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AGAINST A SUBJACENCY ACCOUNT OF MOVEMENT AND EMPTY CATEGORIES IN JAPANESE

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAI'I IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN

LINGUISTICS

AUGUST 1995

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To my uncle, Hideo Izutani
ACKNOWLEDGMENTS

My deepest gratitude goes to my committee: William O’Grady, Patricia Donegan, John Haig, Roderick Jacobs, and Nobuko Ochner; without their assistance and guidance, this dissertation would have never been completed.

I wish to especially thank William O’Grady, my supervisor, for his continuous guidance, encouragement, and suggestions and comments in all stages of this dissertation. His direction was indispensable for the completion of this dissertation.

I would like to thank John Haig. His ideas about Japanese syntax helped me shape the core of this dissertation, and his intellectual influence is obvious in every chapter of this dissertation.

I am also indebted to Roderick Jacobs, whose book (P. Rosenbaum and R. Jacobs 1968, English Transformational Grammars) that I read a long time ago introduced me to the wonderland of syntax. It is such a wonderful coincidence that I completed my dissertation in the same year that his new book (Jacobs 1995, English Syntax: A Grammar for English Language Professionals) appeared.

I am grateful to my colleagues and friends for their grammaticality judgments and discussions: Kazue Kanno, Hirokuni Masuda, Yutaka Sato, Tooru Shionoya, Hideaki Sugai, Takako Unetani, Fumio Usami, Yoshie Yamashita, Naoko Yoshinaga. Especially, I wish to thank Hirokuni Masuda, who spared his time on grammaticality judgments and insightful discussions with me on various topics in linguistics, syntax, discourse grammar, phonology, etc. I also thank Kimie Miyagi for her suggestions and comments on a final version of this dissertation.

I thank Byron Bender, chair of the Department of Linguistics, for his continuous encouragement and patronage as well as his generosity and impartiality.

Lastly, but not the least, I would like to thank my wife, Masako Hirano Izutani, for all that she has done for me and for what I am and where I am. This dissertation would not
have been completed without family support. I wish to thank my parents Michiko and Teruo Izutani, and my wife’s mother Kau Hirano. Special thanks go to my aunt Masako Izutani and to my uncle Hideo Izutani, who had long been waiting for my return to Japan and who passed away before the completion of my dissertation. I dedicate this dissertation to my uncle Hideo Izutani.
ABSTRACT

This dissertation proposes that movement (overt or covert) in Japanese is not constrained by a Subjacency condition (see also Haig 1993a, b; and Izutani 1993). It is assumed in the literature (Saito 1985, Yoshimura 1986, among others) that both overt movement (Scrambling) and null operator (OP) movement out of a complex noun phrase at S-Structure and LF (Logical Form) result in ungrammaticality. However, this is not always the case. I claim that neither Scrambling nor OP movement is constrained by the Subjacency condition. If sentences involving long-distance movement are ungrammatical, they are not syntactically bad, but semantically anomalous. It is argued that movement in Japanese is constrained by a semantic notion of aboutness (Kuno 1973a, b).

Further, it is claimed, contrary to the view customarily believed in the literature (Saito 1985, Hoji 1987, Yoshimura 1986, among others), that there are no Weak Crossover effects with respect to empty categories, and that these empty categories are not parasitic gaps (i.e., variables) but rather are instances of pro. It is proposed that these empty categories (pro) are licensed by discoursal and functional conditions at S-Structure.

In addition, it is argued that both Scrambling and Topicalization are A-movement and that they come under the same semantic notion of aboutness. Scrambling and Topicalization of postpositional phrases (PPs) and possessor phrases are also investigated. It is also shown that contrary to Takahashi (1993), Scrambling of wh-phrases is not A'-movement but A-movement.

Finally, the occurrence of resumptive pronouns that are overt counterparts of empty pronouns is investigated and claimed to be constrained by a semantic condition. It is also demonstrated that the possibility and impossibility of the resumptive pronoun zibun 'self' is accounted for by the functional notion of empathy (Kuno and Kaburaki 1978, Kuno 1978).
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LIST OF ABBREVIATIONS

Acc: accusative marker
Adn: adnominal marker
CL: classifier
Comp: complementizer
Dat: dative marker
Gen: genitive marker
Neg: negation
NM: nominalizer
Nom: nominative marker
OP: null operator
pl: plural suffix
Q: question marker
Top: topic marker
Chapter 1
Introduction

1.1 Overview

Grammatical phenomena in English (e.g., fixed word order, wh-movement, etc.) can be described in terms of syntactic structures. For example, the grammatical relation each element bears to the verb in a sentence is arranged in a fixed linear order in English as in (1). This is not the case for Japanese. The grammatical relation of each element in a sentence is represented by a particle or case-marker (e.g., ga for subject, o for direct object, ni for indirect object, etc.) attached to it; hence free word order in Japanese.

(1) English:
   a. John gave a book to Mary yesterday.
   b. *John a book gave to Mary yesterday.
   d. *A book to Mary John gave yesterday.

(2) Japanese:
   a. Kinoo John-ga Mary-ni hon-o ageta
      yesterday John-Nom Mary-to book-Acc gave
      ‘John gave a book to Mary yesterday.’
   b. Kinoo Mary-ni John-ga hon-o ageta
   c. Kinoo John-ga hon-o Mary-ni ageta
   d. Kinoo Mary-ni hon-o John-ga ageta

The word orders in (1b-d) are disallowed in English, but those in (2b-d) are allowed in Japanese. The Japanese sentences in (2b-d) are considered to have derived from (2a) by Scrambling. The word order exhibited in (2) in Japanese is made possible by the
semantics—grammatical relations represented by the case particles attached to each element in a sentence.

Unlike in English, *wh*-phrases do not ordinarily move at S-Structure in Japanese. This is illustrated in (3) and (4).

(3) English:
   a. What did John buy t?
   b. Who did John give a book to t?
   c. *What did you meet a person who bought t?

(4) Japanese:
   a. John-ga nani-o katta ka
      John-Nom what-Acc bought Q
      'What did John buy?'
   b. John-ga dare-ni hon-o ageta ka
      who-Nom book-Acc book-Acc gave Q
      'Who did John give a book to?'
   c. Kimi-wa [nani-o katta] hito-ni atta ka
      you-Top what-Acc bought person-to met Q
      '*'What did you meet a person who bought?'

The *wh*-phrases move at S-Structure to sentence-initial position from the original D-Structure position in (3) in English. In contrast, they usually do not move at S-Structure in Japanese, as shown in (4). The ungrammaticality of (3c) in English obtains from the Subjacency condition—no movement can cross more than two bounding nodes (NP or CP/IP) at a time. Since there is no overt movement of *wh*-phrases at S-Structure in Japanese, (4c) has nothing to do with a syntactic notion of the Subjacency condition.

In this dissertation, I claim that in languages like Japanese, grammatical phenomena (i.e., constraints on movement) should be described in semantic rather than syntactic terms
and propose that movement phenomena—overt movement (i.e., Scrambling) at S-Structure and covert movement of null operators (OP) at Logical Form (LF)—are immune from the syntactic condition of Subjacency, but rather they are constrained by functional (semantic) or discoursal conditions. More specifically, the present dissertation casts strong doubt on the current views entertained in the Government and Binding (GB)-based theories of movement (i.e., Scrambling and OP movement) in terms of the Subjacency condition at S-Structure and about the treatment of empty categories as variables in some constructions. I develop a semantics-based theory constraining movement and empty categories.

In this dissertation I assume that the reader has a basic familiarity with the GB theory of Chomsky (1981, 1986) and some of the “principle and parameters” approach to linguistic theory as outlined in the works of Chomsky (1989, 1992), though I do not commit myself to this theory.

1.2 Identification of problems with the existing analyses and theories

I take up the following three claims made in the GB-based analyses and theories that prevail in Japanese linguistics:

(5) (i) Movement is constrained by Subjacency

(a) Scrambling is subject to Subjacency.

(b) Null operator movement at S-Structure and LF is subject to Subjacency.

(ii) (a) An empty category exhibits Weak Crossover effects.

(b) An empty category in constructions displaying WCO effects is construed as a parasitic gap (i.e., a variable).

(iii) Scrambling and Topicalization involve A’-movement.
1.2.1 Subjacency

It has been widely held in the literature that movement in Japanese obeys the Subjacency condition. For example, Saito (1985, 1987), Hoji (1985), Imai (1987), Yoshimura (1986), and Hosokawa (1991) assume that the Subjacency condition constrains overt movement (i.e., Scrambling) at S-Structure. For example, Saito gives the following sentence as an example of a Subjacency violation:

hito2-o sagasiteiru rasii] person-Acc looking-for seem
‘That book1, John seems to be looking for the person who bought t1.’
(Saito 1985:246, (146))

However, (6) is not as bad as claimed. The following sentences with exactly the same structure as (6) are perfectly acceptable:

‘That book1, John seems to be looking desperately for the person who bought t1 at the bookstore.’

(8) Dono hon1-o [Hanako-wa [NP t1 e2 kaita hito2]-ni which book Hanako-Top wrote person-Dat monku-o itta] ka complaint-Acc said Q
‘Which book1 did Hanako complained to the person who wrote t1?’
If Scrambling is really constrained by the Subjacency condition, the above sentences are incorrectly disallowed as a violation of the condition.

Kikuchi (1987) and Watanabe (1991, 1992) assume that covert movement of an empty operator (OP) in Comparative Deletion (CD) and the *ka dooka* ‘whether’ constructions is constrained by the Subjacency condition at S-Structure. For example, Kikuchi says that sentences such as those in (10) are ungrammatical with movement of OP in violation of the Subjacency condition:

(10) a. *[[[NP[Sono tukue-de e t\(_1\) yondeita] hito]-o John-ga that desk-on read person-Acc John-Nom nagutta OP\(_1\) yorimo] Paul-wa takusan hon\(_1\)-o yondeita hit than Paul-Top many book-Acc read

Paul read more books than John hit a person who was reading at the table.’ (Kikuchi 1987:9, (14))


‘John read more books than Paul met a man who read.’ (Kikuchi 1987:13, (24))
In the above sentences, OP moves across a complex NP from the position of the trace \( t_1 \), and this movement violates the Subjacency condition. Hence, the ungrammaticality of these sentences results. However, there are productive counter-examples to his claims. For example, the sentences in (11), which have the same structure as (10), are grammatical.

