida (2005) take this approach for Japanese pronominal sluicing such as (i), claiming that the pronoun *sore* 'it' is a residue of the definite determiner on the nominalized presuppositional clause, as illustrated in (ii).

(i) John-ga   dareka-ni   at-ta   ga, boku-wa
     John-Nom   someone-Dat   meet-Past but   I-Top
     sore-ga   dare-ni   da   ka   sira-nai.
     it-Nom   who-Dat   be   Q   know-not
     "John met someone, but I don't know who."
(ii) [DP **sono** [CP ~~John-ga~~ ~~at-ta~~ ~~no~~]]-ga **dare-ni** da ka
          the   John-Nom   meet-past C-Nom   **who-Dat** be Q
     "who **the** one John met is."

See Nakao and Yoshida (2005) for some properties of pronominal sluicing that is distinct from regular sluicing. However, this chapter will not investigate the properties of pronominal sluicing in detail.

(76) boku-wa [~~CP~~ ~~Op₁ John-ga [[otooto-ni t₁ okutteki-ta] hito-o~~

    I-Top   John-Nom   brother-Dat   send-Past   person-Acc

    ~~syootaisi-ta no] ga~~ **dare₁-o** da ka sira-nai.

    invite-Past   C-Nom   **who-Acc** be   Q   know-not

Any of these analyses need to independently account for the lack of island-repair in Japanese sluicing. In the following subsections, I will extend the analysis of fragment answers and stripping in Chapter 3 to Japanese CM sluicing. Based on the focus movement analysis, I will claim that Japanese sluicing involves focus movement caused by a weak feature, in the same way as English fragment answers and stripping. Due to the fact that such weak feature movement happens at PF after spell-out, the analysis in Chapter 3 correctly predicts that focus movement in Japanese sluicing lacks island-repair phenomena.

4.5.2.   Focus movement in Japanese

The derivation of cleft and sluicing under the focus movement analysis is summarized in (77) and (78), respectively. In cleft, the focused phrase undergoes focus movement, and the rest of the CP undergoes topicalization.

(77) a.   [TopP [FocP **ringo₁-o** [CP John-ga **t₁** tabe-ta no] da]].

              apple-Acc   John-Nom   eat-Past C   be

b. [TopP [CP John-ga t_1 tabe-ta no]-wa [FocP ringo$_1$-o **t$_{CP}$** da]].

      John-Nom   eat-Past C-Top   apple-Acc   be

In sluicing, the same type of focus movement happens, and the rest of the clause is deleted.

(78) a. [TopP [FocP **nani$_1$-o** [CP John-ga **t$_1$** tabe-ta no] da]] ka

        what-Acc   John-Nom   eat-Past C   be   Q

b. [TopP [FocP **nani$_1$-o** [CP John-ga t_1 tabe-ta no] da]] ka

        what-Acc   John-Nom   eat-Past C   be   Q

If you try to account for the lack of island repair in this kind of focus movement in a parallel way as English fragment answers/stripping, you expect that Japanese focus movement, too, is a weak feature movement, which is usually covert. However, one might argue that the movement relevant in the derivation in (77) and (78) is scrambling, rather than focus movement. If this is the case, the parallelism between English stripping and Japanese sluicing breaks down. Japanese scrambling is allowed in regular non-elliptical configurations, too, so it should not be a last-resort operation only available out of an ellipsis site.

Hiraiwa and Ishihara (2002) independently argue that this is not the case. There is a property of focus movement that is observed with movement in cleft, but not in regular scrambling: that is, the lack of radical reconstruction. Long-distance

scrambling such as the one in (79b) allows radical reconstruction (Saito 1989). The scrambled wh-phrase is interpreted inside the embedded interrogative clause, in the same way as its non-scrambled counterpart (79a).

(79) a.　Taro-ga　　　[Hanako-ga　nani-o　tabe-ta　ka]　siri-tagat-tei-ru.

　　　　　Taro-Nom　　Hanako-Nom　what-Acc　eat-Past　Q　know-want-Prog-Pres

　　　　　"Taro wants to know what Hanako ate."

　　b.　Nani$_1$-o　　　Taro-ga　　　[Hanako-ga　t$_1$　tabe-ta　ka]

　　　　　What-Acc　　Taro-Nom　　Hanako-Nom　　eat-Past　Q

　　　　　siri-tagat-tei-ru

　　　　　know-want-Prog-Pres

　　　　　"Taro wants to know what Hanako ate." (Hiraiwa and Ishihara 2002: 44)

On the other hand, long-distance clefting does not show this property. A wh-phrase cannot be reconstructed into the embedded interrogative clause, as show in (80).

(80) *[Taro-ga　　[Hanako-ga　　t$_1$　tabe-ta　ka]　siri-tagat-tei-ru

　　　　Taro-Nom　　Hanako-Nom　　eat-Past　Q　know-want-Prog-Pres

　　　　no]-wa　nani-o　　　da.

　　　　C-Top　what-Acc　　be

　　　　"It is *what* that Taro wants to know _ Hanako ate."　　(*ibid*: 44)

Such a difference indicates that focus movement in cleft (and presumably in sluicing, too) has a different property from scrambling, and that this property is observed only in these constructions.

Thus, the parallelism between English stripping and Japanese sluicing is maintained. Both apparently involve overt focus movement only when ellipsis follows (or topicalization such as (77b) follows, in the case of Japanese cleft). Based on this argument, I will extend the analysis of English stripping in Chapter 3 to the Japanese examples.

4.5.3.   Japanese sluicing and last-resort focus movement at PF

Given the analysis in Chapter 3, I will propose the following derivation for Japanese sluicing. Following Hiraiwa and Ishihara (2002), I assume that sluicing is derived from "*no da*" construction, as shown in (81a). Contra Takahashi (1993, 1994a, b), I assume that the wh-phrase need not undergo overt wh-movement in Japanese sluicing, thus wh-phrase stays in situ in overt syntax, although it undergoes movement at LF. Given that wh-phrase is focused, it undergoes focus movement to [Spec, FP] followed by wh-movement to the higher [Spec, CP] on the LF side of the derivation. At the point of spell-out, however, CP is activated for deletion, so there is a need for focus movement at the PF side of the derivation, too (as shown in (81b)). The wh-phrase, which is focused, needs to move out of the CP, otherwise the derivation will crash due to a violation of recoverability condition. In this case, the usually covert focus movement is executed at PF, as shown in (81c).

(81) a. [$_{CP}$ [$_{TopP}$ [$_{FocP}$ [$_{CP}$ John-ga **nani$_1$-o** tabe-ta no] da]] ka]

John-Nom **what-Acc** eat-Past C be Q

b. [$_{CP}$ [$_{TopP}$ [$_{FocP}$ [$_{CP}$ John-ga **nani$_1$-o** tabe-ta no] da]] ka]

John-Nom **what-Acc** eat-Past C be Q

b. [$_{CP}$ [$_{TopP}$ [$_{FocP}$ **nani$_1$-o** [$_{CP}$ ~~John-ga t$_1$ tabe-ta no~~] da]] ka]

what-Acc John-Nom eat-Past C be Q

Under the speculation made in Chapter 3 that island repair occurs at the point of spell-out, such a PF-movement does not undergo island-repair, when it violates an island. Thus, the lack of island-repair in Japanese sluicing is expected.

Note that the same analysis must extend to the derivation of Japanese cleft. Unlike in the case of sluicing, cleft does not involve a deletion process. Instead, it involves CP-topicalization. I have assumed above that if focused material stays inside a deletion site, it causes a recoverability condition violation and that motivates the last-resort PF-movement. Similarly to this, I propose that a focused phrase must not be included inside a topicalized clause; focus is not a part of the topic. Therefore, if a CP is to undergo topicalization (indicated by the square on the CP in (82b)), a focused phrase inside it must escape the site at PF. Thus, I claim that the last-resort PF movement happens in the same way as sluicing, as shown in (82c).

(82) a. [$_{TopP}$ [$_{FocP}$ [$_{CP}$ John-ga **ringo-o$_1$** tabe-ta no] da]].

John-Nom **apple-Acc** eat-Past C be

b. $[_{TopP} [_{FocP} [_{CP}$ John-ga **ringo-o$_1$** tabe-ta no$]$ da$]]$.

 John-Nom **apple-Acc** eat-Past C be

c. $[_{TopP} [_{FocP}$ **ringo$_1$-o** $[_{CP}$ John-ga **t$_1$** tabe-ta no$]$ da$]]$.

 apple-Acc John-Nom eat-Past C be

d. $[_{TopP} [_{CP}$ John-ga t$_1$ tabe-ta no$]$-wa $[_{FocP}$ ringo$_1$-o **t$_{CP}$** da$]]$.

 John-Nom eat-Past C-Top apple-Acc be

A potential problem with this account of cleft is that the status of the topicalization in (82d) is unclear. If topicalization happens after the PF-movement of the focus phrase in (82c), this topicalization must be a PF-movement, too. However, there is no motivation to assume that this is the case. Although I do not have a solution to this problem, the assumption that focus movement cannot be included in the topicalized material is valid, and thus the speculation that focus movement must happen as a last resort when topicalization happens seems to be on the right track.

4.6. Conclusion of Chapter 4

This Chapter examined properties of Japanese sluicing. I compared three alternative analyses of Japanese sluicing and showed that the focus movement analysis (Hiraiwa and Ishihara 2002) is compatible with all the properties of sluicing discussed in previous studies.

Under the focus movement analysis, the sluiced wh-phrase undergoes focus movement in the same way as the pivot of cleft. The focus movement involved in

these constructions is distinct from scrambling, which is regularly available in Japanese. I claimed that this focus movement is parallel to English focus movement in stripping and fragment answers. In both languages, focus is forced to move out overtly when ellipsis follows, due to the recoverability condition. Assuming that this last-resort movement happens at PF, and that PF-movement does not undergo island-repair (Chapter 3), the fact that Japanese sluicing lacks island-repair is correctly predicted.

As an extension of this analysis, I would like to consider island-repair in other wh-in-situ languages. It is expected that if a language has a regular focus movement in non-elliptical constructions, then ellipsis followed by focus movement in such a language repairs island violations in the same way as English sluicing. I would like to explore the question of how far the generalization goes in future research.

Chapter 5: Left Node Raising and Resumption in Japanese

The previous chapters discussed island repair and non-repair under PF-deletion. In this chapter, I will discuss another island-repair strategy, resumption. It has been traditionally assumed that insertion of resumptive pronouns saves otherwise illicit A'-dependencies (wh-movement, relativization, etc.). On the other hand, resumptive pronouns are not freely applied in non-island environments in many languages such as English. Thus there has been argument that resumptive pronouns are only employed as a 'last resort' to save island violations (Shlonsky 1992, among others).

In this chapter, I will take up a construction which I call Left Node Raising (LNR) in Japanese. Examining properties of this construction, I will argue for the existence of a resumption strategy as a last resort even in a pro-drop language such as Japanese. In a pro-drop language, the phonetic emptiness of pro makes it difficult to distinguish between pro and other empty categories. Despite the potential confusion, I will show that the gaps observed in LNR usually behave like a trace, while they show properties of a null pronoun only when they are included inside an island. Such data argues for an analysis where inserting a resumptive pro is employed as a last resort when island violation occurs.

In Section 5.1., I will briefly illustrate previous studies on resumptive pronouns. In Section 5.2., I examine properties of Japanese LNR, concluding that they are instances of ATB-movement rather than a Null Object Construction, which includes pro. I will nevertheless show in Section 5.3. that LNR behaves like a Null Object Construction but only when there is an island involved, showing the last resort nature

of the resumptive pro strategy. In Section 5.4., I will introduce previous studies (Ishii 1991, Hornstein 1999, 2001, 2003) that also argue that resumptive pro is a last resort operation to corroborate my argument. Section 5.5. considers possible alternative analyses of LNR and points out their problems. Section 5.6. notes some data that I do not account for in my analysis, which show that two conjoined clauses do not behave symmetrically with respect to some of the properties of LNR. Section 5.7. concludes the chapter.

5.1. *Resumptive pronouns: introduction*

Resumptive pronouns are pronouns that are inserted instead of a gap at the tail position of an A'-chain such as wh-movement and relativization. As shown in the examples in (1) from Ross (1967: 432-3), resumptive pronouns in English are employed when the A'-dependency violates an island.

(1) a.   I just saw that girl who Long John's claim that **she** was a Venusian made all
          the headlines.
     b.   All the students who the papers which **they** submitted were lousy I'm not
          going to allow to register next term.
     c.   Didn't that guy who the Game Warden and **him** had seen a flying saucer
          crack up?
     d.   Palmer is a guy who for **him** to stay in school would be stupid.
     e.   The only kind of car which I can never seem to get **its** carburetor adjusted

right is them Stanley Steamers.

    f.   King Kong is a movie which you'll laugh yourself sick if you see **it**.