   ‘John had read more books1 than a person who wrote t1 praised (him).’

b. John3-wa [[[CP[NP[CP e2 t1 sakkyoku-sita] hito2]-ga e1 John-Top composed man-Nom kiita] OP2] yorimo] motto sono uta1-o kiiteita listened than more the song-Acc listened
   ‘John had listened to the song2 more (often) than a person who composed e2 listened to t2.’

In (11) OP moves out of a complex NP. If OP movement is subject to Subjacency, sentences like (11) should be ungrammatical, contrary to fact.

Concerning *ka dooka* ‘whether’ constructions such as (12), Watanabe (1991, 1992) claims that the ungrammaticality arises from a Subjacency violation with respect to S-Structure movement of an OP associated with *wh*-phrases in the manner illustrated in (13).

(12) ?? John-wa [Mary-ga nani-o katta ka dooka] Tom-ni John-Top Mary-Nom what-Acc bought whether Tom-Dat tazuneta ka asked Q
   ‘What1 did John ask Tom whether Mary bought e1?’
I agree with Watanabe that sentences like (12) are ungrammatical but disagree with the claim that the ungrammaticality comes from a syntactic condition of Subjacency. According to the Barriers framework which Watanabe presupposes, however, the ka dooka clause does not constitute a barrier; the ungrammaticality cannot be explained by the Subjacency condition.

1.2.2 WCO effects

It has been also claimed in the GB literature (e.g., Saito and Hoji 1983, Saito 1985, Hoji 1985, 1987, Yoshimura 1986, etc.) that an empty category (i.e., pro) exhibits Weak Crossover (WCO) effects in some constructions. In sentences such as (14), which are taken from Hoji (1987:187), (14a) is considered ungrammatical, showing WCO effects at LF; the operator (wh-phrase) c-commands $e_2$ and $t_2$, neither of which c-commands the other, as illustrated in (14c). But (14b) is grammatical with the empty category ($e_2$) being construed as a parasitic gap (licensed by the syntactic movement of its antecedent (dare-o)) without showing the WCO effects:

(14) a. $[\text{NP}[\text{IP } e_1 \text{ hitome } e_2 \text{ mita}] \text{ hito}_1-\text{ga} \text{ [VP } \text{ dare}_2-\text{o}]$

one glance saw person who-Acc

sukininatta] no

fell in love Q

"Who did the person that took a glance at him fall in love with?"

b. $[\text{IP } \text{ dare}_2-\text{o} \text{ [IP[NP[IP } e_1 \text{ hitome } e_2 \text{ mita}] \text{ hito}_1-\text{ga}]}

who-Acc one glance saw person-Nom

Although most writers (Watanabe 1991, 1992, Lasnik and Saito 1984, 1992, among others) use no instead of ka for the matrix question marker, I believe that no is not a question marker but a nominalizer or nominalization functor (cf. Hirano and Izutani 1994a). Hence, I use ka rather than no throughout the dissertation unless the example is quoted from another source.
fell in love Q

‘Who2 did the person that took a glance at him2 fall in love with?’

c. LF structure of (14a):

\[
[IP \text{Dare}_2-o [IP[NP[IP e_1 \text{hitome e}_2 \text{mita} \text{hito}_1]-ga [VP t_2 \text{sukininatta}]}}] \text{no}
\]

Though Hoji and others consider (14a) ungrammatical due to the WCO effect, there are productive examples which have exactly the same structure as (14a) but are grammatical. The sentences in (15) are such examples.

(15) a. \([IP \text{John-wa } [PP \text{Mary-ga e}_1 \text{yomu mae-ni}]]\)\text{John-Top Mary-Nom read before}

\([VP \text{dono hon}_1-o \text{yonda}]\) \text{no}

\([VP \text{which book-Acc read Q}}\)

‘Which book did John read before Mary read (it).’

b. \([VP[PP\text{e}_1 \text{yonda ato-de}] [V' \text{dono ronbun}_1-o \text{you-Nom read after which article-Acc fairu-sita]}}\)\text{ka}

\([VP \text{filed Q}}\)

‘Which article\text{e}_1 did you file\text{t}_1 after reading\text{e}_1?’

c. \([VP[PP[CP\text{Hanako-ga sudeni e}_1 \text{hihan-sita}]]\)\text{Taro-Top Hanako-Nom already criticized}

\([PP[koto]-o \text{ sirazuni}]\)\text{pp [V' gakkai-de dono ronbun}_1-o \text{fact-Acc without-knowing conference-in which article-Acc happyoo-sita]}\text{ka}

\([VP \text{presented Q}}\)

‘Which article\text{e}_1 did Taro present\text{t}_1 in the conference without knowing
The fact that Hanako had already criticized e₁?

d. Kimi-wa [CP John-ga [vp pp sono kaisya-ga e₁ yakuin-ni
you-Top John-Nom that company-Nom executive-to
battekisuru mae-ni] dare₁-o hikinuku] to] omotteiru no
promote before who-Acc head-hunt Comp think Q
‘Who₁ are you thinking that John head-hunts t₁ before the company
promotes e₁ to an executive position?’ (Adapted from Tonoike 1992)
e. Kimi-wa [vp[NP e₁ uketoru kenri-no nai hito]-ni
you-Top receive right-Gen not person-to
[ikura-no isyaryoo]₁-o haratta] no
how-much-Gen consolation-Acc paid Q
‘How much consolation₁ did you pay t₁ to a person who has no right to
receive e₁?’ (Tonoike 1992)

The above sentences would have the same LF structure as (14c) and be incorrectly ruled
out as ungrammatical. The grammaticality of the sentences would suggest that empty
categories do not exhibit WCO effects.

Further, if (14b) involved a parasitic gap (e₂), then it would then be incorrectly ruled
out by the Subjacency condition because the OP associated with e₂ crosses a complex
noun phrase (a syntactic island). I will argue that these structures do not involve parasitic
gaps but simply base-generated gaps, i.e., pronominal empty objects.

1.2.3 Scrambling and Topicalization

Topicalization is sometimes considered to involve a topic phrase base-generated in
sentence-initial position--base-generation hypothesis--by e.g., Kuno (1973a, b), Saito
(1985). In contrast, Kuroda (1987) assumes that Topicalization involves movement of a
topic phrase to Spec of CP position and Scrambling adjunction to IP. In these analyses,
the sentence-initial position is an A'-position in the GB framework—either Specifier position of CP (SpecCP)\(^2\) (Kuroda) or IP-joined position (Saito).

(16) \[\text{[CP Topic phrase [IP ... e\(_1\)/t\(_1\) ...]]} \]
\[\text{[IP Topic phrase [IP ... e\(_1\)/t\(_1\) ...]]} \]

Scrambling is generally considered to involve an IP-adjunction operation, namely, A'-movement (cf. Saito 1985, Kuroda 1987, etc.).

If the position for a topic/scrambled phrase were an A'-position and if the trace is structurally lower than the topic/scrambled phrase, then anaphors/reciprocals whose antecedent is the topic/scrambled phrase would fail to be A-bound and hence the structure would be disallowed as a violation of Principle A of Binding Theory (Chomsky 1981, 1986a, b):

(17) \[\text{[CP Topic/Scrambled phrase\(_1\) [IP ... anaphor/reciprocal\(_1\) ... t\(_1\)]]} \]
\[\text{[IP Topic/Scrambled phrase\(_1\) [IP ... anaphor reciprocal\(_1\) ... t\(_1\)]]} \]

A'-position

A-position

Sentences such as those following would, then, be incorrectly ruled out as unacceptable:

(18) a. John\(_1\)-wa [IP[NP zibun\(_1\)-no hahaoya]-ga t\(_1\) semeta]
    John-Top self-Gen mother-Nom blamed
    ‘As for John\(_1\), self\(_1\)’s mother blamed t\(_1\).’

b. [John to Mary]\(_1\)-o/wa [IP sensei-ga [otagai\(_1\)-no oya]-ni
    [John and Mary]-Acc/Top teacher-Nom each other-Gen parent-to
    t\(_1\) syookai-sita]
    introduced
    ‘(As for) [John and Mary]\(_1\), the teacher introduced t\(_1\) to each other\(_1\)’s parents.’

\(^2\) Japanese is a head-final language and hence SpecCP position, normally considered to be the landing site for wh-phrases, is to the right of the head C. Thus, the sentence-initial position may not SpecCP but a position for modifiers, in which case, too, the position is arguably an A'-position.
Saito (1992) in fact proposes that topic position which is construed as an A'-position at S-Structure is reanalyzed as an A-position at LF. I would rather assume that both topic and scrambled phrases are in an A-position at S-Structure.  

1.3 Proposals and organization  

I propose that movement phenomena and the presence of empty categories (*pro*) and overt (resumptive) pronouns are not constrained by a syntactic notion of Subjacency, but rather by a semantic or functional notion of aboutness. More specifically, I argue for the following:

(19)  
(i) Movement (overt or covert) is not constrained by Subjacency  
(ii) There are:
   (a) No WCO effects with empty categories, and
   (b) No parasitic gaps.  
(iii) Scrambling and Topicalization involve A-movement.  
(iv) *Pro* and Scrambling are licensed by the aboutness condition.  
(v) Overt resumptive pronouns are licensed by a functional/discoursal conditions.  

I show in chapter 2 that Scrambling and OP movement at S-Structure are immune from the Subjacency condition, and propose that what controls movement in Japanese is a semantic notion of “aboutness” (cf. Kuno 1973a, b, 1987) or “characterization” (cf. Takami and Kamio 1993).  

As for the *ka dooka* ‘whether’ clause, I concur with Watanabe (1991, 19992) in that sentences like (12) are unacceptable. But I refute Watanabe’s explanation in terms of a syntactic condition of Subjacency on a sentence like (12) and point out conceptual

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3 In this dissertation I do not assume a level of LF at least in Japanese grammar—perhaps in universal grammar—without justification. For argument against LF, see e.g., Williams (1986, 1988) and Stroik (1992) for English, and Cole and Hermon (1994) for English and other languages.
problems with his approach. Rather, I claim that the ungrammaticality can be explained on semantic grounds. I also refute Nishigauchi's (1985, 1992) claim that Subjacency constrains *wh*-movement at LF in Japanese by showing both conceptual and empirical problems with his theory.

In chapter 3 I show that the empty categories \(e_2\) in the sentences like (10) are base-generated empty pronouns (i.e., *pro*) and that unlike overt pronouns, they are not subject to WCO effects. I argue that what licenses *pro* is not syntactic notion of “binding” (i.e., “c-command”) but a functional or semantic notion of aboutness. Recently, Yoshimura (1989) and Saito (1992) have contended that empty categories in the WCO constructions are *pro* at S-Structure but construed as a variable at LF. And, Nakamura (1991) argues that empty categories in WCO and other constructions are *pro* and that they are licensed at LF. I argue that no such LF licensing is needed. I propose a *pro* licensing condition based on functional and discoursal considerations.

In chapter 4 I claim that given the conclusion arrived at chapter 2—the lack of a Subjacency condition—Topicalization can be analyzed as involving movement, rather than base-generation of a topic phrase (Kuno 1973a, b and Saito 1985). I also claim that both Scrambling and Topicalization involve A-movement rather than A’-movement at S-Structure. Recently Takahashi (1993) claims that scrambling of *wh*-phrases is considered A’-movement. I argue against his claim, pointing out both factual and conceptual problems.

In chapter 5, I argue that both Scrambling and Topicalization can contain a resumptive pronoun that is associated with the moved (i.e., scrambled or topicalized) phrase. Again, it will be shown that what regulates the presence of the resumptive pronoun is not a syntactic condition but rather a semantic notion of aboutness.

Chapter 6 concludes the dissertation.
Chapter 2
No Subjacency constraint on movement

2.1 Introduction

Since the seminal work of Huang (1982), it has been widely accepted in the literature that in languages like English, overt S-Structure *wh*-movement obeys the Subjacency condition stated in (1), while covert LF movement does not.

(1) In the following configuration, where A and B are bounding nodes or barriers, Y cannot be moved to the position of X and conversely:

... X ... [A ... [B ... Y ...] ... ] ... X ... (cf. Saito 1985:252)

The English examples in (2) illustrate the point.

(2) a. Which singer do you like t best?
   b. *Which song do you like [a singer [that sings t]] best?
   c. Who₁ t best likes [a singer [that sings which song₂]]?
   d. LF of (2c):

   Who₁ which song₂ [t₁ best likes [a singer [that sings t₂]]

In (2a), *which singer* moves at S-Structure and this movement does not cross any bounding node defined in (1), and hence (2a) does not violate Subjacency. In (2b), in contrast the movement of *which song* at S-Structure crosses two bounding nodes, the embedded S'/CP and the object complex NP, in violation of the Subjacency condition. Hence, the unacceptability of (2b) results. On the other hand, (2c) involves the movement of *who* at S-Structure and that of *which song* in situ at LF. The first movement does not violate Subjacency, while the second movement does. If Subjacency constrains LF movement, (2c) is ruled out as unacceptable, which it is not. Thus, it must be the case that LF movement does not obey Subjacency.
Huang goes on to argue that in languages such as Chinese, Japanese, and Korean, among others, which do not have overt wh-movement at S-Structure, wh-movement occurs at LF and does not obey Subjacency. In these languages, the wh-phrases in the sentences in (2) stay in situ. So, the sentence corresponding to the ungrammatical (2b) is grammatical in these languages. I give the Japanese counterpart in (3) as a representative example.

(3) Kimi-wa [[dono uta-o utatte-iru] kasyu]-ga iti-ban suki
    you-Top which song-Acc singing-is singer-Nom best liking
desu ka
be Q

‘Which song do you like a singer that sings best?’

Dono uta ‘which song’ stays in the complex NP at S-Structure and it is assumed to move at LF to the Spec position of the matrix clause crossing over two bounding nodes as in the case of (2b). But, (3) is acceptable, unlike (2b). This demonstrates that LF movement in these languages does not obey Subjacency.

There is a view in the literature (e.g., Hasegawa 1984, Imai 1987, Saito 1985, Yoshimura 1986, among others) that, as opposed to the LF movement, Scrambling (movement of an overt phrase) is constrained by the Subjacency condition in (1). Also entertained in the literature is a view that there is empty operator (OP) movement at S-Structure in constructions such as the Weak Crossover (Yoshimura 1986), Comparative Deletion constructions (Kikuchi 1987, Watanabe 1991, 1992), and the like, which is subject to Subjacency in Japanese. In contrast, others maintain that Subjacency is active at LF (e.g., Nishigauchi 1985, 1990), contra Huang (1982). Still, another claim (Watanabe 1991, 1992) is that Subjacency constrains the null operator movement at S-Structure.

However, I claim in section 2.2 that there are no such Subjacency effects on any kind of movement at either S-Structure or LF. In each subsection, I introduce the previous
analyses just mentioned that claim a Subjacency effect on overt movement (Scrambling) (2.2.1), on null operator (OP) movement (2.2.2), and on *wh*-movement at LF (2.2.3). As I point out problems with each analysis, I will give counter-evidence to the claim that Subjacency holds in these patterns. Specifically, I argue for immunity to Subjacency for any kind of movement, overt (Scrambling) or covert (OP), in S-Structure or LF, in Japanese. Following Haig (1993a, b) and Izutani (1993), I will show that null operator movement and Scrambling out of islands such as adjunct islands, Complex NP constructions (noun complement clauses and relative clauses), and *wh*-islands (including *ka dooka* ‘whether’ clauses) can freely violate Subjacency. In refuting each analysis, I also suggest that unacceptable sentences that are claimed to violate Subjacency are not really Subjacency violations but are semantically anomalous (2.3). In section 2.4, I will discuss some consequences of the conclusion reached in this chapter that there are no Subjacency effects on movement in Japanese.

2.2 Previous studies on Subjacency

This section is concerned with the claim that movement in Japanese obey a Subjacency condition in (1). The Subjacency condition is considered in the literature to constrain not only overt movement (i.e., Scrambling) but also covert (i.e., null operator) movement in constructions displaying the Weak Crossover (WCO) (which we refer to as the WCO construction), relative clauses, and Comparative Deletion constructions. The relevant works for the Subjacency condition are Saito 1985, Yoshimura 1986, Imai 1987, and Kikuchi 1987. Recently, Watanabe (1991, 1992) and Aoun and Li (1993) propose that it is not a *wh*-phrase but the null operator associated with a *wh*-phrase that moves at S-Structure in English and Japanese. We look at these works in terms of Subjacency in the following sections.
2.2.1. Overt movement (Scrambling) at S-Structure

2.2.1.1 Saito (1985)

Saito (1985) claims that island effects are involved in Scrambling in Japanese. He considers ungrammatical the following sentences in (4)-(7), taken from Saito (1985, 1992) with his judgments.

(4) ?*Ano hon\textsubscript{1}-o [CP John-ga [NP [CP e\textsubscript{2} t\textsubscript{1} katta]
that book-Acc John-Nom bought
hito\textsubscript{2}-o sagasiteiru rasii]
person-Acc looking-for seem
‘That book\textsubscript{1}, John seems to be looking for the person who bought t\textsubscript{1}.’
(Saito 1985:246, (146))

(5) ?*Dono hon\textsubscript{1}-o [Hanako-wa [NP [t\textsubscript{1}e\textsubscript{2} kaita] hito\textsubscript{2}]-ni atta] no
which book Hanako-Top wrote person-Dat met Q
‘Which book did Hanako meet the person who wrote t\textsubscript{1}?’
(Saito 1992:72, (6))

(6) a.??/?*Dono\textsubscript{1} hon-o Mary-ga [NP [John-ga t\textsubscript{1} katta]
which book-Acc Mary-Nom John-Nom bought
koto]-o mondai-ni siteru no
fact-Acc problem-to making Q
‘Which book is it that Mary is calling the fact that John bought it into question?’
(Saito 1985:272)

b.??/?*Dono\textsubscript{1} hon-o Mary-ga [NP [John-ga t\textsubscript{1} katta]
which book-Acc Mary-Nom John-Nom bought
koto]-ga mondai-da to omotteiru no
fact-Nom problem-to that think Q
‘Which book is it that Mary is calling the fact that John bought it into
question?" (Saito 1985:272)

(7) a. Sono hon1-o John-ga [Mary-ga t1 katta to]
that book-Acc John-Nom Mary-Nom bought Comp
omotteiru (koto)
think fact
'John thinks that Mary bought that book.' (Saito 1985:274, (iia))

b. ?Sono hon1-o John-ga [dare-ga t1 katta ka]
that book-Acc John-Nom who-ga bought Q
siritagatteiru (koto)
want-to-know fact
'John wants to know who bought that book.' (Saito 1985:274, (iib))

(8) a. ??Sono hon1-o John-ga [Mary-ga t1 yomioete
that book-Acc John-Nom Mary-Nom finish-reading
kara] dekaketa (koto)
after went-out fact
'John went out after Mary finished reading that book.'
(Saito 1985:247, (147a))

b. *Sono hon1-o John-ga [minna-ga t1 kau node]
that book-Acc John-Nom [everyone-Nom buy because
tigau hon-o katta (koto)
different book-Acc bought fact
'Because everyone buys that book, John bought a different one.'
(Saito 1985:247, (147b))

c. ??*Tokyoo-ni Mary-ga [John-ga t1 ikitagatteiru
Tokyo-to Mary-Nom John-Nom want-to-go
noni] musi-siteiru rasii
although ignoring seems

'It seems that although John wants to go to Tokyo, Mary is ignoring that fact.' (Saito 1985:247, (147c))

Sentences (4)-(6) involve a Complex NP (CNP) island. The NP *dono hon* ‘which book’ is scrambled from the clausal complement of a noun in (6) and the NPs *ano hon* ‘that book’ and *dono hon* are scrambled from the CNP with a relative clause in (4) and (5). These sentences show the Complex NP effect and hence ungrammaticality results. (7a) is a case of scrambling from a complement clause and (7b) from a *wh*-island. Saito detects a slight *wh*-island-like effect in (7b). And (8) involves scrambling out of the adjunct clause. Saito claims that the above sentences are all bad because they are in violation of Subjacency.