All the examples in (1a) cause an island violation (or more) when the resumptive pronoun is replaced by a gap, as shown in (2). For example, compared to the violation of Complex NP Constraint (plus *that*-trace effect) violation in (2a), the resumptive pronoun example (1a) is fairly acceptable. In this sense, you can see resumption as an amelioration strategy to obviate an island.

(2)   a.   *I just saw that girl who Long John's claim that **t** was a Venusian made all the headlines.

       b.   *All the students who the papers which **t** submitted were lousy I'm not going to allow to register next term.

       c.   *Didn't that guy who the Game Warden and **t** had seen a flying saucer crack up?

       d.   *Palmer is a guy who for **t** to stay in school would be stupid.

       e.   *The only kind of car which I can never seem to get **t** carburetor adjusted right is them Stanley Steamers.

       f.   *King Kong is a movie which you'll laugh yourself sick if you see **t**.

On the other hand, when the gap in an A'-dependency does not violate any islands as shown in (3a), a resumptive pronoun is unavailable as shown in (3b). This indicates

that resumption is available when and *only when* it violates an island.[1] Such observations led researchers to claim that use of a resumptive pronoun is a 'last resort' strategy to obviate a locality violation (Shlonsky 1992, McDaniel and Cowart 1999, Aoun, Choueiri and Hornstein 2001).

(3) a. I just saw that girl who Long John likes **t**.

   b. *I just saw that girl who Long John likes **her**.

In the following sections, I will defend such a view by showing that the Japanese resumptive pro appears only when movement is blocked. By doing so, we can confirm that a null pronoun in a pro-drop language such as Japanese can equally work as a saving strategy of locality violations.

5.2. Japanese Left Node Raising as ATB-movement

5.2.1. Left Node Raising and Null Object Construction

In this section, I will examine properties of Japanese sentences such as (22), which I call Left Node Raising (LNR).

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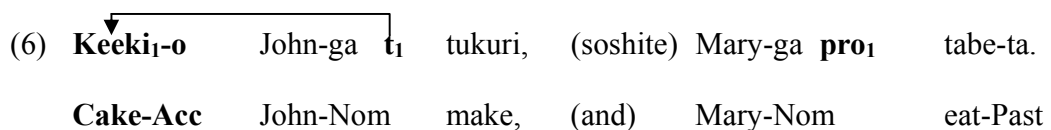
[1] However, there are some empirical debates as to when resumptive pronouns are available. Alexopoulou and Keller (2007), for example, argue that resumptive pronouns do not save island violations contra the previous assumption, and further claim that the amount of embedding in a non-island-violating configuration affects the availability of a resumptive pronoun (See Section 5.6.2.). Kayne (1981) argues that the relevant condition is the ECP rather than islands (See also Kroch 1981 and McDaniel and Cowart 1999).

(4) **Keeki-o**   John-ga   tukuri,   (soshite) Mary-ga   tabe-ta.

   Cake-Acc   John-Nom   make,   (and)   Mary-Nom   eat-Past

   "The cake, John made, and Mary ate."

In LNR, two (or more) sentences are conjoined and a shared argument (e.g. *cake* in (22)) is fronted to the leftmost position of the sentence, which is interpreted (in this case, as an object) in both conjuncts. It looks like a mirror image of English Right Node Raising (RNR), where the shared element is postposed to the rightmost position as shown in (5).

(5) John made, and Mary ate **the cake**.

At first sight, one might think that the fronted element in LNR is not actually shared by both conjuncts. Given that Japanese is a massive pro-drop language and that it allows scrambling, it should be possible to derive the LNR sentence (22) as shown in (6).

(6) **Keeki$_1$-o**   John-ga t_1 tukuri,   (soshite) Mary-ga **pro$_1$**   tabe-ta.

   Cake-Acc   John-Nom   make,   (and)   Mary-Nom   eat-Past

In (6), the apparent 'shared' NP (i.e. *cake*) scrambles within the first conjunct, and the gap in the second conjunct is a pro that refers to it. If this is the case, LNR is a variant of Null Object Construction (NOC) such as (7), where the object pro refers to the
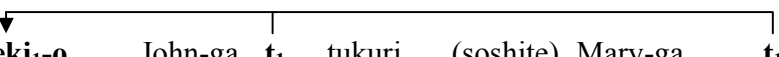
argument in the previous sentence, and you do not need to posit a special construction.

(7) John-ga   **keeki₁-o** tukut-ta.   Mary-ga **pro₁** tabe-ta.

   John-Nom   **cake-Acc** make-Past   Mary-Nom   eat-Past

   "John made a cake. Mary ate (it)."

In fact, it is possible to conjoin sentences in NOC as shown in (8a), and it is also possible to front the object in the first sentence as shown in (8b). The derivation of LNR proposed in (6) is a combination of these two operations.

(8) a.   John-ga   **keeki₁-o** tukuri,   Mary-ga **pro₁** tabe-ta.

    John-Nom   **cake-Acc** make-Past   Mary-Nom   eat-Past

    "John made the cake, and Mary ate (it)."

  b.   **Keeki₁-o**   John-ga   tukut-ta.   Mary-ga **pro₁** tabe-ta.

    Cake-Acc   John-Nom   make-Past   Mary-Nom   eat-Past

    "The cake, John made. Mary ate (it)."

Although the derivation in (6), in principle, *should* be possible, I will argue that it is not the real derivation of LNR. Instead, I will propose that LNR must be analyzed as an instance of ATB-scrambling of the shared element, as illustrated in (9).

(9) **Keeki₁-o**   John-ga **t₁**   tukuri,   (soshite) Mary-ga   **t₁**   tabe-ta.

   Cake-Acc   John-Nom   make,   (and)   Mary-Nom   eat-Past

Below, I will show that LNR such as (4) behaves differently from NOC such as (7) (and its variants in (8)) in a number of respects, and argue that the second gap of the LNR construction is not a pro. Based on such empirical evidence, I claim that LNR should be derived via ATB-movement rather than as shown in (6). If this line of analysis is on the right track, it suggests that the derivation (6) somehow must not be available when there is an alternative ATB-movement derivation in (9).

5.2.2.   LNR is not NOC

In this subsection, I describe four differences between LNR and NOC, which indicate that these two are different constructions.

5.2.2.1.   Case matching

The first difference comes from Case matching effects. In LNR, the fronted object must match in Case with both the first conjunct predicate and the second conjunct predicate. For example, in (10a), the first conjunct predicate *hana-o okuru* 'send a flower to' gives a Dative Case to *Mary*, and the second conjunct predicate *nagusameru* 'comfort' takes an Accusative object. In such an environment, LNR with a Dative object *Mary* fronted is degraded. The same is true when the Dative-assigning predicate and the Accusative-assigning predicate are reversed as in (10b). The first predicate *dansu-ni sasou* 'invite to dance' gives an Accusative Case, and the second

predicate *rabu retaa-o kaku* 'write a love letter to' gives a Dative Case. Because of the Case mismatch, LNR in these examples is degraded.

(10) a.　　??**Mary-ni**　John-ga　　　hana-o　　　　okuri,

　　　　　　Mary-Dat　John-Nom　　flower-Acc　　give,

　　　　　　Tom-ga　　　　nagusame-ta.

　　　　　　Tom-Nom　　　comfort-Past

　　　　　　"(To) Mary, John gave a flower and Tom comforted."

　　　b.　　??**Mary-o**　John-ga　　　dansu-ni sasoi,

　　　　　　Mary-Acc　John-Nom　　dance-to invite,

　　　　　　Tom-ga　　　　rabu retaa-o   kai-ta.

　　　　　　Tom-Nom　　　love letter-Acc write-Past

　　　　　　"(To) Mary, John invited to a dance, and Tom wrote a love letter."

On the other hand, pro in NOC does not have to have the same Case as its antecedent. In (11a), the indirect object *Mary* in the first sentence has Dative Case, and the pro in the second sentence gets Accusative Case from the predicate *nagusameru* "comfort". In this example, the Accusative pro can refer to the Dative antecedent. Similarly, pro in the Dative position can refer to an Accusative antecedent, as shown in (11b).

(11) a. **Mary-ni** John-ga hana-o okut-ta.

Mary-Dat John-Nom flower-Acc sent-Past

Tom-wa **pro** nagusame-ta.

Tom-Top comfort-Past

"John gave a flower to Mary. Tom comforted (her)."

b. **Mary-o** John-ga dansu-ni sasot-ta.

Mary-Acc John-Nom dance-to invite-Past

Tom-wa **pro** rabu retaa-o kai-ta.

Tom-Top love letter-Acc write-Past

"John invited Mary to a dance. Tom wrote a love letter (to her)."

These examples show that pro and its antecedent in NOC do not have a Case matching requirement, unlike LNR. This indicates that the second gap in LNR cannot be a pro.

5.2.2.2. Sloppy reading and honorification

Japanese has honorific nouns solely used for superior people's belongings, relatives, etc. For example, the honorific noun *ozyoosama* 'daughter(Hon)' refers to someone superior's daughter such as 'the teacher's daughter', and thus cannot refer to 'my daughter' as shown in the contrast in (12a). On the other hand, the regular noun *musume* "daughter" can refer to anyone's daughter, so both examples in (12b) is acceptable.

(12) a. sensei-no   ozyoosama,   *boku-no ozyoosama

         teacher-Gen   daughter$_{(Hon)}$ I-Gen   daughter$_{(Hon)}$

         "the teacher's daughter"   "my daughter"

    b.   sensei-no   musume,   boku-no musume

         teacher-Gen   daughter   I-Gen   daughter

         "the teacher's daughter"   "my daughter"

Given this distinction, consider the examples in (13). (13a) has an intended reading where Taro went to see off *his* daughter and I went to pick up *my* daughter. In such a reading, the noun *musume* 'daughter' simultaneously refers to two different daughters. Let us call this a sloppy reading of LNR.[2] Some speakers I consulted do not like the sloppy reading of (13a). Even for the speakers who accept sloppy reading, however, such a reading is impossible if there is honorification mismatch as shown in (13b).

(13) a. (??)Musume-o   Taro-wa kuruma-de   miokuri-ni   iki,

          Daughter-Acc   Taro-Top car-by   see-off-to   go,

         boku-wa densya-de   mukae-ni   it-ta.

         I-Top   train-by   pick-up-to   go-Past

         "Our daughters, Taro went to see off by car, and I went to pick up by train."

---

[2] Alternatively, the strict reading where I went to pick up the same person that Taro went to see off is possible, but only when the context makes it clear whose daughter you are talking about.

b. ***Ozyoosama-o** sensei-wa kuruma-de omiokuri-ni ik-are,

  Daughter(Hon)-Acc teacher-Top car-by see-off(Hon)-to go-Hon,

  boku-wa densya-de mukae-ni it-ta

  I-Top train-by pick-up-to go-Past

  "Our daughters(Hon), the teacher went(Hon) to see off(Hon) by car, and I went to

  pick up by train."

The fronted NP *ozyoosama* 'daughter(Hon)' can refer to the 'teacher's daughter' but it should not be interpreted as "my daughter." Thus, the sloppy reading is blocked in (13b).

Now consider the corresponding NOC sentences. (14a) shows that NOC also allows the sloppy reading. It allows the reading where *musume* "daughter" in the first sentence refers to Taro's daughter, while pro in the second sentence refers to my daughter. This sloppy reading, unlike in the case of LNR, is possible even when there is honorification mismatch, as exemplified in (14b). When the context is clear that you are talking about each person's daughter, the pro in the second sentence, which refers to 'my daughter' can take an honorific NP *ozyoosama* 'daughter(Hon)' as its antecedent.

(14) a.   Musume-o   Taro-wa kuruma-de   miokuri-ni   it-ta.

Daughter-Acc Taro-Top car-by   see-off-to   go-Past

Boku-wa **pro** densya-de   mukae-ni   it-ta.

I-top   train-by   pick-up-to   go-Past

"Taro went to see his daughter off by car. I went to pick (mine) up by

train."

b.   **?Ozyoosama-o**   sensei-wa   kuruma-de   omiokuri-ni   ik-are-ta.

Daughter(Hon)-Acc teacher-Top   car-by   see-off(Hon)-to go-Hon-Past

Boku-wa **pro** densya-de   mukae-ni   it-ta.

I-Top   train-by   pick-up-Dat go-Past

"The teacher went(Hon) to see off(Hon) his daughter(Hon) by car.

I went to pick (mine) up by train."

The contrast between (13b) and (14b), again, indicates that the second gap in the LNR

construction is different from pro in NOC.

5.2.2.3.   Distributive scoping

In English RNR, the shared element in the rightmost position can get a so-called

'distributive scoping' reading (Abels 2004). For instance, (15a) allows the reading

where "the song John sang and the song Mary recorded were two quite different

songs." In this reading, the shared element *two quite different songs* is interpreted

distributively in both conjuncts; such a reading is called distributive scoping reading.

On the other hand, the example (15b), where *two quite different songs* is inside of both conjuncts, doesn't have that reading.

(15) a. John sang, and Mary recorded, *two quite different songs*.

b. John sang *two quite different songs*, and Mary recorded *two quite different songs*. (Abels 2004: 51)

Similarly to English RNR, Japanese LNR allows the distributive scoping reading. For example, *two separate songs* in (16) can distribute over two conjuncts of LNR; in the same way as (15a), it allows the reading where "Taro sang one song and Hanako recorded one song, and the two songs were two separate songs."

(16) *Hutatu-no*   *betubetu-no*   *kyoku-o* Taro-ga   utai,

Two-Gen   *separate-Gen* *song-Acc* Taro-Nom   sing,

Hanako-ga   rokuonsi-ta.

Hanako-Nom   record-Past

"Two separate songs, Taro sang, and Hanako recorded."

On the other hand, the NOC example (17) does not allow distributive scoping. The only interpretation is the one under which "Taro sang two separate songs and Hanako recorded those two songs." LNR should not be treated on a par with NOC in this respect.

(17) *Hutatu-no*   *betubetu-no*   *kyoku-o* Taro-ga   utat-ta.

     Two-Gen   *separate-Gen* *song-Acc* Taro-Nom   sing-Past

     Hanako-ga   **pro**   rokuonsi-ta.

     Hanako-Nom   record-Past

     "Taro sang two separate songs. Hanako recorded (them)."

5.2.2.4.   Interrogative complements

Finally, there is discrepancy between what can be the shared element of LNR and what can be an antecedent of pro in NOC. A complement clause that includes a wh-phrase inside it (Tanaka 2008 calls it an "interrogative complement") can be fronted and be a shared element in LNR, as shown in (18).

(18) [_{CP} Taroo-ga   nani-o   tabe-ta to] Hanako-ga   ii

        Taroo-Nom   what-Acc   eat-Past C Hanako-Nom say

     Sachiko-ga   sinzi-tei-ru   no?

     Sachiko-Nom believe-Prog-Pres   Q

     "lit. [That Taro ate what] does Hanako say and Sachiko believes?"

     "meaning. What does Hanako say that Taro ate and Sachiko believes that Taro ate?"

However, as Tanaka (2008) points out, an interrogative complement is incompatible with NOC. The intended reading of the second clause in (19) is the one where the

nani-o 'what-Acc' inside the interrogative complement gets a matrix question interpretation, but such a sentence is excluded.[3]

(19) Hanako-ga [Taroo-ga   nani-o   tabe-ta   to] omot-tei-ru   no?

Hanako-Nom Taroo-Nom   what-Acc eat-Past C   think-Prog-Pres Q

*Sachiko-mo **pro**   omot-tei-ru   no?

Sachiko-also   think-Prog-Pres   Q

"What does Hanako think that Taro ate? What does Sachiko think (that Taro

ate)?"   (Tanaka 2008)

Tanaka (2008) attributes the impossibility of NOC to the fact that an interrogative complement cannot be a topic as shown in (20), concluding that a null object in NOC undergoes topicalization.

(20) [Taroo-ga nani-o   tabe-ta to](***-wa**) Hanako-ga   omot-tei-ru   no?

Taroo-Nom what-Acc   eat-Past C –**Top**   Hanako-Nom think-Prog-Pres Q

"What does Hanako think that Taro ate?" (Tanaka 2008)

I will not explore the exact status of NOC in detail here. Whatever the source of the unacceptability of (19) does not extend to the LNR example in (18). This is another piece of evidence that LNR should not be treated on a par with NOC.

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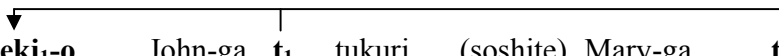
[3] Tanaka (2008) also argues that what we call a pro in NOC is derived by deletion (See also Section 5.5.2.2.). We tentatively represent the null argument in NOC as pro in the examples cited here.

5.2.3.   LNR as ATB-movement

The four differences between LNR and NOC discussed above are summarized in (21).

(21)		LNR	NOC
	Case matching	Yes	No
	Honorification matching	Yes	No
	Distributive scoping	Yes	No
	Interrogative complement	Yes	No

These differences indicate that LNR should not be treated as a type of NOC. Especially, the first two properties, Case matching requirement (Section 5.2.2.1.) and honorification matching requirement (Section 5.2.2.2.), show that the 'shared' argument of LNR must be identical in form in both conjuncts. Based on these observations, I argue that the shared element in LNR undergoes ATB-movement, presumably ATB-scrambling, as shown in (9), repeated here as (22).

(22) **Keeki$_1$-o**   John-ga t_1 tukuri,   (soshite) Mary-ga t_1 tabe-ta.

Cake-Acc   John-Nom   make,   (and)   Mary-Nom   eat-Past
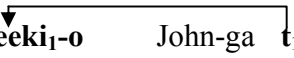
Note that ATB wh-movement also shows Case matching requirement, as the Polish examples in (23) show (Citko 2003; See also Dyła 1984 and Franks 1993,

1995). The ATB-movement of the wh-phrase *co* "what" is only allowed when the trace positions in the first conjunct and the second conjunct match in Case.

(23) a. *Co*$_{ACC}$ Jan lubi t_{ACC} i   Maria   uwielbia t_{ACC}?   (Citko 2003)

what   Jan likes   and Maria   adores

"What does Jan like and Maria adore?"

   b. *Co$_{ACC}$ Jan lubi t_{ACC} i   Maria   nienawidzi t_{GEN}?

what   Jan likes   and Maria   hates

"What does Jan like and Maria hate?"

This similarity between our LNR example and standard ATB wh-movement support the ATB-movement analysis of LNR.

The data of Case matching requirement and honorification matching requirement have another important implication. In these examples, LNR imposes matching requirements on the two gap positions in two conjuncts. On the other hand, pro in NOC freely refers to an antecedent that has a different form (Case and honorification) from itself. In this sense, the distribution of LNR is more restricted than that of NOC in these examples. If LNR could be derived via the NOC derivation in (6), repeated here as (24), *as well as* via ATB-movement in (22), the distribution of LNR should be a superset of the distribution of NOC. That obviously is not the case. Thus, the alternative derivation in (24) that derives the exact same word order as LNR is somehow prohibited when LNR is possible.

(24) **Keeki₁-o**   John-ga   **t₁**   tukuri,   (soshite)   Mary-ga   **pro₁**   tabe-ta.

      Cake-Acc   John-Nom   make,   (and)   Mary-Nom   eat-Past

In the next subsection, I will argue that the unavailability of pro in such a configuration is due to the general principle that allows pro only when movement is impossible. Whenever ATB-movement derivation is possible as shown in (22), the derivation with a pro such as (24) is prohibited.

5.3. *Island constraints and availability of pro*

This subsection considers how LNR behaves with respect to islands. Scrambling is constrained by islands (at least strong islands such as complex NP islands) in the same way as other overt movement. The example (25) is excluded because it involves scrambling of the NP *sono saihu-o* 'the wallet-Acc' out of the complex NP.

(25) *__Sono__   **saihu-o**   Taro-ga   [**t**   hirot-ta   hito]-o   sagasi-ta.

      The   **wallet-Acc**   Taro-Nom   pick-up   person-Acc   look-for-Past

      "The wallet, Taro looked for [the person who picked up _]."

Similarly, it is natural under our ATB-movement analysis of LNR that the example (26) is unacceptable. Each of the two conjuncts in (26) involves an island and the shared element *the wallet* is extracted out of them, which should be blocked in the

same way as the regular scrambling example in (25).

(26) *Sono   saihu-o   Taro-ga [**t**   hirot-ta   hito]-o   sagasi,

The   wallet-Acc   Taro-Nom   pick-up   person-Acc   look-for

Hanako-ga   [**t**   nusum-ooto   si-ta   otoko]-o oikake-ta.

Hanako-Nom   steal-to   do-Past   man-Acc chase-Past

"The wallet, Taro looked for [the person who picked up _], and Hanako chased

[the man who tried to steal _]."

However, even under the NOC analysis of LNR, (26) should be blocked. If only

the first conjunct involves clause-internal scrambling and the second gap position is a

pro, the first clause scrambling in (26) should cause an island violation as illustrated

in (27). Thus, such an example does not distinguish between the ATB-movement

analysis and the NOC analysis.

(27) *Sono   saihu$_1$-o   Taro-ga [**t$_1$**   hirot-ta   hito]-o   sagasi,

The   wallet-Acc   Taro-Nom   pick-up   person-Acc   look-for

Hanako-ga   [**pro$_1$**   nusum-ooto   si-ta   otoko]-o oikake-ta.

Hanako-Nom   steal-to   do-Past   man-Acc chase-Past

A prediction of our ATB-movement analysis is that, even when the first clause

scrambling does not violate any islands, LNR should be bad if the second gap is

involved in an island, because the second gap of LNR is a trace rather than pro. (28) is one such example.

(28) (*) **Sono**   **saihu-o**   Taro-ga **t**   hiroi,

   The   **wallet-Acc**   Taro-Nom   pick-up,

   Hanako-ga   [**e**   nusum-ooto   si-ta   otoko]-o oikake-ta.

   Hanako-Nom   steal-to   do-Past   man-Acc chase-Past

   "The wallet, Taro picked up _, and Hanako chased [the man who tried to steal _]."

Among my six informants, four (including myself) accept (28). For the two speakers who do not accept (28), it indicates that the second gap of LNR is also derived via movement. Thus our ATB-movement analysis is partially supported.

   The four speakers who accept (28) (including myself) are apparently problematic. Their intuition seems to run against the ATB-movement analysis. However, further investigation of the data reveals that this type of sentence, even for those who accept it, does not display the properties of LNR anymore.

   First, the Case matching requirement is absent from (29), unlike the regular LNR example (10a), which is repeated below as (30). In (29), the first clause predicate is an Accusative-assigning verb *nagusameru* 'comfort' and the second clause predicate inside the island is the verb *kisusuru* 'kiss', which assigns Dative Case. Despite this Case mismatch, however, this sentence is as good as (23) for the speakers who accept (23) in the first place. (All of the following judgments in this subsection are based on

those speakers). Unlike in (30), there is no Case matching requirement when the second gap is included in an island.

(29) **Sono** **zyoyuu$_1$-o** Taro-ga nagusame,

The **actress-Acc** Taro-Nom comfort

Hanako-ga [e$_1$ kisu-si-ta stookaa]-o oikake-ta.

Hanako-Nom kiss-do-Past stalker-Acc chase-Past

"The actress, Taro comforted _ and Hanako chased [the stalker who kissed _]."

(30) ??**Mary-ni** John-ga hana-o okuri, Tom-ga nagusame-ta.

Mary-Dat John-Nom flower-Acc give, Tom-Nomcomfort-Past

"(To) Mary, John gave a flower and Tom comforted."

Moreover, distributive scoping is unavailable in (31), although it is possible in (32), which is repeated from (16) (Jun Abe, p.c.). (31) cannot have the reading where "Taro sang one song, Hanako met a man who recorded one song, and these two songs were two separate songs." In this respect, too, LNR with an island does not behave like LNR anymore.

(31) **Hutatu-no** **betubetu-no kyoku$_1$-o** Taro-ga utai,

Two-Gen **separate-Gen song-Acc** Taro-Nom sing

Hanako-ga [e$_1$ rokuonsi-ta hito]-ni at-ta.

Hanako-Nom record-Past person-Dat meet-Past

"Two separate songs, Taro sang _ and Hanako met [the person who recorded _]."

(32) *Hutatu-no*   *betubetu-no*   *kyoku-o* Taro-ga   utai,

     Two-Gen   *separate-Gen song-Acc* Taro-Nom   sing,

     Hanako-ga   rokuonsi-ta.

     Hanako-Nom   record-Past

     "Two separate songs, Taro sang and Hanako recorded."

These data (absence of Case matching requirement and unavailability of distributive scoping) show that LNR that involves an island behaves like NOC, unlike LNR without an island.

     LNR with an island, however, does not behave completely parallel to NOC in every respect. For example, while an interrogative complement is incompatible with NOC as we have seen in (19) (repeated here as (33)), LNR with an island allows an interrogative complement to be the shared element as shown in (34), in the same way as the simple LNR example in (18).

(33) Hanako-ga   [Taroo-ga   nani-o   tabe-ta   to]   omot-tei-ru   no?

     Hanako-Nom Taroo-Nom   what-Acc eat-Past   C   think-Prog-Pres Q

     *Sachiko-mo **pro**   omot-tei-ru   no?

     Sachiko-also   think-Prog-Pres   Q

     "What does Hanako think that Taro ate? What does Sachiko think (that Taro ate)?

(34) [Taroo-ga   nani-o   tabe-ta   to]   Hanako-ga   ii,

Taroo-Nom   what-Acc eat-Past   C   Hanako-Nom   say

Sachiko-ga [**pro**   sinzi-ta   hito]-ni   at-ta   no?