In the next section, I show that scrambling out of complex NPs (CNPs), *wh*-islands, and adjunct clauses is immune from Subjacency.

2.2.1.2 Problems with Saito (1985)

Though Saito (1985) considers the sentences in (4)-(6), (7b), and (8) are ungrammatical, most speakers I consulted (including myself) judge them grammatical, though not perfect. Their slight marginality could well be due to semantic anomaly, rather than a syntactic one. That is, in the above sentences the rest of the sentence is not “about” the scrambled phrase (Kuno 1973a, b) or the “focused” phrase (in the sense of Haig (1976)). In other words, the rest of the sentence is not a proper “characterization” about the scrambled element (Takami and Kamio 1993, also Haig 1993a, b). All the sentences Saito gives as ungrammatical would be grammatical when uttered in some appropriate situations that ensure the aboutness or characterization relation for the scrambled phrase. Observe the following grammatical counterpart of the sentences in (4)-(8) above:
(4') Relative clause:

\[
\text{Ano hon}_1-o \quad [\text{CP John-ga} \quad [\text{NP} \quad \text{e}_2 \quad \text{i}_1 \quad \text{sono honya-de} \\
\text{that book-Acc} \quad \text{John-Nom} \quad \text{the bookstore-at} \\
\text{katta]} \quad \text{hito}_2]-o \quad \text{hissini sagasiteiru rasii]}
\]

bought person-Acc desperately looking-for seem

'That book, John seems to be looking desperately for the person who bought \( t_1 \) at the bookstore.'

(5') Relative clause:

\[
\text{Dono hon}_1-o \quad [\text{Hanako-wa} \quad [\text{NP} \quad \text{e}_1 \quad \text{kaita hito}_2]-ni} \\
\text{which book Hanako-Top wrote person-Dat} \\
\text{monku-o itta] no} \\
\text{complaint-Acc said Q}
\]

'Which book \( t_1 \) did Hanako complained to the person who wrote \( t_1 \) ?'

(6') Noun complement:

a. \[
\text{Dono}_1 \quad \text{hon-o Mary-wa} \quad [\text{NP} \quad \text{John-ga mudande t}_1} \\
\text{which book-Acc Mary-Top John-Nom without consent} \\
\text{suteta] koto]-o mondai-ni siteru no} \\
\text{threw away fact-Acc problem-to making Q}
\]

'Which book \( t_1 \) is it that Mary is calling into question the fact that John threw \( t_1 \) away without permission?'

b. \[
\text{Dono}_1 \quad \text{hon-o Mary-wa} \quad [\text{NP} \quad \text{John-ga mudande t}_1} \\
\text{which book-Acc Mary-Top John-Nom without consent} \\
\text{katta] koto]-ga mondai-da to omotteiru no} \\
\text{bought fact-Nom problem-to Comp thinking Q}
\]

'Which book \( t_1 \) is Mary considering it a problem that John bought \( t_1 \) without permission?''
(7') Wh-island:

b. Sono hon₁-o John-wa [dare-ga doko-de t₁ katta
that book-Acc John-Top who-ga where-at bought
kā] sikirini siritagatteiru
Q anxiously want-to-know

‘That book₁, John is anxious to know who bought t₁ where.’

(8') Adjunct island:

a. Sono hon₁-o John₂-wa [e₂ t₁ yomioete
that book-Acc John-Top finish-reading
kara] repooto-o kaita
after report-Acc wrote

‘That book₁, John wrote a report paper after he finished reading t₁.’

b. Sono hon₁-o John-wa [minna-ga t₁ itumo kariru
that book-Acc John-Top [everyone-Nom always borrow
node] hokano hon-o karita
because other book-Acc borrowed

‘That book₁, because everyone always checks t₁ out that book, John
checked out some other book.’

c. Tookyoo-ni₁ Mary-wa [John-ga t₁ ikitagatteiru
Tokyo-to Mary-Top John-Nom want-to-go
no-o sitteiru noni] wazato musi-siteiru rasi
NM-Acc know although intentionally ignoring seems

‘To Tokyo₁, it seems that although Mary knows that John wants to go
t₁, she is ignoring it intentionally.’

Unlike the sentences Saito gives, the ones above are acceptable, with the scrambled
phrases being appropriately characterized by the rest of the sentence.
To show that Subjacency is not at work, I give below additional data about scrambling out of various islands.

(9) Relative clauses:

Sono kikanzyuu1-o [IP keisatu-ga [NP [CP e2 t1 nusunda] that machine gun-Acc police-Nom stole
yatu2]-o sagasite-iru rasii]
guy-Acc looking for-is seems
‘That machine gun1, the police seem to be looking for the guy2 who stole t1.’ (Haig 1993b, (6a))

(10) Wh-islands:

Sono ronbun1-de [IP boku-wa [CP John-ga t1 nani-o that paper-in I-Top John-Nom what-Acc
ii-tai-no ka] sappari wakara-nai] say-want-NM Q completely understand-Neg
‘In that paper1, I don't understand what John wants to say t1 (=in that paper1).’ (Izutani 1993:6, (11b))

(11) Ka dooka clauses:

Sono hon1-o [IP Mary-mo [CP John-ga t1 katta that book-Acc Mary-too John-Nom bought
ka dooka] yoku oboete-inai rasii] whether well remember-Neg seem
‘The book1, it seems that Mary too does not remember well whether John bought t1.’ (Izutani 1993:7, (11d))

(12) Adjunct islands:

Sono kosyo1-o [IP minna-ga [CP gaizin-no Tom-ga that old book-Acc everyone-Nom foreigner-Adn Tom-Nom
t₁ yometa node[kansin-siteita rasii]
read-could because impressed-be seem
‘That old book₁, everyone was impressed because Tom, a foreigner, was able to read t₁.’ (Haig 1993b, (9))

The grammaticality of these sentences again indicates that Scrambling is immune from Subjacency. In addition, scrambling out of complement clauses is also possible, as shown in (13), which are taken from Saito (1985:185). This is contrary to Saito, who considers (13) as ungrammatical.

(13) a. Sono okasi₁-ga John-ga [t₁ oisii to] omotteiru
that candy-Nom John-Nom tasty Comp think
‘John thinks that that candy is tasty.’

b. Sono hon₁-ga John-ga [t₁ yoku ureteiru to] omotteiru
that book-Nom John-Nom well selling Comp think
‘John thinks that that book is selling well.’

Saito considers these sentences ungrammatical for a Case-theoretic reason: the subject position is ungoverned. According to Saito (1985), scrambling is IP-adjunction operation, an A'-movement. The trace of the scrambled element is then construed as a variable, and it is subject to the Empty Category Principle (ECP). Since the trace of the embedded subject is ungoverned, the sentences in (13) are ruled out as an ECP violation. But, the fact that these sentences in (13) are, in fact, grammatical may suggest that the subject position is governed and hence the trace does not violate the ECP. This is borne out in the following sentence:

(14) Dare-ga naze Tookyoo-ni itta ka
who-Nom why Tokyo-to went Q
‘Who went to Tokyo why?’
Since naze ‘why’ is an adjunct, its trace is not governed by a lexical head. If it moves after the subject dare ‘who’ at LF, antecedent-government part of the ECP is violated, and (14) should be ungrammatical. Since the sentence is grammatical, it must be the case that naze moves before dare. But, if, as Saito assumes, the subject position is ungoverned, the trace of dare after the movement of naze, would violate the ECP. Thus, the claim that subject position is ungoverned rules out (14) incorrectly. The grammaticality of sentences like (14) shows instead that the subject position in Japanese may be governed by INFL (Huang 1982), or by the stranded Case-marker ga at LF (Saito 1982, Lasnik and Saito 1984, 1992). If this is indeed the case, then (13) is predicted to be grammatical.⁴

2.2.2 Operator movement

2.2.2.1 Yoshimura (1986)–Weak Crossover/Parasitic Gap constructions⁵

Consider the examples in (15), which are taken from Yoshimura (1986):

(15) a. *Taroo-ga [pp Hanako-ga e₁ hi han-suru mae-ni]

Taro-Nom Hanako-Nom criticize before
dono ronbun₁-o yonda no
which article Acc read Q

‘Which article did Taro read t₁ before Hanako criticized e₁?’
(Yoshimura 1986:294, (7a))

b. Dono ronbun₁-o Taro-ga [pp Hanako-ga e₁

which article-Acc Taro-Nom Hanako-Nom

---

⁴ For speakers who find the sentences such as those in (13) (a little) awkward, it may be the case that Kuno’s (1980) “crossing over constraint” in (i) is at work rather strictly.

(i) Crossing over constraint (Kuno 1980b)
   In general, the greater the likelihood of ambiguous interpretation, the more difficult it is to switch the word order of two NPs marked with the same grammatical formative (e.g., particle).

⁵ I will take up the WCO constructions in terms of empty categories in Chapter 3. For details of the WCO constructions and analyses by Yoshimura (1986) and others such as Saito (1985), Hoji (1985, 1987), see Chapter 3.3.
hihan-suru mae-ni] t₁ yonda no

'Which article did Taro read t₁ before Hanako criticized e₁?'
(Yoshimura 1986:294, (7b))

c.?? Dono ronbun₁-o Taroo-ga [PP[[NP[CP Hanako-ga
which article-Acc Taro-Nom Hanako-Nom

e₁ hihan-sita] koto]-o siru mae-ni] OP₁] t₁ yonda no
criticized fact-Acc know before read Q

'*?Which article did Taro read t₁ before knowing the fact that Hanako
criticized e₁?' (Yoshimura 1986:296, (11))

Yoshimura (1986) considers that the object gap is an empty pronoun (pro) in (15a). And, this gap meets the Weak Crossover configuration in (16). If the gap is pro, then the ungrammaticality of (15a) follows from the Weak Crossover constraint in (17).

(16) WCO configuration: OP₁ ... P₁ ... e₁ (linear order irrelevant)

OP₁ c-commands P₁ and e₁, and neither P₁ nor e₁ c-commands the other.