Sachiko-also   believe-Past   person-Dat   meet-Past   Q

"lit. [That Taro ate what] did Hanako say and Sachiko met [a person who

believed _]?"

"meaning. What does Hanako say that Taro ate and Sachiko met [a person who

believed (that)]?"

Finally, the honorification matching effect under sloppy reading cannot be tested,

because the sloppy reading is disallowed when LNR involves an island. (35) cannot

have the reading where "Taro went to see off *his daughter* by car and I said thank you

to the person who went to pick up *my daughter* by train." That is surprising given that

sloppy reading is available (at least for some speakers) in LNR without an island, as

shown in (36), repeated from (13a). This is yet another piece of evidence that LNR

that includes an island behaves differently from LNR without an island.

(35) **Musume-o**   Taro-wa kuruma-de   **t**   miokuri-ni   iki, boku-wa

Daughter-Acc Taro-Top car-by   see-off-to   go, I-Top

[densya-de **e** mukae-ni   it-ta   hito]-ni   orei-o   it-ta.

train-by   pick-up-to   go-Past   person-Dat   thanks-Acc   say-Past

"Our daughters, Taro went to see off by car, and I said thank you to the person

who went to pick up by train."

(36) (??)Musume-o   Taro-wa kuruma-de   miokuri-ni   iki,

   Daughter-Acc   Taro-Top car-by   see-off-to   go,

   boku-wa densya-de   mukae-ni   it-ta.

   I-Top   train-by   pick-up-to   go-Past

   "Our daughters, Taro went to see off by car, and I went to pick up by train."

Typical NOC examples, on the other hand, do allow sloppy reading, as we have
already seen in (14a), repeated here as (37).

(37) Musume-o   Taro-wa kuruma-de   miokuri-ni   it-ta.

   Daughter-Acc Taro-Top car-by   see-off-to   go-Past

   Boku-wa **pro** densya-de   mukae-ni   it-ta.

   I-top   train-by   pick-up-to   go-Past

   "Taro went to see his daughter off by car. I went to pick (mine) up by train."

The last two pieces of data, unlike the first two, do not exactly show the
parallelism between LNR with an island and NOC. (We will discuss these differences
in Section 5.5.2.2.) As we will see in the next section, however, the final piece of data,
the unavailability of the sloppy reading, *does* support the hypothesis that LNR with an
island involves a resumptive pro.

It is observed that resumptive pro is not allowed to reconstruct (Ishii 1991). If
we assume that sloppy reading of the bare noun *musume* 'daughter' comes from the
reconstruction of the null genitive pronoun into two different positions as illustrated

in (38), and that the second gap position inside the island in (35) is a resumptive pro, the unavailability of sloppy reading is explained in terms of the ban on reconstruction.

(38) [pro(GEN) **Musume]-o**   Taro₁-wa kuruma-de [pro₁   **musume]-o**   miokuri-ni

    daughter-Acc Taro-Top car-by   **daughter-Acc** see-off-to

  iki, boku₂-wa densya-de   [pro₂ **musume]-o** mukae-ni   it-ta.

  go   I-Top train-by   **daughter-Acc** pick-up-to go-Past

Based on these considerations, I argue that LNR with an island in the second clause employs a resumptive pro strategy (as far as it is acceptable), rather than ATB-movement. The differences in behavior between LNR without islands and LNR with an island reveal that the resumptive pro strategy in the latter case is not available in the former case. In sum, a resumptive pro is only available when ATB-movement is blocked due to an island violation.

This conclusion goes well with our observation on resumption in general. We have seen in Section 5.1. that resumptive pronouns in English are also available only when movement is blocked by an island, as shown in the contrast in (39) (See also the examples in (3)).

(39) a. I'd like to meet the linguist that Mary couldn't remember [if she had seen

    him before]. (Chao and Sells 1983)

  b. *I'd like to meet the linguist that Mary had seen **him**.

Given this, I assume that the pro strategy employed in LNR with an island is roughly of the same kind as overt resumptive pronouns in English.

5.4. Null resumptive pronouns as a last resort

In the previous section, I argued that LNR employs a resumptive pro strategy only when the otherwise-available ATB-movement is blocked because of an island, and concluded that resumptive pro is a last resort option in the same way as the English overt pronouns. Such a conclusion is in accord with previous analyses of null resumptive pronouns. Below I review two phenomena that illustrate the 'last resort' nature of pro in Japanese and English. The first example is Japanese relative clauses. The second is English control structures. In both cases, a resumptive pro is only possible when the corresponding movement operation is impossible due to an island.

5.4.1.   Japanese relative clauses

The argument that Japanese has a null resumptive pro is not novel. Ishii (1991), for example, argues that Japanese relativization involves operator movement; a resumptive pro strategy is employed only when this movement is blocked. Below I will discuss some of his arguments.

5.4.1.1.   Simple relativization and relativization out of an island

(40) is an example of Japanese relative clauses. In Japanese, the head noun (e.g.
yoohuku 'clothes') shows up on the right side of the relative clause. Since the object
yoohuku 'clothes' of the verb *kiru* 'wear' is relativized in this example, there is a gap
in the object position of the relative clause (indicated as e_1).

(40) [$_{NP}$ [$_S$ sono sinsi-ga e_1 ki-tei-ru]   yoohuku$_1$]

              the   gentleman-Nom   wear-Prog-Pres   clothes

     "The clothes that the gentleman is wearing"

Japanese relative clauses are assumed to be island-insensitive. For example,
'relativization out of a relative clause' is possible, as illustrated in (41). That is, you
can take up the structure in (40) and further relativize another NP *sinsi* 'gentleman'
inside the relative clause, as shown in (41).

(41) [$_{NP}$ [$_S$ [$_{NP}$ [$_S$ e_2 e_1 ki-tei-ru]   yoohuku$_1$]-ga yogore-tei-ru]   sinsi$_2$]

                    wear-Prog-Pres   clothes-Nom   be-dirty-Prog-Pres gentleman

     "The gentleman that [[the clothes that (he) is wearing] is dirty]"

Ishii (1991) shows, however, that such relativization out of a relative clause
behaves different from simple relativization in a number of respects. Specifically, he
shows that only simple relativization, but not relativization out of a relative clause,

shows typical properties of movement. Based on such observations, he argues that simple relative clauses such as (40) involve movement of a null operator as illustrated in (42a), while the second relativization in (41) employs a resumptive pro that is coindexed with the head noun, as shown in (42b).

(42) a.　[$_{NP}$ [$_{S'}$ **Op$_1$** [$_S$　sono sinsi-ga　**t$_1$**　　　ki-tei-ru]]　　　yoohuku1]

　　　　　　　　　the gentleman-Nom　　wear-Prog-Pres　clothes

　　b.　[$_{NP}$ [$_S$ [$_{NP}$ [$_{S'}$ Op$_1$ [$_S$ **pro$_2$** t$_1$　ki-tei-ru]　　yoohuku$_1$]-ga

　　　　　　　　　　　　　　　wear-Prog　　clothes-Nom

　　yogore-tei-ru]　　sinsi$_2$]

　　be-dirty-Prog-Pres　gentleman

Ishii shows that there are three differences between simple relativization and relativization out of a relative clause: reconstruction effects, weak crossover effects, and the availability of quantificational heads. I will review each of these differences below.

5.4.1.2.　Reconstruction effects

　　Japanese relative clauses show reconstruction effects with reflexives *kare-zisin* 'him-self'. When the head noun of a relative clause includes a reflexive as shown in

(43a), it can refer to the subject *John* inside the relative clause.[4] On the other hand, the reconstruction effect is not observed in relativization across an island. In (43b), the outer relative clause is headed by an NP that includes *kare-zisin*, and this relativization crosses another relative clause that is headed by *hito* 'person'. In such a configuration, the sentence is degraded, which shows that the reflexive is not reconstructed inside the embedded clause.

(43) a. [[John$_2$-ga   e$_1$ taipu-si-ta]   kare-zisin$_2$-no ronbun$_1$]

     John-Nom   type-do-Past   him-self-Gen paper

     "himself$_2$'s paper$_1$ that John$_2$ typed" (slightly modified from Ishii 1991: 29)

   b. ?*[Mary-ga [[John$_3$-ga e$_1$ e$_2$ mise-ta   koto-ga   aru]

     Mary-Nom   John-Nom   show-Past   thing-Nom   exist

     hito$_1$]-o   sit-tei-ru]   kare-zisin$_3$-no syasin$_2$

     person-Acc   know-Prog-Pres   him-self-Gen picture

     "himself$_3$'s picture$_2$ that Mary knows the person$_1$ who John$_3$ showed"

     (Ishii 1991: 30)

---

[4] Unlike *kare-zisin* 'him-self', another reflexive pronoun *zibun* 'self' does not exhibit a reconstruction effect into relative clauses (Hasegawa 1988: 59).

(i)   *[John$_2$-ga e$_1$ taipu-si-ta]   [zibun$_2$-no ronbun$_1$]
         John-Nom   type-do-Past   self-Gen   paper
       "self$_2$'s paper that John$_2$ typed"

Ishii (1991) assumes that reconstruction effects in some cases are due to chain binding (Barss 1986) rather than 'literal' reconstruction (e.g. lowering). He further assumes that *zibun* is an operator that undergoes LF-movement to VP (Katada 1989; see also Abe 1990), and argues that LF-movement of *zibun* will violate Proper Binding Condition in examples such as (i). Thus, *zibun* shows reconstruction effects only with movement that allows literal reconstruction (e.g. scrambling: See Saito's 1989 argument that scrambling can be undone at LF).

Assuming that reconstruction effects are a signature property of movement, Ishii takes this contrast as an indication that only (43a) involves movement.

If his analysis is on the right track, it must follow that a resumptive pro (which he argues to be involved in (43b)) resists reconstruction. This conclusion is compatible with my explanation of the lack of sloppy reading discussed in (35) (repeated here as (44)).

(44) **Musume-o**   Taro-wa kuruma-de   **t**   miokuri-ni   iki, boku-wa

    Daughter-Acc Taro-Top car-by   see-off-to   go, I-Top

    [densya-de **e** mukae-ni   it-ta   hito]-ni   orei-o   it-ta.

    train-by   pick-up-to   go-Past person-Dat thanks-Acc say-Past

    "Our daughters, Taro went to see off by car, and I said thank you to the person who went to pick up by train."

I suggested that the lack of sloppy reading may be attributed to the lack of reconstruction, given that sloppy reading is obtained via reconstruction of the shared element inside two original position of ATB-movement (See (37)). If this explanation of the sloppy reading is on the right track, Ishii's 'relativization out of an island' examples and my 'LNR out of an island' examples both resist reconstruction effects. This corroborates the analysis where these two phenomena involve the same resumption mechanism.

5.4.1.3.   Weak Crossover

Ishii shows that so-called weak crossover effects are observed only in simple relative clauses. In Stowell and Lasnik (1991), weak crossover is defined as in (45) (cf. Chomsky 1976, Reinhart 1976, 1983, Koopman and Sportiche 1982, Safir 1984).

(45) In a configuration where a pronoun P and a trace T are both bound by a quantifier Q, T must c-command P. (Stowell and Lasnik 1991)

According to this definition, weak crossover violations should be observed when a pronoun that is bound by Q is not c-commanded by the trace of Q. Given this, consider the examples in (46a). Here, the pronoun *soitu* 'that guy' inside the relative clause fails to be c-commanded by the empty position e_1, and the sentence is degraded. Ishii (1991) attributes this degradedness to the weak crossover effect and argues that the empty position in (46a) is a trace.

(46) a.   ?*[**soitu$_1$**-ga   hihansi-ta   onna]-ga e_1 nagut-ta] otoko$_1$

            that-guy-Nom criticize-Pazt woman-Acc   hit-Past   man

     "**a man$_1$** that [the woman who **he$_1$** criticized] hit **e$_1$**"

     (Ishii 1991: 41)

b.　[[NP **soitu₁**-ga　　hihansi-ta　　onna]-ga [NP [S **e₁**　e₂　osie-ta]

that-guy-Nom criticize-Past woman-Nom　　　　teach-Past

gakusei₂]-o　　nagut-ta] otoko₁

student-Acc　hit-Past　man

"**a man₁** that [the woman who **he₁** criticized] hit [the student who **e₁**

taught]" (*ibid*: 42)

On the other hand, the more complex example (46b) does not have the same status.

The sentence is still acceptable while the pronoun *soitu* again is accompanied by a

non-c-commanding gap e_1. This suggests that the gap e_1, which is created by the

relativization out of the relative clause headed by *gakusei* 'student', is not a trace,

unlike in the example (46a).

5.4.1.4.　Quantificational head

The final difference between the two types of relative clauses comes from the

availability of a quantificational head. Chao and Sells (1983) observe that English

resumptive pronouns cannot be bound variables; they are incompatible with a

quantificational head.[5]

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[5] Contra Chao and Sells' (1983) judgment, Norbert Hornstein (p.c.) accepts this sentence. His judgment is compatible with his claim (Hornstein 2003) that a non-obligatory control PRO is a type of resumptive pronoun (See Section 5.4.2.), because a non-obligatory control PRO such as (i) allows a quantificational antecedent. (In this particular case, PRO takes a split antecedent, that is, *everyone* and *someone*.)

(i)　Everyone₁ persuaded someone₂ that [PRO₁₊₂ washing each other would amuse Mary].

(47) *I'd like to meet every linguist that Mary couldn't remember if she had seen him

before. (Chao and Sells 1983)

This suggests that whenever a relative clause is headed by a quantificational head, a resumptive option is unavailable. Under Ishii's analysis where relativization out of an island involves a resumptive pronoun, it is predicted that quantificational heads are unavailable for such island-crossing relative clauses.

The prediction is borne out, as shown in (48). Unlike the usual relativization (e.g. (41)), Japanese relative clauses with a quantificational head cannot occur from inside another relative clause (Oka 1988: 204).[6]

(48) a. [John-ga **e**   nagut-ta] **dono   onna-mo**

John-Nom   hit-Past   which   woman-also

"Every woman that John hit e"

b. *[Bill-ga   [John-ga **e**   nagut-ta]-node   okot-tei-ru]

Bill-Nom   John-Nom   hit-Past-because   be-angry-Prog-Pres

dono   onna-mo

which   woman-also

"Every woman that Bill is angry [because John hit e]"

(Hornstein 2003: 51)

[6] The expression *dono* NP-*mo* 'which NP-also' is usually translated as 'every.'

(i)   Dono   gakusei-mo   benkyoosi-ta.   "Every student studied."
Which   student-also   study-Past

This shows that "relativization out of an island" obeys the same condition as English resumptive pronouns, which supports his analysis that such relativization employs a resumption strategy.

5.4.1.5.   Summary

Let us summarize the three behavioral differences between the two types of relativization. A simple clause shows reconstruction effects, it induces a weak crossover violation, and it allows a quantificational head. On the other hand, a relative clause that occurs from inside another relative clause does not show reconstruction effects, it does not show weak crossover effects, and it is imcompatible with a quantificational head. In sum, only the former shows properties of movement. Based on these observations, Ishii (1991) concludes that only the former case involves operator movement, and a resumptive pro is inserted in the latter case, when the operator movement is blocked by the existence of an island.

5.4.2.   Obligatory vs. Non-Obligatory Control

The examples of LNR and relative clauses in Japanese illustrate the behavior of Japanese resumptive pro and its 'last resort' nature. A similar proposal has also been made about English null resumptive pronouns. Hornstein (1999, 2001, 2003) argues that so-called PRO in control configurations is a residue of A-movement, and that a

resumptive pro is inserted as a last resort only when this movement is blocked. This section reviews his analysis of two types of control.

5.4.2.1.   Properties of obligatory vs non-obligatory control

Hornstein (1999, 2001, 2003) classifies control into two subtypes: obligatory control and non-obligatory control. PRO in control typically shows up in a subject position of a non-finite clause such as infinitival clauses and geruntive clauses. Obligatory control PRO shows up in the subject position of a complement infinitival clause as shown in (49a)[7], while non-obligatory control PRO appears in the subject position inside a subject non-finite clause, as shown in (49b).[8]

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[7] Obligatory control PRO also shows up inside an adjunct clause as shown in (i), which Hornstein (2001, 2003) calls adjunct control.

(i)   John$_1$ left [PRO$_1$ without saying goodbye].

He argues that adjunct control PRO is derived via movement in the same way as other obligatory control PRO (See Section 5.4.2.2. for his analysis of obligatory control PRO). In the case of adjunct control, this movement is sideward movement. See Hornstein (2001, 2003) for details of the analysis.

[8] Epstein (1984) argues that some instances of so-called arbitrary PRO as exemplified in (i) should be analyzed as obligatory control PRO.

(i)   a.   It is fun [PRO to play baseball].   (Epstein 1984: 499)
       b.   [PRO To play baseball] is fun.   (*ibid*: 502)

In these examples, PRO is interpreted to be identical to the experiencer of the predicate *fun*. Based on this observation, he claims that PRO in these cases is controlled by an experiencer pro in the matrix clause, which has a generic interpretation. (See Lebeaux 1984 and Bhatt and Izvorski 1998 for similar proposals. Lebeaux argues that the controller is a null generic operator, and Bhatt and Izvorski argue that it is an implicit argument rather than pro.) This suggests the possibility that all instances of PRO are obligatorily controlled, contra Hornstein's distinction.

Hornstein (2003), however, suggests that this might not always be the case. In sentences such as (ii), the arbitrary interpretation of PRO is possible and yet PRO is distinct from the experiencer (*Bill*).

249

(49) a.   John hopes [PRO to eat a bagel].

b.   John hopes that [[PRO eating a bagel] will be fun].   (Hornstein 2003: 12)

Hornstein points out that these two types of PRO behave differently in a number of respects. I summarize some of them below.

(50) a.   *It was expected PRO to shave himself.

b.   *John$_1$ thinks that it was expected PRO$_1$ to shave himself.

c.   *John$_1$'s campaign expects PRO$_1$ to get a medal.

d.   John$_1$ expects PRO$_1$ to win and Bill does, too. (sloppy reading only)

(Hornstein 2003: 13)

(51) a.   It was believed [that PRO shaving was important].

b.   John$_1$ thinks that it is believed [that PRO$_1$ shaving himself is important].

c.   Clinton$_1$'s campaign believes [that PRO$_1$ keeping his sex life under control is necessary for electoral success].

d.   John$_1$ thinks [that PRO$_1$ getting his résumé in order is crucial] and Bill does, too. (strict reading/sloppy reading)   (*ibid:* 13)

First, an obligatory control PRO requires an antecedent (e.g. (50a)) while an antecedent-less non-obligatory control PRO is possible (e.g. (51a)). Second, the antecedent of an obligatory control PRO needs to be local (e.g. (50b)), while a non-

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(ii)   John thinks that shaving oneself is important to Bill.   (Hornstein 2003: 76)

obligatory control PRO allows non-local binding (e.g. (51b)). Third, the antecedent must c-command PRO in obligatory control (e.g. (50c)). On the other hand, a non-obligatory control PRO can have a non-c-commanding antecedent (e.g. (51c)). Fourth, an obligatory control PRO only allows sloppy reading under VP-deletion (e.g. (50d)); a non-obligatory control PRO allows both strict and sloppy readings (e.g. (51d)). (See Hornstein 2003 for other differences.)

Based on these observations, Hornstein concludes that an obligatory control PRO behaves in the same way as anaphors, while a non-obligatory control PRO exhibits properties of pronominals. As is well-known in Binding Condition A in (52a) (Chomsky 1981, followed by many others), an anaphor requires a local, c-commanding antecedent. This is exactly the property of an obligatory control PRO as shown in (50a-c). On the other hand, a pronoun is in complementary distribution with an anaphor as Binding Condition B in (52b) states; a pronominal is allowed in any configuration as long as it does not have a local c-commanding antecedent. Thus the distribution of a non-obligatory control PRO in (51a-c) follows if it is a pronominal.

(52) a. An anaphor is bound in its governing category.

b. A pronominal is free in its governing category. (Chomsky 1981: 188)

Also, the contrast with respect to the availability of strict reading under VP deletion between (50d) and (51d) supports the idea that the former is an instance of an anaphor and the latter involves a pronominal. Bach, Bresnan and Wasow (1974) and Williams (1977) show that reflexives such as *himself* only allow a sloppy reading under VP

deletion as shown in (53).[9] On the other hand, as is well-known since Ross (1967),

pronominals such as in (54) are ambiguous between the strict and the sloppy readings.

(53) John shot himself and Bill did too.   (Williams 1977: 116)

(54) John scratched his arm and Mary did, too.   (Ross 1967: 348)

In sum, the properties of an obligatory control PRO and a non-obligatory control PRO

illustrated in (50) and (51) parallel those of an anaphor and a pronominal, respectively.

5.4.2.2.   Obligatory control

Given the above differences between obligatory and non-obligatory control, let

us turn to Hornstein's (1999, 2001, 2003) analysis of each of them. Hornstein argues

that obligatory control is derived by A-movement. Under his analysis, obligatory

control in (55a) has basically the same structure as raising in (55b). Traditionally, they

have been treated as different constructions, based on the fact that the subject of a

control verb is a θ-position, while the subject of a raising verb is not. Hornstein,

however, argues that they both involve A-movement, and the only difference between

obligatory control and raising is that only the former involves a movement from a θ-

position into another θ-position.

---

[9] Sag (1977), on the other hand, report that some informants can access to the strict reading of
a reflexive in examples such as (i).

(i)   John likes himself, and Bill did, too. (Sag 1977: 101)

(55) a. **John₁** hopes [**t₁** to eat a bagel].   (Obligatory control: = (49a))

  b. **John₁** seems [**t₁** to eat a bagel].   (Raising)

Since A-movement traces are analyzed as a type of anaphor because they obey Binding Condition A (Chomsky 1981), the anaphoric status of obligatory control PRO naturally follows from this analysis.

  The A-movement in obligatory control proceeds in the following way. In (56), the DP *John* first merges with the embedded verb *win* to discharge the verb's θ-feature. Next, it drops by at the embedded [Spec, IP] position to satisfy the EPP by checking I's D-feature. (This movement is not driven by a Case-feature because the subject position of the nonfinite clause is not a Case position.) Then it moves on to the matrix clause and merges with the matrix VP to discharge the subject θ-feature. Finally, it moves to the matrix [Spec, IP] to get Nominative Case and to satisfy the EPP of the matrix clause.

(56) John tried to win.

[IP John past [VP (John) [VP try [IP (John) to [VP (John) win]]]]]

  Case   **θ**   **θ**
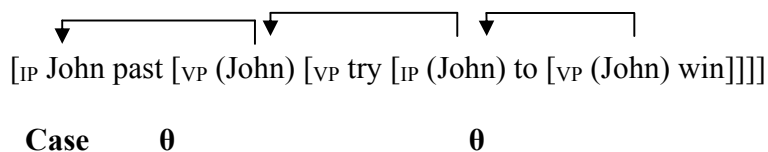
  His crucial assumption is that θ-roles are assigned derivationally via discharging of θ-features. If every DP gets its θ-role in its base-generated position as is traditionally assumed, it would be impossible for one DP to have multiple θ-roles in
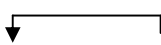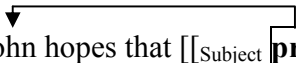
the course of the derivation, and movement from one θ-position to another as illustrated in (56) would be impossible. Thus, employing the assumption that movement into a θ-position is possible enables the movement analysis of control. This has a welcome result: if control is a type of A-movement, we can get rid of the grammatical formative called PRO and reduce the two phenomena in (55) to one type of movement.

5.4.2.3.   Non-obligatory control as a last resort

As we have observed in 5.4.2.1., an obligatory control PRO behaves like an anaphor and a non-obligatory control PRO behaves like a pronominal. The former fact is explained by analyzing an obligatory control PRO as a residue of A-movement, hence, an A-trace. The remaining question is how the pronominal status of non-obligatory control is accounted for. Hornstein (1999, 2001, 2003) observes that properties of an obligatory control PRO are a proper subset of properties of a non-obligatory control PRO. Recall from (50) and (51) that an obligatory control PRO takes a local, c-commanding antecedent, while a non-obligatory control PRO need not. In fact, the latter takes any kinds of antecedents *other than* a local, c-commanding antecedent or no antecedent at all (as exemplified in (51)). The distribution of the former is more restricted than the latter, and they are in a complementary distribution. Based on this observation, he claims that non-obligatory control is an 'elsewhere' case: it is allowed whenever obligatory control is disallowed.

Hornstein claims that a non-obligatory control PRO is a Case-less pro, which is

inserted as a 'last resort' when movement involved in obligatory control is blocked. In the obligatory control example (57a), the subject *John* moves from the embedded subject position into the matrix subject position, checking two θ-roles (the intermediate steps are omitted) as we have seen in 5.4.2.2. On the other hand, in the non-obligatory control configuration in (57b), the original θ-role position is inside the subject clause; movement from this position is constrained by the sentential subject constraint (Ross 1967). In such a case where A-movement trace is not allowed inside an island, Hornstein argues that pro is inserted instead as shown in (57b).

(57) a. John hopes [John to eat a bagel].   (= (49a))

     b. John hopes that [[$_{Subject}$ **pro** eating a bagel] will be fun].   (= (49b))

This pro-insertion is a last resort operation which is on a par with *do*-insertion in Infl. Assuming that the use of pro is a last resort operation, this analysis explains the fact that PRO behaves like a pronoun *only when* it is inside a subject clause island. The behavioral differences between obligatory and non-obligatory control are thus accounted for. Hornstein attributes this 'last resort' nature of pro to the UG principle in (58).