(where OP = operator, P = pronoun/anaphor)

(17) WCO constraint

A variable cannot be the antecedent of a pronoun or an anaphor that it does not c-command.

(Saito and Hoji 1983:256, also Saito 1985:83, Hoji 1987:166)

In the LF representation of (15a), the operator associated with the wh-phrase dono ronbun 'which article' c-commands its trace and the object gap (pro) and neither of the latter c-commands the other, as depicted in (15').

(15') LF of (15a):

Dono ronbun₁-o [Taroo-ga [VP [PP Hanako-ga e₁ hihan-suru mae-ni]
[t₁ yonda]]] no
This is precisely the Weak Crossover configuration in (16). Hence, (15a) violates the Weak Crossover (WCO) constraint in (17). And, the ungrammaticality of (15a) results.

In contrast, (15b) is acceptable even though the object gap meets the WCO configuration in (16). And, if the gap in (15b) is pro, then the grammaticality of (15b) is not expected because the LF representation of (15b) is exactly the same as that of (15a). What makes (15b) acceptable is scrambling of the wh-phrase. Yoshimura (1986) as well as Saito (1985), and Hoji (1985, 1987) assumes that S-Structure Scrambling licenses the gap in question as a "parasitic gap" much in the same way as the English parasitic gap in (18).

(18) a. Which articles\textsubscript{1} did you file t\textsubscript{1} after you read e\textsubscript{1}?
   b. *Which articles\textsubscript{1} did you file them after you read e\textsubscript{1}?

Following Chomsky (1986b), Yoshimura argues that the gap in (15b) is a parasitic gap (i.e., a variable), which is a trace left behind by a null operator (OP) movement at S-Structure. Since Subjacency is a diagnostic for movement, the null operator movement out of islands such as complex NP constructions and relative clause constructions results in a Subjacency violation.

Now consider (15c). There, the OP associated with the NP \textit{dono ronbun} ‘which article’ has been extracted from a complex NP to an A’-position (Spec of CP). Since the trace of the OP so moved is considered as a variable, it is constrained by the Subjacency condition in (1). And, in fact, (15c) violates Subjacency. The ungrammaticality of (15c) in turn supports the view that the gap in question is a variable but not pro.\footnote{But we will show in Chapter 3 that the gap under discussion is not a variable but pro.}

2.2.2.2 Problems with Yoshimura (1986)

Yoshimura’s analysis of a parasitic gap in the WCO constructions has some problems. First, let us consider (15b). Yoshimura seems to assume that the \textit{mae-ni} clause has a
structure something like \([PP[CP\ mae]\ ni]\), with \(ni\) as a postposition and \(mae\) as a complementizer. But, the morpheme \(mae\) can be considered as a noun rather than a complementizer, with the structure like \([PP[NP[CP\ ...\ mae]]]\). If this is indeed the case, scrambling of \(dono\ ronbun-o\ 'which\ article-Ace'\) will violate Subjacency because the movement crosses the complex NP. However, the grammaticality of (15b) indicates that Scrambling does not obey Subjacency.

Second, consider the following sentences:

\[(19)\ a.\ [NP\ Mary-ga\ e_1\ uragitteiru\ koto]-ga\ [VP\ dare_1-o\ yuuutunisiteiru]\ ka\ depress\ Q\]

‘Who\(_1\) has the fact that Mary betrays (e\(_1\)) depressed?’

b.\ [NP\ e_1\ Mary-ni\ uragirareteiru\ koto]-ga\ [VP\ dare_1-o\ yuuutunisiteriu]\ ka\ who\(_1\)-Acc\ depress\ Q

‘Who\(_1\) has the fact that (e\(_1\)) is betrayed by Mary depressed?’

\[(20)\ a.\ Dare_1-o\ [[NP\ Mary-ga\ e_1\ uragitteiru\ koto]-ga\ [VP\ t_1\ yuuutunisiteiru]]\ ka\ depresses\ Q\]

‘Who\(_1\) has the fact that Mary betrays (e\(_1\)) depressed?’

b.\ Dare_1-o\ [[NP\ e_1\ Mary-ni\ uragirareteiru\ koto]-ga\ [VP\ t_1\ yuuutunisiteiru]]\ ka\ depresses\ Q\]
‘Who has the fact that (el) is betrayed by Mary depressed?’

The sentences in (19) are grammatical. According to Yoshimura’s analysis, the gap in question is pro and is ruled out as a WCO violation. The LF representation of (19) would be as in (19’).

(19’) LF of (19):

a. Dare1-o [IP[NP Mary-ga e1 uragitte iru koto]-ga [vp t1 yuutunisiteiru]] ka
b. Dare1-o [IP[NP e1 Mary-ni uragirareteiru koto]-ga [vp t1 yuutunisiteiru]] ka

The LF representation in (19’) is exactly the WCO configuration in (16), and should be banned by (17). But, the sentences in (19) are acceptable.

Third, the sentences in (20) are derived from those in (19) by scrambling the object NP out of the complex NP, as in the case of (15c). They are then predicted to be ungrammatical in violation of Subjacency. The grammaticality of (20) also shows that Scrambling is not subject to Subjacency. In fact, Yoshimura (1989), as reported in Saito (1992), considers (21) grammatical.

(21) Dono hon-o1 [Masao-wa [vp[pp Hanako-ga [NP e1 which book Masao-Top Hanako-Nom kaita hito]-ni au mae-ni] [vp t1 yonda]] no wrote person-to meet before read Q

‘Which book did Masao read t1 before Hanako met the person who wrote e1?’ (Saito 1992:72)

Yoshimura’s claim that the null operator movement as in (15b, c), (20) obeys Subjacency does not hold.7

7 Given that movement is free from Subjacency in Japanese, the gap under discussion in sentences such as (15b, c), (20), and (21) might be a variable left behind by the null operator. In Chapter 3.
2.2.2.3 Kikuchi (1987)--Comparative Deletion Constructions

Kikuchi (1987) and Watanabe (1991, 1992), who follows Kikuchi (1987), assume that the Comparative Deletion construction in Japanese in (22) involves movement of a null operator (OP) to the Spec position of CP, in the same way as the English comparative constructions behave like wh-movement (Chomsky 1977). This is schematically shown in (23).

(22) John-ga [Tom-ga e yonda yorimo] hon-o takusan yonda
    John-Nom Tom-Nom read than book-Ace many read
    ‘John read more books than Tom read.’  (Kikuchi 1987:6, (10))

(23) ... [pp[CP[IP Tom-ga t₁ yonda] OP₁] yori(mo)] ...
    
(Watanabe 1992:277, (52))

Kikuchi (pp. 8-10) argues that Japanese Comparative Deletion (CD) constructions show the same properties as the English wh-movement construction. He lists the following as characteristics of the CDs: (i) the obligatory presence of a gap, as in (24), (ii) unbounded dependency, as in (25), (iii) Subjacency, as in (26) and (27), (iv) the appearance of the WCO effect, as in (28), and (v) the occurrence of a parasitic gap (PG), as in (29).

(24) Obligatory presence of a gap:
    Tom-ga [John-ga e₁/*sore₁-o yonda yorimo] takusan
    Tom-Nom John-Nom it-Acc read than many
    hon₁-o yonda
    book-Acc read
    ‘Tom read more books than John read e/it.’  (Kikuchi 1987:8, (12))

however, I will show that the gap is not a variable but an empty category (pro) and that pro is not subject to the WCO constraint either.
(25) Unbounded dependency:

\[
[[[[John-ga t_1 yonda to] iwareteiru to t’_1] minna-ga
  
  John-Nom read Comp is-said Comp everyone-Nom
  omotteiru OP_1] yorimo] Mary-wa takusan hon_1-o yondeita
  
  think than Mary-Nom many book-Acc read
  
  ‘Mary has read more books than everyone thinks that it is said
  that John read.’
  
  (Kikuchi 1987:8, (13))
\]

(26) Subjacency (Relative clauses):

a. *[[[Sono tukue-de e t_1 yondeita] hito-o John-ga
  
  that desk-on read person-Acc John-Nom
  nagutta OP_1] yorimo] Paul-wa takusan hon_1-o yondeita
  
  hit than Paul-Top many book-Acc read
  
  ‘Paul read more books than John hit a person who was reading at the
  table.’
  
  (Kikuchi 1987:9, (14))

b. *John-wa [[[CP Paul-ga [NP[CP e_2 t_1 yonda] hito_2]-ni
  
  John-Top Paul-Nom read man-Dat
  atta] OP_1] yorimo] takusan hon-o yonda
  
  met than many book-Acc read
  
  ‘John read more books than Paul met a man who read.’
  
  (Kikuchi 1987:13, (24))

(27) (Complex NP):

*[[[John-ga t_1 yondeita toki-ni] zisin-ga okita OP_1]
  
  John-ga read when-at quake-Nom happened
  yorimo] Paul-wa harukani takusanno hon_1-o yondeita
  
  than Paul-Top far many book-Acc read
  
  ‘Paul read more books than an earthquake happened when John was
(28) WCO effects:

a. *[[[Zibun-tati ga rakudai-sita koto] ga [t₁ odorokaseta]
   self-pl-Nom flunked fact-Nom surprised
   OP₁] yorimo] harukani takusanno gakusei₁-o [Bill-ga
   than far many students-Acc Bill-Nom
   rakudai-sita koto] ga odorokaseta
   flunked fact-Nom surprised
   ‘The fact that Bill flunked surprised far more students₁ than the fact that
   self₁ flunked surprised e₁.’ (Kikuchi 1987:9, (18))

b. Partial LF representation:

\[
\text{[CP[[NP zibun-tati ga rakudai-sita koto-ga] t₁ odorokaseta] OP₁]}
\]

yorimo ...