(58) UG prefers movement operations to construal processes.

    (Hornstein 2003: 51-52)

Presumably, when Hornstein employs the term 'construal processes', he is assuming the existence of a type of pro-insertion operation; the binding of the inserted pro requires the less-preferred 'construal process'. This is why pro can occur only when movement, which is a more preferred option, is prohibited.

5.4.3.   Summary

This section reviewed arguments that pro is inserted a last resort option based on Japanese relative clauses and English control constructions. Assuming the UG principle in (58), the distribution of Japanese resumptive pro observed in the LNR example (Section 5.3.) and relative clauses (Section 5.4.1.), as well as the distribution of English pro in non-obligatory control (Section 5.4.2.), is reduced to this principle. In all of these examples, the gap position behaves like a pro *only when* there is an island, but otherwise it *must* behave like a movement trace, because movement is a preferred option by UG.

5.5. Alternative analyses

5.5.1.   Three possible alternatives

In Section 5.2., I analyzed Japanese LNR (without an island) as an instance of ATB-movement as shown in (59) (repeated from (9)), based on the fact that it behaves differently from NOC (which involves pro) and the fact that it shows Case-

matching effects in the same way as ATB-movement.

(59) **Keeki$_1$-o** John-ga **t$_1$** tukuri, (soshite) Mary-ga **t$_1$** tabe-ta.

    Cake-Acc John-Nom make, (and) Mary-Nom eat-Past
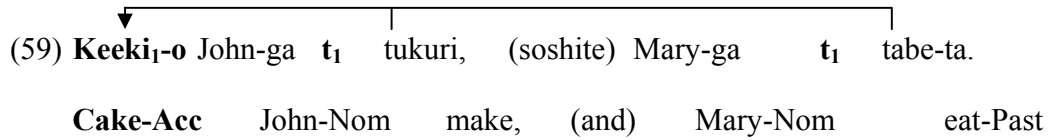
However, ATB-movement analysis is not the only conceivable analysis other than the NOC analysis. For example, consider previous analyses of English RNR such as (60).

(60) John made, and Mary ate **the cake**.   (= (5))

There have been roughly three lines of analysis for the RNR construction. The first one is the ATB-movement analysis (Abbott 1976, Bresnan 1974, Grosu 1976, Postal 1974, 1998, Ross 1967, Sabbagh 2007), where the shared element (e.g. *the cake*) at the right edge of the sentence undergoes rightward ATB-movement from inside each of the conjoined clauses, as illustrated in (61).

(61)
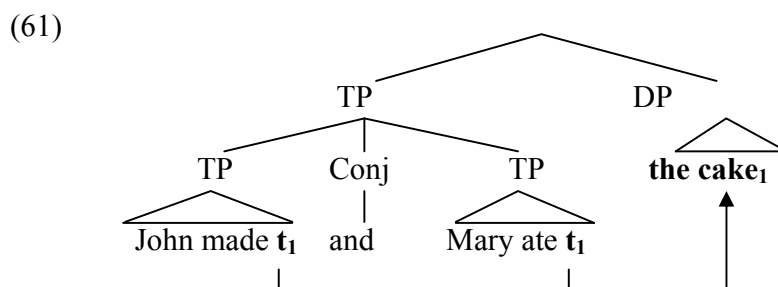
The second one is the deletion analysis (Hartmann 2000, 2003, Kayne 1994,

Wexler and Culicover 1980, Wilder 1997). Under this analysis, two tokens of the

apparent shared element are base-generated in the two conjuncts in the same way as

the ATB-movement analysis, and the one in the first conjunct undergoes backward

deletion as shown in (62).

(62)

```
                          TP
             ┌─────────────┼─────────────┐
            TP            Conj            TP
          ╱────╲           │           ╱────╲
    John made the cake₁    and    Mary ate the cake₁
```
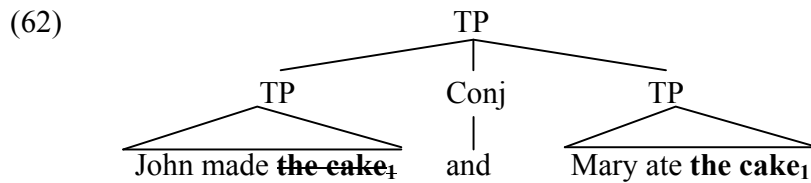
The third analysis is the multiple dominance analysis (Abels 2004, Blevins 1990,

McCawley 1982, McCloskey 1986, Phillips 1996, Wilder 1999), which claims that

RNR has the structure in (63). This analysis assumes that an element (in this case, *the*

cake) can be simultaneously merged with two separate elements (the two verbs, *made*

and *ate*). As a result, even if there are no deletion or movement processes, the shared

element is pronounced only once while it is interpreted as an object of two separate

verbs.

(63)

```
                          TP
             ┌─────────────┼─────────────┐
            TP            Conj            TP
          ╱───╲            │           ╱───╲
      John     VP         and     Mary      VP
              ╱                             ╱
          [ᵥ made]                     [ᵥ ate]   [_DP the cake]
```
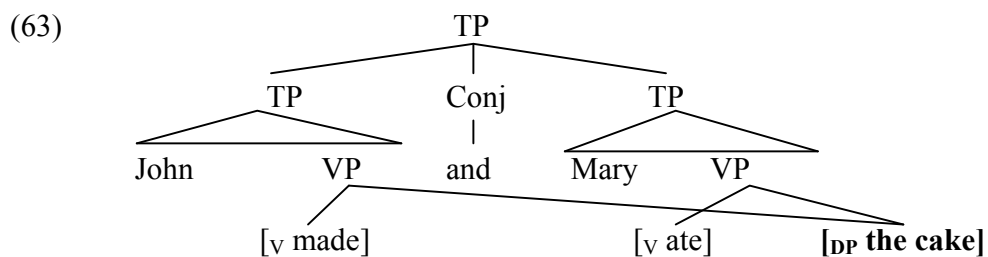
Although I am not going to discuss which analysis is the right one for English

RNR *per se*, the existence of the three previous analyses suggests that the same range of possibility could apply to Japanese LNR, which also involves a shared element interpreted in multiple conjuncts. The ATB-analysis of LNR I proposed in (59) is the leftward counterpart of (61). I will apply the deletion analysis in (62) and the multiple dominance analysis in (63) to LNR in what follows, and conclude that the ATB-movement analysis is the most appropriate for LNR.

5.5.2.   The deletion analysis

5.5.2.1.   The word order problem

Under the deletion analysis, the structure of the sentence in (64a) would be as illustrated in (64b). Instead of the backward deletion in (62), forward deletion applies in the second conjunct, so that the shared element is pronounced in the leftmost conjunct.

(64) a.   ***Keeki-o***   John-ga   tukuri,   (soshite) Mary-ga   tabe-ta.

   Cake-Acc   John-Nom   make,   (and)   Mary-Nom   eat-Past

   "John made, and Mary ate, the cake." (Cake = the object)   (= (4))

  b.
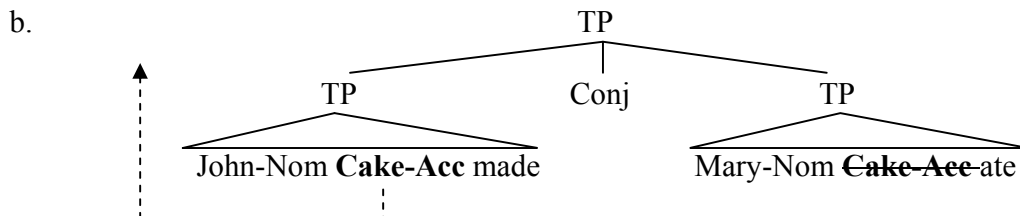
However, recall that LNR is a construction where the shared element is pronounced

in the left edge of the sentence as shown in (64a), not just in the object position of a leftmost conjunct. The conjunction of multiple clauses with the first clause object in-situ is possible as we have seen in (8a) (repeated here as (65)), but such a sentence does not show the properties of LNR, unlike the example in (64a).

(65) John-ga   **keeki$_1$-o** tukuri,   Mary-ga **pro$_1$** tabe-ta.   (= (8a))

John-Nom   **cake-Acc** make-Past   Mary-Nom   eat-Past

"John made the cake, and Mary ate (it)."

Therefore, to derive the word order in (64a), the LNR structure must involve scrambling in the first clause, as well as deletion in the second clause, as illustrated by the dotted line in (64b). However, there is a potential problem as to why the deletion in the second clause that derives LNR is available only when there is scrambling in the first clause. In other words, if LNR is deletion, why (65) cannot be an instance of LNR remains unclear. This is the first problem with the deletion analysis.

5.5.2.2.   NOC as NP-ellipsis

In Section 5.2.2., I have shown that LNR behaves differently from NOC such as (66) (repeated from (7)) with respect to Case matching requirement, etc. That means that LNR should receive an analysis that is different from the analysis of NOC.

(66) John-ga   **keeki$_1$-o** tukut-ta.   Mary-ga **pro$_1$** tabe-ta.

     John-Nom   **cake-Acc** make-Past   Mary-Nom   eat-Past

     "John made a cake. Mary ate (it)."

So far, I have been treated the null object in NOC simply as a base-generated pro, but there is also an argument that the null object in NOC is actually derived via NP-ellipsis. That is, NOC in (66) is derived by eliding of the second conjunct object as shown in (67).

(67) John-ga   **keeki$_1$-o** tukut-ta.   Mary-ga   ~~**keeki$_1$-o**~~ tabe-ta.

     John-Nom   **cake-Acc** make-Past   Mary-Nom   **cake-Acc** eat-Past

     "John made a cake. Mary ate (it)."

I will illustrate the NP-ellipsis analysis of NOC below. If such an analysis of NOC is on the right track, LNR should *not* receive the same type of ellipsis analysis, because that would not account for the behavior differences between these two constructions.

     Otani and Whitman (1991), following the insight of Bak (1983), Chao (1987) and Huang (1987a, b), propose the VP-ellipsis analysis of NOC. They show that a NOC sentence that includes an anaphor (i.e. *zibun* 'self') in the first sentence, e.g. (68a), allows the sloppy reading as well as the strict reading, which is the same property as the VP-ellipsis example in (68b).[10]

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[10] As we have seen in (53), a reflexive (e.g. *himself*) only allows sloppy reading under VP-ellipsis. This suggests that the strict reading of the reflexive *zibun* 'self' in (68a) should not be attributed to VP-ellipsis. Although Otani and Whitman (1991) do not discuss the strict reading, they can assume that the strict reading of this example involves a null pronoun which

(68) a.　John-wa　[zibun-no tegami]-o sute-ta.　　　Mary-mo [e]　sute-ta.

　　　　　John-Top self-Gen　letter-Acc throw-Past　　Mary-also　　　throw-Past

　　　　　"John₁ threw away self₁'s letter."

　　　　　"Mary₂ also threw away [self₂'s letter] (sloppy)/　[John₁'s letter] (strict)"

　　　　　(Otani and Whitman 1991: 346-347)

　　　b.　John threw away his letter. Mary did, too.

Recall that we have observed the same type of sloppy reading in an NOC example with a bare noun such as *musume* 'daughter' in (14a), repeated here as (69).

(69) Musume-o　　　Taro-wa kuruma-de　　　miokuri-ni　　it-ta.

　　　Daughter-Acc Taro-Top car-by　　　　see-off-to　　go-Past

　　　Boku-wa **pro** densya-de　　　mukae-ni　　　it-ta.

　　　I-top　　　　train-by　　　pick-up-to　　go-Past

　　　"Taro went to see his daughter off by car. I went to pick (mine) up by train."

Based on this observation, Otani and Whitman (1991) argue that NOC is derived via VP-ellipsis, as illustrated in (70). The verb in Japanese overtly raises to I. The content of the VP after the V-raising (i.e. the underlined part) is then copied onto the empty VP in the second sentence.

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is simply coreferential to the DP *zibun-no tegami* 'self's letter' in the antecedent clause, and only the sloppy reading is yielded by VP-ellipsis.

(70) John-wa [VP [zibun-no tegami]-o tV] **suteV**-ta.

  John-Top   self-Gen letter-Acc   throw-Past

  Mary-mo [VP e]   **suteV**-ta.

  Mary-also   throw-Past

Although Otani and Whitman assume that VP-ellipsis involves an LF-copying process as described in (70), it is also possible to analyze VP-ellipsis as an instance of deletion as illustrated in (71). Their argument that NOC is VP-ellipsis and that Japanese verbs raise overtly is maintained in this structure, too.

(71) Mary-mo [VP [zibun-no tegami]-o tV] **suteV**-ta.

  Mary-also   self-Gen letter-Acc   throw-Past

Under their analysis, not only the object NP itself, but the whole residual VP after raising is null. They apply the same type of analysis to Chinese, Korean and Japanese NOCs.

　　However, there are examples of NOC with a sloppy reading that cannot be accounted for by the V-raising analysis. Kim (1999) notes that the multiple Accusative construction in Korean such as (72) is one such example.

(72) Edgar-nun   talk-ul   *(thel-ul)   ppop-ass-ta.   (Kim 1999: 258)

  Edgar-Top   chicken-Acc   feather-Acc   pluck-Past-Ind

  "Edgar plucked the chicken."

The multiple Accusative NPs in such sentences exhibit the part-whole relationship; for example, the second NP *feather* in (72) describes the body part of the first NP *chicken*. When a multiple Accusative sentence is the antecedent of NOC, as shown in (73a), the NOC has the body part NP (e.g. *leg*) as a remnant and it still allows the sloppy reading as shown in (73b).

(73) a. Jerry-nun   [caki-uy ai]-lul   phal-ul   ttayli-ess-ta.

        Jerry-Top   self-Gen child-Acc   arm-Acc hit-Past-Ind

        "Jerry$_1$ hit his child on the arm."

   b. Kulena Sally-nun [$_{NP}$ e]   tali-lul   ttayli-ess-ta.

        but   Sally-Top   leg-Acc hit-Past-Ind

        "But Sally$_2$ hit his$_1$/her$_2$ child on the leg." (strict/sloppy) (Kim 1999: 259)

If NOC is VP-ellipsis and the part NP *leg* stays inside the VP, it should be deleted along with the VP and the sentence (73b) should not be derivable. On the other hand, the part NP could not have escaped from the VP, because movement of the part NP across the whole NP (e.g. 'self's child') is impossible, as shown in (74).

(74) *Kulena Sally-nun **tali$_1$-lul** [caki-uy ai-lul]   **t$_1$**   ttayli-ess-ta.

    but   Sally-Top**leg-Acc** [self-Gen child-Acc]   hit-Past-Ind

    "But Sally hit her child on the leg."(strict/sloppy) (Kim 1999: 259)

Based on this and other considerations, Kim (1999) argues that NOC in languages such as Korean involves NP-ellipsis, rather than VP-ellipsis.[11] There it is assumed that the null object in NOC is an empty NP, as shown in (75b), whose semantic content is obtained at LF.

(75) a. Mike-ka   [$_{NP}$ caki-uy ai]-lul   ttayli-ess-ta.

      Mike-Nom   self-Gen child-Acc   hit-Past-Ind

      "Mike$_1$ hit his$_1$ child."

    b. Kuleca Jeanne-to   ttohan   [$_{NP}$ e]   ttayli-ess-ta.

      then   Jeanne-also   too   hit-Past-Ind

      "And then, Jeanne hit his$_1$/her$_2$ child, too."   (strict/sloppy readings)

      (Kim 1999: 271)

Kim claims that the strict reading and the sloppy reading of (75b) distinctions depend on the 'indexical type' of the anaphor 'self' in the antecedent (75a). In Fiengo and May's (1994) framework, indexes come in two types: 'α-occurrences' hold their independent indexical values, while 'ß-occurrences' are dependent on the indexical value of another occurrence. If the anaphor in the antecedent clause is an α-occurrence as shown in (76a), the index value is copied onto the ellipsis site as shown in (76b).

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[11] See Oku (1998) and Abe (2007) for similar proposals. Also, see Hoji (1998) for other arguments against the VP-ellipsis analysis of NOC.

(76) a. Mike₁-ka [$_{NP}$ **caki^{α}₁**-uy   ai]-lul   ttayli-ess-ta.

       Mike-Nom   self-Gen   child-Acc   hit-Past-Ind

   b. Kuleca Jeanne₂-to   ttohan [$_{NP}$ **caki^{α}₁**-uy ai]-lul   ttayli-ess-ta.

       then   Jeanne-also   too   self-Gen child-Acc   hit-Past-Ind

On the other hand, if the anaphor is a ß-occurrence as shown in (77a), the copied anaphor in the NOC is also interpreted as a ß-occurrence. As a result, its indexical value depends on the subject of the sentence (i.e. *Jeanne*) and the sloppy reading obtains.

(77) a. Mike₁-ka [$_{NP}$ **caki^{ß}₁**-uy   ai]-lul   ttayli-ess-ta.

       Mike-Nom   self-Gen   child-Acc   hit-Past-Ind

   b. Kuleca Jeanne₂-to   ttohan [$_{NP}$ **caki^{ß}₂**-uy ai]-lul   ttayli-ess-ta.

       then   Jeanne-also   too   self-Gen child-Acc   hit-Past-Ind

Again, the proposed analysis treats NP-ellipsis as an LF-copying operation, and does not argue for the deletion analysis as illustrated in (78).[12]

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[12] In fact, Kim (1999) argues against the deletion analysis based on the fact that a null object without an antecedent clause blocks a bound-variable (reflexive) reading as shown in (i), unlike the availability of a bound-variable (sloppy) reading in (75b).

(i) Peter-nun/ka   [$_{NP}$ e]   cungoha-yess-ta.
     Peter-Top/Nom   hate-Past-Ind
     "*Peter hated himself./Peter hated someone else."
                              (Kim 1999: 275, cited from Whitman 1988)

According to Kim, this is due to the unavailability of a ß-index on the empty NP. Because the NP is empty in syntax and cannot bear any indexical values, it cannot be base-generated with a ß-index. In other words, the indexical value of an empty NP needs to be copied at LF and a reflexive/sloppy reading is available only if there is an ß-occurrence that the empty NP can

(78) Kuleca   Jeanne₂-to   ttohan   [NP ~~caki-uy   ai~~]~~-lul~~   ttayli-ess-ta.

   then   Jeanne-also   too   self-Gen child-Acc   hit-Past-Ind

However, such an analysis of NOC has a similarity to the deletion analysis of LNR illustrated in (64b) (repeated as (79)) in that they both claim that the apparent null object NP is derived via NP-ellipsis. However, as noted earlier, to account for the behavioral differences between LNR and NOC, we cannot give a unified account to these two constructions. Unless there is evidence that NOC and LNR involve two different types of NP-ellipsis (e.g. LF-copying in NOC such as (75) and the PF-deletion in LNR such as (79)), and such a difference predicts behavioral differences between them (e.g. Case-matching requirement is observed in LNR but not in NOC), we should not treat both as an instance of NP-ellipsis.

(79)
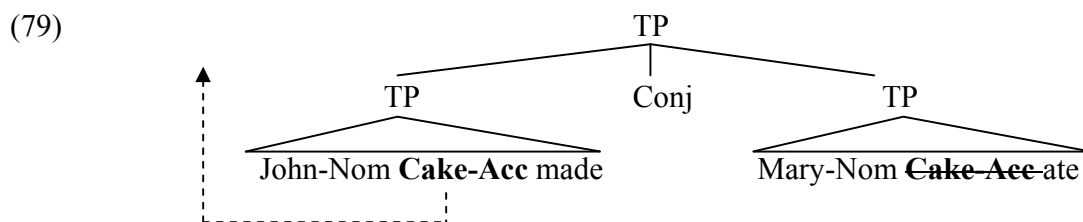
5.5.2.3.   Summary and a note on the status of two types of pro

   If NOC involves NP-ellipsis rather than base-generation of pro as Kim (1999) claims, it follows that what we have been calling pro in NOC is different from the

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gain a value from.

resumptive pro that I claim to be inserted when LNR involves an island. The former is NP-ellipsis as illustrated in (80), while the latter is derived via a last resort resumptive pro insertion, due to the failure of ATB-movement as shown in (81).

(80) John-ga   **keeki₁-o** tukut-ta.   Mary-ga   **[NP e]**   tabe-ta. (cf. (7))

     John-Nom   **cake-Acc** make-Past   Mary-Nom   eat-Past

     "John made a cake. Mary ate (it)."

(81) (*) **Sono**   **saihu-o**   Taro-ga   **t**   hiroi,   (cf. (23))

     The   **wallet-Acc**   Taro-Nom   pick-up,

     Hanako-ga   [Island **pro** nusum-ooto   si-ta otoko]-o oikake-ta.

     Hanako-Nom   steal-to   do-Past   man-Acc chase-Past

     *

"The wallet, Taro picked up _, and Hanako chased [the man who tried to steal _]."

We have observed one difference between a null object in NOC and a resumptive pro. The former allows a sloppy reading as discussed in Section 5.2.2.2. (e.g. (82)), and sloppy identity even obtains under the honorification mismatch (See (14b)). On the other hand, the latter does not, as we have seen in Section 5.4.1.2. (e.g. (83)). Such a difference supports the view that these two null objects are derived by different mechanisms.

(82) **Musume-o**   Taro-wa kuruma-de   miokuri-ni   it-ta.   (cf. (14a))

Daughter-Acc   Taro-Top car-by   see-off-to   go-Past

Boku-wa **[NP e]**   densya-de   mukae-ni   it-ta.

I-top   train-by   pick-up-to   go-Past

"Taro went to see his daughter off by car. I went to pick (mine) up by train."

(83) **Musume-o**   Taro-wa kuruma-de **t** miokuri-ni   iki, boku-wa (cf. (44))

Daughter-Acc Taro-Top car-by   see-off-to   go, I-Top

[densya-de **pro** mukae-ni   it-ta   hito]-ni   orei-o   it-ta.

train-by   pick-up-to go-Past person-Dat   thanks-Acc   say-Past

"Our daughters, Taro went to see off by car, and I said thank you to the person who went to pick up by train."

In sum, we have seen three different constructions: (I) LNR without an island such as (22) (repeated as (84)), which I claim is derived by ATB-movement (contra the two alternatives I examine), (II) LNR with an island such as (81), where a resumptive pro is inserted in the second gap position, and (III) the NOC construction such as (80), which involves NP-ellipsis.

(84) **Keeki-o**   John-ga   tukuri,   (soshite) Mary-ga   tabe-ta.

Cake-Acc   John-Nom   make,   (and)   Mary-Nom   eat-Past

"The cake, John made, and Mary ate."

The properties of the three constructions are summarized below.

(85)

The gap	LNR w/o an island ATB trace	LNR with an island resumptive pro	NOC NP-ellipsis
Case matching	Yes	No	No
Sloppy reading	Yes	No	Yes
Hon. matching	Yes	N/A	No
Dist. scoping	Yes	No	No
Inter. complement	Yes	Yes	No

Section 5.2.2. showed that LNR (without an island) and NOC differ with respect to Case matching requirement, honorification matching requirement, the availability of distributive scoping, and compatibility with an interrogative complement. Although LNR with an island shows the same property as NOC with respect to lack of Case matching requirement and the lack of distributive scoping, it differs from NOC in that it does not allow sloppy reading (and thus the test for honorification matching requirement is inapplicable) and interrogative complements are allowed.

5.5.3.　　　The multiple dominance analysis

Finally, let us consider the other alternative to the ATB-movement analysis of LNR. The multiple dominance analysis would posit the structure in (86b) for the LNR sentence (86a) (repeated from (4)). In this structure, the fronted shared object is multiply dominated by two VPs in the two conjuncts.

(86) a. ***Keeki-o***   John-ga   tukuri,   (soshite)   Mary-ga   tabe-ta.

        Cake-Acc   John-Nom   make,   (and)   Mary-Nom   eat-Past

        "John made, and Mary ate, the cake."

    b.

In this analysis, too, the same word order problem as in the deletion analysis arises. In Japanese LNR, the shared object is always fronted to the left edge position. You need an extra account of why multiple domination is possible only when there is fronting of the shared object.

Citko's (2005) analysis provides such an account. She claims that in a multiple dominance structure, the element that is parallelly merged to two phrases (e.g. two VPs in (86b)) must eventually c-command both of the phrases to be linearized. According to the Linear Correspondence Axiom proposed by Kayne (1994), precedence relationships in linearization are directly mapped from c-command relationships: an element A linearly precedes another B if and only if A c-commands B. If the shared element of a multiple domination structure stays in situ, it cannot be linearized according to the LCA.

For example, *cake* in (87a) is dominated by both TP1 and TP2. However, TP1

and TP2 eventually need to be linearized with respect to each other. Citko (2005) is assuming an analysis of conjunction where two conjuncts are asymmetrically connected via the head & as shown in (87b). In this structure, TP1 c-commands TP2. Thus, everything that is dominated by TP1 needs to precede everything that is dominated by TP2 according to LCA. Here the contradiction arises. As *cake* is dominated by both TP1 and TP2, it has to precede itself, which is impossible.