(29) Parasitic gap:

Ronbun-nituite ieba, Bill-wa [[[John-ga [PRO₁
   article-about say Bill-Top John-Nom
   London-de PG₁ kaita ato] Pari-de t₁ happyoo-sita]
   London-in wrote after Paris-in published
   OP₁] yorimo] ookuno ronbun₁-o Amerika-de kaiteita
   than many article-Acc America-in wrote
   ‘As for the articles, Bill wrote more articles₁ in America than John had
   published t₁ in Paris after he wrote e₁ in London.’ (Kikuchi 1987:10, (20))

Kikuchi claims that the Comparative Deletion pattern must contain a gap; otherwise the sentence is not grammatical, as in (24). In (25), the OP moves from the lowest clause to the SpecCP of the yorimo clause successive-cyclically in the manner of a wh-movement in English. The OP movement in (26)-(27) crosses the relative clause and the complex NP,
violating Subjacency. In (28a), the trace ($t$) and the pronoun *zibun* are bound by the same operator (OP) and neither c-commands the other, as illustrated in (28b). Hence, (28a) results in a WCO violation. (29) also involves the WCO configuration, but, it is grammatical. The gap (PG) in the adjunct island can not be an empty pronoun (*pro*) because if it were, it would result in the WCO violation. It must be a parasitic gap (i.e., a variable).

Kikuchi (pp. 12-14) also claims that the operator (OP) movement involved in the CD constructions which are considered as a wh-movement exhibits wh-island and adjunct island effects. Kikuchi gives the following examples in support of this claim.

(30) Wh-island:

```
*[[Minna-ga [CP naze Paul-ga t₁ yonda ka] husigini omotteta]
everyone-Nom why Paul-Nom read Q wonder thought
OP₁] yorimo John-ga takusan-no hon₁-o yonda
than John-Nom many-Gen book-Acc read

'John read more books than everybody wondered why Paul read.'
```

(Kikuchi 1987:12, (22))

(31) Adjunct:

```
*[[Minna-ga [CP Paul-ga t₁ yonda ato-de] sanpo-ni]
everyone-Nom Paul-Nom read after-at walking-to
dekaketa] OP₁] yorimo John-wa takusan-no hon-o yonda
went-out than John-Top many-Gen book-Acc read

'John read more books than everyone went out for a walk after Paul read.'
```

(Kikuchi 1987:13, (26))

According to Kikuchi (and Watanabe), the above sentences are ungrammatical because the operator moves across the respective islands. In (30), the OP cannot land in the lowest SpecCP because *naze* 'why' is situated there. Then, it must move all the way up to the
higher SpecCP of the *yorimo* clause in a single step. This violates Subjacency.\(^8\) In much the same way, the OP movement violates Subjacency crossing the adjunct clause in (31).

2.2.2.4 Problems with Kikuchi (1987)

Below I refute Kikuchi’s claim that Comparative Deletion constructions involve a ‘*wh*-like’ movement in addition to his claim that the construction obeys Subjacency. That is, I refute properties (i), (iii), and (iv).\(^9\)

To begin with, Kikuchi’s claim that a CD contains an obligatory gap is not descriptively correct. The following sentence without the gap is grammatical:

(32) Tom-ga [John-ga manga-o yonda *yorimo*] takusan

Tom-Nom John-Nom comics-Acc read than many
hon\(_1\)-o yonda
book-Acc read

‘Tom read more books than John read comics books.’

Second, contrary to Kikuchi’s claim, the WCO effects do not show up in the Comparative Deletion construction. In the partial LF representation in (28b), OP\(_1\) c-commands *zibun-tati*\(_1\) and *t\(_l\)*, and neither of them c-commands the other. So, the WCO constraint is clearly violated, and (28) would be predicted to be bad. However, the unacceptability of (28) may be due to awkward word ordering, rather than the WCO constraint. A heavy NP is postposed in English, while it is preposed in Japanese, as in (33).

\(^8\) However, under the *Barriers* system, which both Kikuchi and Watanabe assume, the clause containing *naze* ‘why’ is L-marked by the associated verb *omotteta* ‘thought’ and hence is not construed as a barrier/bounding node. Thus, the movement crosses only one barrier and is not a Subjacency violation. In order to claim that (30) is ungrammatical in violation of Subjacency (a *wh*-island), both Kikuchi and Watanabe must assume either that tensed IP is an inherent barrier (Chomsky 1986b:37) or that both IP and CP as well as NP are barriers in Japanese (cf. Chomsky 1982 and Nishigauchi 1985, 1990).

\(^9\) As to the property in (v), I will argue in Chapter 3 that an empty category in the WCO/Parasitic gap construction is not a parasitic gap (i.e. a variable) but *pro* (see footnote 6).
(33) English:

John will give \( t_1 \) to Nancy \[a book that he bought in Tokyo last year\].

Japanese:

John-wa [kyonen Tookyoo-de katta hon]-o Nancy-ni \( t_1 \) ageru-tumori-da.

The heavy NP shift (i.e., postposing/preposing) applied to the direct object NP gives a natural word order in English and Japanese. Now, observe (34).

(34) a. [John-ga [kyonen Tookyoo-de katta hon]-o Nancy-ni ageta koto]-ga Hanako-o odorokaseta.

b. ?Hanako-o [John-ga [kyonen Tookyoo-de katta hon]-o Nancy-ni ageta koto]-ga \( t_1 \) odorokaseta.

(34) involves a heavy sentential subject NP. (34b) seems to sound a little more awkward than (34a) unless a heavy stress is put on the preposed object NP Hanako. This is because the preposing the object NP Hanako over the lengthy sentential subject NP makes it a little difficult to associate the matrix verb odorokaseta 'surprised' with the preposed object.

Now let us return to (28). Here, harukani takusanno gakusei, the object associated with the main clause verb odorokaseta, has been preposed over a rather lengthy sentential subject, just as in the case of (34b). Thus, when we come to the end of the sentence, we feel that the object should precede the verb in spite of the fact that we know that the object has been preposed. If the object is put in the original position, (28) is improved. This is in fact borne out, as shown in (35).

(35) [[[Zibun-tati\(_1\)-ga rakudai-sita koto]-ga [e\(_1\) odorokaseta] OP\(_1\)]

self-pl-Nom flunked fact-Nom surprised
yorimo] [Bill-ga rakudai-sita koto]-ga harukani takusanno

than Bill-Nom flunked fact-Nom far many
gakusei₁-o odorokasetta
students.Acc surprised

'The fact that Bill flunked surprised far more students₁ than the fact that self₁ flunked surprised e₁.'

(35) has precisely the same LF representation as (28b). Hence, the WCO effect is irrelevant to the Comparative Deletion constructions. The following sentence in (36) is acceptable even though it is the WCO configuration:

(36) [[[Zibun₁-ga AIDS-ni kansen-siteita koto]-ga [e₁
    self-Nom AIDS-by affected fact-Nom
    yuuutunisita] OP₁] yorimo] [zibun₁-no kodomo-tati-made-mo-ga
    depressed than self-Gen child-pl-even-too-Nom
    AIDS-ni kansen-siteiru koto]-ga harukani takusannno
    AIDS-by affected fact-Nom far many
    oya-tati₁-o kanasimaseta
    parents.Acc made-sad

'The fact that their₁ children get affected by AIDS made more parents₁ sad than the fact they₁ were affected by AIDS depressed (e₁).'

Third, Kikuchi's claim that the CD obeys Subjacency is wrong. Consider (37) and (38):

(37) Relative clauses:

a. [[John-ga [NP[CP tosyokan-de e t₁ yonda] hito]-o
    John-Nom library-in read person-Acc
    hometa OP₁] yorimo] Paul-wa zibun-no tiisai
    praised than Paul-Top self-Gen small
    heya-de motto takusan hon₁-o yondeita
    room-in much many book-Acc reading-was
‘Paul was reading more books in his tiny room than John praised a person who read t in the library.’

b. John-wa [[[[NP[CP e t kaita] hito]-ga (kare3-o) kare]-Top wrote man-Nom he-Acc] yorimo] motto takusanno hon1-o yondeita praised than more many book-Acc read

‘John had read more books than a person who wrote t praised (him).’


‘John had listened to the song more (often) than a person who composed e2 listened to t2.’

(38) Complex NP:

[[[NP[CP John2-ga t tukiatteita toyuu] uwasa]-ga seken-ni John-ga dating-was saying rumor-Nom world-to] hiromatte-iru OP1] yorimo] kare-wa harukani takusanno spread-has than he2-Top far many zyosei1-to tukiatteita woman-with dating-was

‘John2 was dating by far many more women than a rumor that he2 was dating t has spread to the world.’

The sentences in (37) involve a relative clause and those in (38) a complex NP. If Subjacency is active, then the OP movement out of these islands will violate it. The
grammaticality of these sentences suggests that Subjacency is not at work in the Comparative Deletion constructions.\(^{10}\)

In connection with this, Kikuchi’s further claim that the CD constructions display \textit{wh}-island and adjunct island effects is also incorrect. Consider (39)-(41).

(39) Adjunct clauses:

\[
\begin{array}{ll}
\text{[pp} & \text{Minna-ga} \\
\text{everyone-Nom} & \text{Paul-ga} \\
\text{Paul-Nom read-could} & \text{e} \_ \text{yometa node}]CP \\
\text{kansin-siteita OP} \_ \text{yorimo]} & \text{John-wa} \\
\text{impressed} & \text{harukani} \\
\text{than} & \text{John-Top} \\
\text{muzukasii hon} \_ \text{o yondeiru} & \text{by far} \\
\text{difficult book-Acc reads} & \\
\end{array}
\]

‘John has read books\textsubscript{1} much more difficult by far than everyone was impressed because Paul had been able to read \textsubscript{e1}.’ (Haig 1993b, (20b))

(40) \textit{Wh}-islands:

\[
\begin{array}{ll}
\text{[pp} & \text{Minna-ga} \\
\text{everyone-Nom} & \text{Paul-ga} \\
\text{Paul-Nom read-can} & \text{naze e} \_ \text{yom-eru} \\
\text{gaizin-no} & \text{why} \\
\text{foreign-Gen} & \text{read} \\
\text{no ka} & \text{John-wa} \\
\text{NM} & \text{strange thought} \\
\text{Q} & \text{than} \\
\text{haruka-ni muzukasii hon} \_ \text{o yondeita} & \text{why Paul, a foreigner, could read \textsubscript{e1}.’ (Adapted from Haig 1993b, (20c))}
\end{array}
\]

---

\(^{10}\) This has been already noted by Haig (1976:367-368, his (18)-(19) and (22)). See also Haig 1993a. b.
(41) Wh-islands and Complex NP:

\[
[PP[[CP[ John-ga \ t_1 \ doo \ natta \ ka]CP \ siri-tagatteita]\IP
\]
John-Nom \ how \ became \ Q \ know-wanted

\[
OP_1]CP \ toki]NP \ yorimo] \ harukani \ kabuka_{1-wa} \ kyuutoo-siteiru
\]
time \ than \ by \ far \ stock \ price-Top \ soar-doing

'The stock prices$_1$ are soaring further than the time when John wanted to
know what had become of e$_1$.'