(87) a.

b.
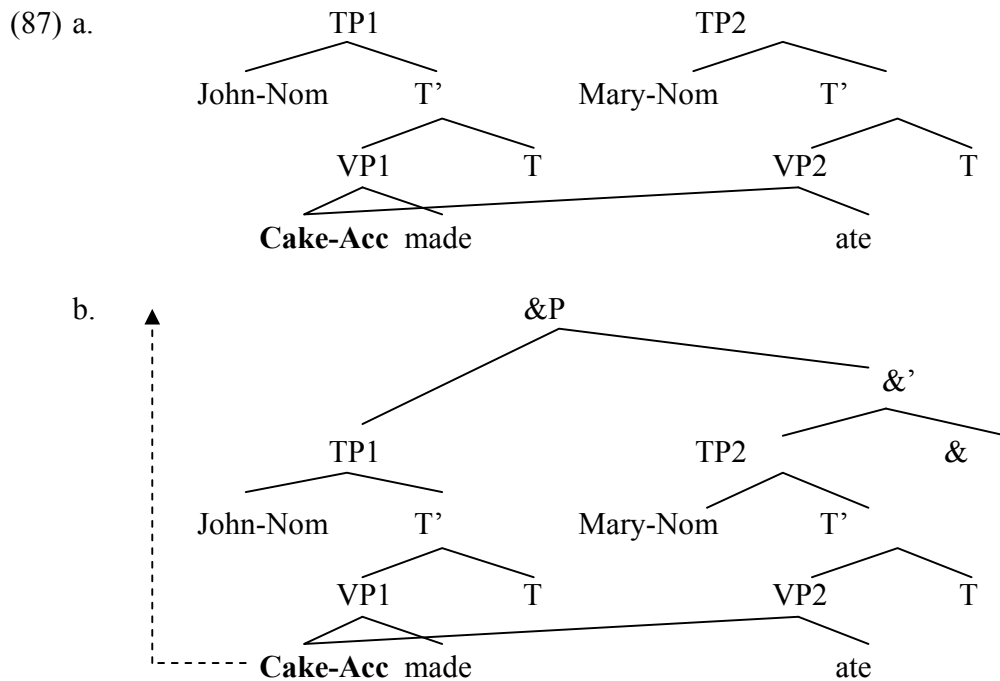
On the other hand, if the shared element *cake* moves to a position that c-commands both TP1 and TP2, it can be linearized before all other elements in both conjuncts and no self-contradicting requirement arises. Thus, Citko (2005) claims that the parallelly-merged element must move to a c-commanding position.[13] Under this

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[13] This view conflicts with the multiple dominance analysis of RNR illustrated in (63) (Abels 2004, among others). In (63), the shared element on the right edge of the sentence is in-situ

analysis, why the movement of the shared element is required in LNR is satisfactorily explained under the multiple dominance analysis, and thus the multiple dominance analysis is tenable.

However, this version of the multiple dominance analysis also does not contradict my ATB-movement analysis of LNR. Citko (2005) treats standard ATB-movement (e.g. English ATB wh-movement (88)) as multiple dominance.

(88) What did John recommend and Mary read?

If ATB movement *is* multiple dominance, the multiple dominance analysis of LNR would not conflict with my proposal that LNR is ATB-movement. I leave open the possibility that what I call ATB-movement is an instance of multiple dominance.

5.5.4.   Summary

This section considered two alternative analyses to the ATB-movement analysis of LNR. I argued against the NP-deletion analysis based on two reasons. First, it is unclear why such deletion is possible only when the shared element fronts in LNR. Second, under the assumption that NOC is derived by NP-ellipsis (Kim 1999), applying an NP-ellipsis type of approach to LNR potentially misses the distinction between LNR and NOC. I have also shown that the multiple dominance analysis is

and it should cause a linearization problem under Citko's (2005) analysis. Also, you cannot assume that the shared element undergoes upward movement to a position that c-commands both conjuncts in RNR after parallel merge, because Kayne's (1994) LCA does not allow rightward upward movement.

tenable for LNR if the motivation of the movement in LNR is clarified as in Citko's (2005) LCA account. Such an analysis would be compatible with the ATB-movement analysis, if ATB-movement is also analyzed as multiple dominance.

5.6. Asymmetry in resumptive pronouns

In the ATB-movement analysis of LNR advocated in this paper, I did not commit to the exact structure of conjoined clauses. If conjoined clauses have a symmetrical structure as illustrated in (89), you might predict that the first and the second clauses in the conjunction have the same status with respect to each other.

(89)

```
            TP
          / | \
        TP Conj TP
```
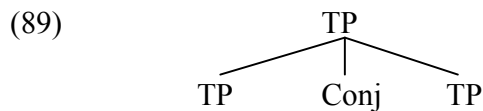
However, some syntactic phenomena we have observed so far do not show up equally in two clauses. Here, I will describe some asymmetry in LNR, without offering a explanation to it.

Existence of such asymmetrical behavior between two conjuncts might suggest that they are asymmetrically conjoined, as assumed in Citko's (2005) analysis (See Section 5.5.3. See also Munn 1993). Otherwise it might suggest that, although two conjuncts are structurally symmetrical, a non-structural factor (e.g. linear order) is responsible for those asymmetries.

5.6.1.   Asymmetry in Case matching effects

In Section 5.2.2.1., I have shown that LNR observes a Case-matching requirement. As shown in the degradedness of the examples in (90), the Case of the shared element cannot just match the verb in the first conjunct. I took that as evidence that the shared element does not just move within the first conjunct and as supporting evidence for the ATB-movement analysis.

(90) a.   ??**Mary-ni**   John-ga   hana-o   okuri,   (= (10))

          Mary-Dat   John-Nom   flower-Acc   give,

          Tom-ga   nagusame-ta.

          Tom-Nom   comfort-Past

          "(To) Mary, John gave a flower and Tom comforted."

    b.   ??**Mary-o**   John-ga   dansu-ni sasoi,

          Mary-Acc   John-Nom   dance-to invite,

          Tom-ga   rabu retaa-o   kai-ta.

          Tom-Nom   love letter-Acc write-Past

          "(To) Mary, John invited to a dance, and Tom wrote a love letter."

However, the first and second conjuncts do not behave exactly parallel with respect to Case-matching phenomena. When the Case of the shared element matches the predicate of only the first conjunct as in (90), the sentence is marginal. In (91), on the other hand, the Case of the shared element matches the second conjunct predicate but

not the first conjunct predicate. In such situations, the sentence is even more unacceptable.

(91) a. ***Mary-o**   John-ga   hana-o   okuri,

 Mary-Acc   John-Nom   flower-Acc   give,

 Tom-ga   nagusame-ta.

 Tom-Nom   comfort-Past

 "(To) Mary, John gave a flower and Tom comforted."

 b. ***Mary-ni**   John-ga   dansu-ni sasoi,

 Mary-Dat   John-Nom   dance-to invite,

 Tom-ga   rabu retaa-o   kai-ta.

 Tom-Nom   love letter-Acc write-Past

 "(To) Mary, John invited to a dance, and Tom wrote a love letter."

Interestingly, the judgments are reversed when you embed LNR inside the cleft construction (Jun Abe, p.c.). In the cleft construction in Japanese, the focused phrase shows up on the right side of the presuppositional clause. In this configuration, it is preferable (although still is marginally unacceptable) to match the Case of the shared element with the second clause predicate rather than the first clause predicate, as shown in the examples in (92).

(92) a. [John-ga   hana-o   okuri,   Tom-ga   nagusame-ta

John-Nom   flower-Acc give,   Tom-Nom   comfort-Past

no]-wa **Mary-*ni/??o**   da.

C-Top   **Mary-*Dat/??Acc** be

"It is Mary that John gave a flower to and Tom conforted."

b. [John-ga   dansu-ni sasoi,   Tom-ga   rabu retaa-o

John-Nom   dance-to invite,   Tom-Nom   love letter-Acc

kaita no]-wa **Mary-*o/??ni**   da.

write C -Past **Mary-*Acc/??Dat** be

"It is Mary that John invited to a dance, and Tom wrote a love letter to."

The apparent generalization from these observations is that the Case of the shared element can marginally depend on the Case assigned by the verb that is linearly closer to it, but cannot depend on the Case assigned by the other verb. I am unable to give an account of this generalization, but such data indicates that two conjoined clauses are not completely symmetrical.

5.6.2.   Asymmetry in availability of pro

I have been referring to examples such as (93) (repeated from (27)) as 'LNR with an island'. I have shown that some speakers accept (93) and claimed that the second gap inside the island in such sentences is resumptive pro.

(93) (*) **Sono**   **saihu-o**   Taro-ga **t**   hiroi,

          The   **wallet-Acc**   Taro-Nom   pick-up,

    Hanako-ga   [**e**   nusum-ooto   si-ta otoko]-o oikake-ta.

    Hanako-Nom   steal-to   do-Past   man-Acc chase-Past

    "The wallet, Taro picked up _, and Hanako chased [the man who tried to steal

    _]."

Note, however, that even for those speakers who accept (93), (94) is impossible. In
this example, the first gap rather than the second gap is included inside an island.

(94) ***Sono**   **saihu-o**   Taro-ga [**t**   hirot-ta   hito]-o   sagasi,

      The   **wallet-Acc**   Taro-Nom   pick-up   person-Acc   look-for

    Hanako-ga   **t**   motinusi-ni   kaesi-ta.

    Hanako-Nom   owner-Dat   return-Past

    "The wallet, Taro looked for [the person who picked up _], and Hanako

    returned _ to the owner."

Moreover, as we have already seen in (26) (repeated as (95)), examples where both
conjuncts have an island are also unacceptable for all speakers.

(95) *Sono saihu-o   Taro-ga [t hirot-ta hito]-o   sagasi,

The wallet-Acc Taro-Nom   pick-up person-Acc   look-for

Hanako-ga [t nusum-ooto si-ta   otoko]-o oikake-ta.

Hanako-Nom   steal-to   do-Past   man-Acc chase-Past

"The wallet, Taro looked for [the person who picked up _], and Hanako chased

[the man who tried to steal _]."

These examples show that the same resumptive pro strategy employed in the second

gap in (93) is unavailable in (94) and (95).

Again, the judgment patterns are reversed under cleft. The sentence is

unacceptable when the clause that contains the island is linearly closer to the cleft

pivot as shown in (96), while it is fine to have the first gap in an island, as shown in

(97) (my judgments).

(96) *[Taro-ga t hiroi,   Hanako-ga [e nusum-ooto si-ta   otoko]-o

Taro-Nom   pick-up, Hanako-Nom   steal-to   do-Past   man-Acc

oikake-ta   no]-wa sono saihu-o da.

chase-Past C-Top   the wallet-Acc be

"It is the wallet that Taro picked up and Hanako chased [the man who tried to

steal _]."

(97) [Taro-ga [**t** hirot-ta hito]-o sagasi, Hanako-ga **t** motinusi-ni

      Taro-Nom   pick-up person-Acc   look-for Hanako-Nom owner-Dat

      kaesi-ta   no]-wa sono saihu-o da.

      return-Past   C-Top   the wallet-Acc be

      "The wallet, Taro looked for [the person who picked up _], and Hanako

      returned _ to the owner."

The data indicate that the pro strategy is available for the clause that is linearly further from the shared element, but not for the clause that is linearly adjacent to it. I have to leave open what exact condition is responsible for this asymmetry.

    There are previous studies that reveal that distance matters with respect to the acceptability of (overt) resumptive pronouns. Alexopoulou and Keller (2007) conducted an experiment with a magnitude estimation task to show that, even in sentences without any islands, the acceptability of a resumptive pronoun slightly increases when it is inside an embedded clause. Compared to the total unacceptability of (98a), which does not have any embedding, the single embedding sentence (98b) and the double embedding sentence (98c) are judged slightly better.

(98) a.   Who will we fire him?

     b.   Who does Mary claim [we will fire him]?

     c.   Who does Jane think [Mary claims [we will fire him]]?

     (Alexopoulou and Keller 2007: 117)

It may be possible to reduce this acceptability improvement by embedding to the same linear distance effect we observe for the Japanese resumptive pro case.

5.7. Conclusion of Chapter 5

This chapter discussed properties of Japanese Left Node Raising (LNR) and claimed that the 'shared element' of LNR undergoes ATB-movement. A variety of differences between LNR and Null Object Construction (NOC) show that LNR should *not* be treated as a variant of NOC whose apparent shared element only moves within the first conjunct.

I have shown, however, that some of the properties of LNR disappear when the second gap position of LNR is included inside an island. I claimed that this type of examples involves a last resort resumptive pro strategy. The second gap position is interpreted as pro only when ATB-movement is blocked due to the existence of an island. Due to the UG principle (advocated by Hornstein 2003) that prefers movement over pronoun insertion, LNR without an island does not allow such a pro strategy; this is why LNR with an island behaves differently from LNR without an island. (However, this resumptive strategy does not work for the case where the first gap is included inside an island. I tentatively suggest that linear proximity blocks the availability of pro, but without concrete explanations.)

I also considered two other alternative analyses of LNR. The deletion analysis would be problematic because it does not explain the necessity of leftward movement in the LNR configuration. Also, it might not account for the difference between LNR

and NOC, under the assumption that NOC also involves deletion. The multiple dominance analysis does account for the necessity of leftward movement (Citko 2005). This analysis is valid and is compatible with my ATB-movement analysis, because ATB-movement is further attributed to multiple dominance under this analysis.

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