Again, contrary to Kikuchi, the above sentences involving islands are acceptable. Thus,
we are led to conclude from the acceptability of these sentences that the claimed islands
effects are not observed with Comparative Deletion constructions.

Let us now step back and consider why there is a sharp contrast between the
ungrammatical sentences (26)-(27) and (30)-(31) Kikuchi gives and the grammatical
sentences (37)-(41), all of which involve the OP movement out of the complex NP, wh-
island and adjunct islands. In the ungrammatical sentences there can hardly be any logical
connection between the main and subordinate clause in terms of the "compared" item (i.e.,
the overt phrase in the main clause corresponding to the empty category in the subordinate
yorimo clause). For example, compare the ungrammatical (26) and the grammatical (37),
repeated here.

(26) Subjacency (Relative clauses):

a. *[[[Sono \ tukue-de \ e \ t_1 \ yondeita] \ hito-o \ John-ga

that \ desk-on \ read \ person-Acc \ John-Nom

nagutta \ OP_1] \ yorimo] \ Paul-wa \ takusan \ hon_{1-o} \ yondeita

hit \ than \ Paul-Top \ many \ book-Acc \ read

'Paul read more books than John hit a person who was reading at the
table.' (Kikuchi 1987:9, (14))
(37) Relative clauses:

a. [[John-ga [NP[CP tosyokan-de e t1 yonda] hito]-o
   John-Nom library-in read person-Acc
   hometa OP1] yorimo] Paul-wa zibun-no tiisai
   praised than Paul-Top self-gen small
   heya-de motto takusan hon1-o yondeita
   room-in much many book-Acc reading-was
   ‘Paul was reading more books in his tiny room than John praised a person who read t1 in the library.’

b. John-wa [[[CP[NP[CP e t1 kaita] hito]-ga (kare3-o)
   John-Top wrote man-Nom he-Acc
   hometa] OP1] yorimo] motto takusanno hon1-o yondeita
   praised than more many book-Acc read
   ‘John had read more books than a person who wrote t1 praised (him).’

c. John-wa [[[CP[NP[CP e2 t1 sakkyoku-sita] hito2]-ga e1
   John-Top composed man-Nom
   kiita] OP2] yorimo] motto sono uta1-o kiiteita
   listened than more the song-Acc listened
   ‘John had listened to the song2 more (often) than a person who composed e2 listened to t2.’
In (26a), John's seeing a person who was reading books has nothing to do with Paul's reading books in terms of the number of books the two were reading. In contrast, there is a clear relation between people's admiration for reading many books and the adverse situations the two experienced in (37a). Likewise, "while there is no apparent connection between the occurrence of an earthquake and the number of books Paul and John have read" (Haig 1993b:24) in (27), there is a clear connection between the rumor and the reality about the number of John's dates in (38).

2.2.2.5 Watanabe (1991, 1992)

Watanabe (1991, 1992) attributes the ungrammaticality of (42a) to Subjacency, considering the \textit{ka dooka} clause as a \textit{wh}-island and proposes a two-level movement hypothesis in Japanese. He claims that Japanese interrogative sentences involve two stages of \textit{wh}-movement: S-Structure movement of a null operator associated with a \textit{wh}-phrase and LF movement of the real part of the \textit{wh}-phrase, the first of which is subject to Subjacency (i.e., \textit{wh}-island constraint) and the second one immune from it.

\begin{verbatim}
(42) a. ?? John-wa [Mary-ga nani-o katta ka dooka] Tom-ni tazuneta ka^{11} asked Q 'What_{1} did John ask Tom whether Mary bought e_{1}?' b. John-wa [Mary-ga nani-o katta ka dooka] dare-ni Tom-ni tazuneta ka^{11} asked Q 'Who_{1} did John ask e_{1} whether Mary bought what_{2}?'
\end{verbatim}

^{11} See footnote 1.
Watanabe assumes the Comp filter in (43):

\[(43) \text{Comp filter (SS)}\]

\[\text{[+WH] Comp requires one and only one operator (OP) to occupy Spec of CP at S-Structure.}\]

He also assumes that \textit{ka} and \textit{dooka} of \textit{ka dooka} ‘whether’ occupy C and Spec of CP positions, respectively. Thus, the null operator (i.e., ‘invisible’ part of the real \textit{wh}-phrase) movement, crossing over the containing \textit{ka dooka} clause which acts as a \textit{wh}-island, results in a Subjacency violation at S-Structure, as shown in (44).

\[(44) \text{[CP[IP[CP[IP (wh-phrase) \ldots ] [C ka] dooka] \ldots ] [C ka] OP1]CP} \]

We assume the following definitions relevant to barriers.

\[(44') (i) \text{Government}\]

\[X \text{ governs } Y \iff X \text{ m-commands } Y \text{ and there is no barrier for } Y \text{ that excludes } X. \text{ (Chomsky 1986b:9)}\]

\[(ii) \text{M-command}\]

\[X \text{ m-commands } Y \iff X \text{ does not dominate } Y \text{ and every branching category that dominates } X \text{ dominates } Y. \text{ (Chomsky 1986b:8)}\]

\[(iii) \text{Exclusion}\]

\[Y \text{ excludes } X \iff \text{ there is no segment of } Y \text{ that dominates } X. \text{ (Chomsky 1986b:9)}\]

\[(iv) \text{Domination}\]

\[X \text{ is dominated by } Y \iff X \text{ is dominated by every segment of } Y.\]

\[(v) \text{Barrier}\]

\[X \text{ is a barrier for } Y \iff (a) \text{ or (b)}\]

\[(a) X \text{ immediately dominates a Blocking Category (BC) for } Y;\]

\[(b) X \text{ is a BC for } Y, \text{ and } X \text{ is not IP}. \text{ (Chomsky 1986b:14)}\]
(vi) Blocking category

\[ X \text{ is a blocking category (BC) for } Y \text{ iff } X \text{ is not L-marked and } X \text{ dominates } Y. \]  
(Chomsky 1986b:8)

(vii) L-marking

\[ X \text{ L-marks } Y \text{ if } X \text{ is a lexical category that theta-governs } Y. \]  
(Chomsky 1986b:15)

(viii) Theta-government

\[ X \text{ theta-governs } Y \text{ iff } X \text{ is a lexical category that theta-marks } Y, \text{ and } X, Y \text{ are sisters.} \]  
(Chomsky 1986b:15)

(ix) Theta-marking

\[ X \text{ directly theta-marks } Y \text{ if } X \text{ assigns a theta role to } Y. \]  
(Chomsky 1986b:13)

Since the Spec of CP is already filled with *dooka* (a [+wh] element), the null operator, being unable to land there, must move into the Spec of the matrix CP in a single step. This movement crosses two barriers and hence violates Subjacency.12

In contrast, in (42b), the S-Structure movement of the null operator takes place in the matrix clause with respect to *dare* 'whom,' followed by the movement of the real part of the *wh*-phrase movement at LF. The subsequent LF movement of the invisible operator associated with *nani* ‘what’ to the Spec of the embedded CP which is already filled by *dooka* is allowed because the Comp can be multiply filled at LF, unlike at S-Structure. Hence, there is no Subjacency violation in (42b). This is illustrated in (45).

(45) SS of (42b):

\[
[CP[IP ... *dare* ... ][CP[IP ... *nani* ... ][C *ka* *dooka*] tazuneta][C *ka*] OP_1]
\]

---

12 Watanabe (1991, 1992) seems to assume IP in the configuration in (44) to be a barrier. According to the Barriers framework of Chomsky (1986) which Watanabe presupposes, however, examples such as (42a), (49), and so on, in which the lower CP is L-marked, do not create a Subjacency violation, contra what he claims. We will return to this in section 2.2.2.6.1.
Taking sentences like (42) and those involving comparative deletion and S-Structure Scrambling as evidence, Watanabe claims that the null operator movement at S-Structure is subject to Subjacency.

Since I have shown above that overt Scrambling at S-Structure and the operator movement in the Comparative Deletion constructions are immune from Subjacency, I will show (a) that there is no Subjacency effects on null operator movement at S-Structure if such a movement exists at all, (b) that the ungrammaticality of (42) has nothing to do with syntactic or LF movement but rather with semantics, and (c) that the contrast in (42), if it exists at all, has nothing to do with Watanabe’s Two-Level Movement Hypothesis, but rather may stem from the linear relationship between the two wh-phrases in a sentence.

2.2.2.6 Problems with Watanabe (1991, 1992)

2.2.2.6.1 No Subjacency constraint

Though Watanabe says that (42a) is in violation of Subjacency under the Barriers system, this is wrong. The ka dooka clause is construed as a barrier. But, since it is L-marked by the matrix verb and not a BC (unless the most deeply embedded IP is an inherent barrier), it does not transfer barrierhood to a dominating XP. Hence, the movement of nani ‘what’ crosses just one barrier (i.e., CP) through VP adjunction, as shown in (46).

\[
\text{(46) } \left[\text{CP[IP[IP[nani CP] \text{VP t} \text{VP[IP[CP] OP]} CP} \right. \text{\uparrow}
\]

\text{\uparrow}

Watanabe says that the contrast in (42) is parallel to the contrast between S-Structure and LF movement in English examples like (i), taken from Watanabe (1992, (17)).

(i)  a. Who did John ask t whether Mary bought what?
    b. ??What did John ask Tom whether Mary bought t?
So, the *ka dooka* clause is not a wh-island and hence the marginality of (42a) does not support the Subjacency violation claim at S-Structure. (42a) is semantically bad simply due to the alternative embedded question formed by *ka dooka* 'whether' having wh-phrases in it, to which we return in the next section. Here, for the sake of argumentation, I assume that the *kadooka* clause forms a wh-island. In the following, I show that the null operator movement out of wh-islands including the *kadooka* clause, adjunct islands, and relative clauses (CNPC) does not result in a Subjacency violation.

First, the movement of the null operator associated with a wh-phrase can cross an adjunct island, a complex NP, and a wh-island.

(47) a. (movement out of an adjunct)

\[
[CP(IP Yamada-san-wa [NP(CP musume2-ga [CP e2 saikin Yamada-Mr.-Top daughter-Nom recently dare1-to tukiatteiru node]CP benkyoo-o anmari sinaku-natta]IP who-with dating because study-Acc very did-not toyuu]CP gakkoo-no sensei-no tyuukoku[NP-o kinisiteiru]IP ka] Comp school-Gen teacher-Gen warning-Acc worry Q
\]

'Who1 is Mr. Yamada worrying about the school teacher's warning that his daughter2 has come not to study very much because (she2) is dating with t1 recently?'

\[
\]

b. (movement out of a complex NP)

\[
[CP(IP VP Yamada-san-wa [CP(IP tuma-ga [NP(CP(IP
Yamada-Mr.-Top wife-Nom
musume2-ga [CP e2 saikin dare1-to tukiatteiru node]CP daughter-Nom recently who-with dating because

\[
\]
benkyoo-o anmari si-naku-natta[IP toyuu]CP gakkoo-no
study-Acc very do-Neg-became Comp school-Gen
sensei-no tyuukoku[NP-o kinisiteiru][VP]IP node]CP
teacher-Gen warning-Acc worry because
meitteiru]IP ka]CP
depressed Q

‘Who_1 is Mr. Yamada depressed because his wife is worrying about the school teacher’s warning that their daughter_2 has come not to study very much because (she_2) is dating with t_1 recently?’

\[
\begin{array}{c}
\begin{array}{c}
\text{[IP]CP} \\
\text{[NP]CP}
\end{array}
\end{array}
\]

\[
\begin{array}{c}
\text{[IP]OP]CP}
\end{array}
\]

\[
\begin{array}{c}
\text{\uparrow}
\end{array}
\]

\[
\begin{array}{c}
\text{\uparrow}
\end{array}
\]

\[
\begin{array}{c}
\text{\uparrow}
\end{array}
\]

c. (Movement out of a wh-island)

dare_1-to uwaki-sita node]CP rikon-subeki]IP
who-with adultery-committed because divorce-should
ka dooka]CP kangaeteiru]IP toyuu]CP kanozyo-no hahaya-no whether thinking Comp she-Gen mother-Gen
hanasi[NP-o sinziteiru]IP ka]CP
story-Acc believe Q

‘*Who_1 do you believe the story of Mary’s mother that Mary is thinking that she should get a divorce because John committed adultery with t_1?’

\[
\begin{array}{c}
\text{[IP]CP[IP]CP[IP]CP}
\end{array}
\]

\[
\begin{array}{c}
\text{[NP]IP]OP]CP}
\end{array}
\]

\[
\begin{array}{c}
\text{\uparrow}
\end{array}
\]

\[
\begin{array}{c}
\text{\uparrow}
\end{array}
\]

In these examples, the null operator associated with a wh-phrase crosses a series of barriers in moving from SpecCP to SpecCP in a successive-cyclic fashion via VP
adjunction. The grammaticality of these sentences indicates that there is no Subjacency on
the null operator movement in Japanese.

Second, the OP movement out of a relative clause does not violate Subjacency.
Relative clause formation is considered to involve null operator movement, as shown in
(48), and hence to be subject to Subjacency by most writers, including Imai (1987),

(48)  \[\text{Relative head} \]

Since the *ka dooka* clause is assumed to form a wh-island, the movement of a null operator
associated with the relative head will be predicted to be ungrammatical in violation of
Subjacency. However, the sentences such as (49) are all grammatical with the null
operator/relative head construed with the gap inside the *ka dooka* clause.

(49)  Relativization out of the *ka dooka* clause

\[\text{CP} \quad \text{Mary-mo} \quad \text{John-ga} \quad e_1 \quad \text{ka dooka} \quad \text{CP} \]

\[\text{Mary-even} \quad \text{John-Nom} \quad \text{bought} \quad \text{whether} \]

\[\text{yoku} \quad \text{oboete-inai} \quad \text{IP} \quad \text{CP} \quad \text{hon} \]

\[\text{well} \quad \text{remember-Neg} \quad \text{book} \]

‘The book which even Mary does not remember well whether John bought
\[e_1.\]

\[(i) \quad l[\text{IP}]\text{CP} \quad \text{OP}]\text{CP} \quad \text{(ii) } \quad l[\text{IP}]\text{CP} \quad \text{OP}]\text{CP} \]

Since the embedded SpecCP is filled with *dooka* in Watanabe’s (1991, 1992) analysis, the
null operator, being unable to land there, must move all the way up to the matrix SpecCP
in a single step, as indicated schematically in (49i) above. However, the operator just
crosses one barrier CP (indicated in boldface), and hence the sentence must be

\[\text{Watanabe must assume here that the movement of a null operator associated with a non-}\text{-wh-phrase}
is also subject to Subjacency because he assumes the same thing in Comparative Deletion construction.\]
grammatical. But, if the most deeply embedded tensed IP of a wh-island clause is, as might be assumed by Watanabe (1991, 1992), a (weak) barrier (cf. Chomsky 1986:38), the configuration in (49ii) exhibits a Subjacency violation with both the embedded IP and CP being barriers, predicting (49) to be ungrammatical. In any case, the grammaticality of (49), however, nullifies Watanabe's claim that (42a) is ungrammatical due to a Subjacency violation because the ka dooka clause forms a wh-island.

Further, the sentences in (50)-(52) involve the gap associated with the relative head/null operator in the most deeply embedded clause in an island. That is, the null operator movement crosses a wh-island, an adjunct island, and a complex NP, respectively:

(50) (wh-island)

   where-from came Q know-Neg
   yatu_1-ni]NP musume-o yaru mon ka
guy-Dat daughter-Acc give Neg Q

   'Would I give my daughter to some guy_1 who I don't know where_2 e_1 came from e_2? ' (Haig 1993b, (l8a))

b. [CP[IP[CP Dare-ga e_1 okute-kureta ka]CP sukkari
   who-Nom send-receive Q completely
   wasurete-simatte-ita]IP]CP hon_1
   forgot-ended-up book

   'The book_1 which I forgot completely who_2 sent e_1 to me.'


46
(51) (adjunct)

a. \[CP[IP[CP e_1 \text{Amarini-mo mutyuu-ni natte yondeita node}]\text{CP} \]

very-too ardently became reading-was because

\[\text{benkyoo-suru zikan-ga nakunatte-simatta}]\text{IP[CP manga bon}]\text{CP} \]

study-do time-Nom cease-become-ended-up comic book

'The comic book which I ended up running out of time for my study because I was reading e_1 too ardently.'

b. \[CP[IP[CP \text{Amarini-mo mutyuu-ni natte e}_1 \text{yondeita node}]\text{CP} \]

very-too ardently become reading-was

\[\text{deeto-ni okurete-simatta}]\text{IP[CP Kuno-no hon}]\text{CP} \]

dating-at delay-ended-up Kuno-Gen book

'Kuno's book which I was late for a date because I was reading e_1 too ardently.'

(52) (adjunct, CNP)

a. \[CP \text{Mary-ga [NP[CP[IP boku_1-ga [CP e_1 amarini-mo mutyuu-ni Mary-Nom I-Nom very ardently natte e}_2 \text{yondeita node}]\text{CP} \text{deeto-ni okurete-simatta}]\text{IP}]\text{CP} \]

become reading-was because dating-at delay-ended-up

\[\text{toyuu}]\text{CP hanasi}]\text{NP-o nakanaka sinzite-kurenakatta}]\text{CP} \]

Comp story-Acc hardly believe-received

Chomsky-no hon

Chomsky-Gen book

'Chomsky's book which Mary hardly believed that I was late for a date (with her) because I was reading e_2 too ardently.'

47
If relative clause formation involves the null operator movement at S-Structure, all the sentences above should be ungrammatical due to Subjacency: the movement crosses a wh-island in (50), an adjunct island in (51), and a wh-island, an adjunct island, and a complex NP in (52).^{15}

^{15} (50) violates Subjacency if the most deeply embedded tensed IP is, as noted above, considered a barrier (cf. Chomsky 1986). (51) and (52) will inevitably violate Subjacency without the tensed IP consideration since they involve adjunct clauses.
Third, consider the movement of the OP associated with a wh-phrase out of a relative clause (CNP). It should result in a Subjacency violation under Watanabe's theory. However, the relevant sentences in (53) and (54) are grammatical.

\[(53) \text{John-wa [NP[CP nani-o kaita] hito-o sagasiteiru ka]}
\]
\[\text{John-Top what-Acc wrote person-Acc looking-for Q}
\]
\[\text{'What is John looking for the person who bought it?'}\]

\[(54) \text{John-wa [NP[CP[NP[CP dare-o hihan-sita] ronbun]-ga notta] zassi-o sagasiteiru ka?]
\]
\[\text{John-Top who-Acc criticized article-Nom appeared journal-Acc looking-for Q}
\]
\[\text{'Who is John looking for the journal where an article that criticized it appeared?'}\]

In order to explain the grammaticality of these sentences in his theory, Watanabe (1991:60ff) proposes the structure in (55) for a Complex NP in the DP analysis.

\[(55) \]
\[\text{DP} \quad \text{OP}_i \]
\[\text{QP} \quad \text{D'} \]
\[\text{Q'} \quad \text{Q} \]
\[\text{NP} \quad \text{NP} \]
\[\text{CP} \quad \text{indeterminate}_j \]

In (55) the wh-operator associated with an "indeterminate" (i.e., wh-phrase), according to Watanabe, occupies the DP Spec position of the whole DP rather than in the Spec of CP under the NP node. So, the operator movement up to the matrix CP Spec does not show a Complex NP Constraint (CNPC) effect (i.e., Subjacency) in sentences like (53) and (54), which are analyzed as in (56) and (57), respectively.
Watanabe says that since the operator that is associated with what he calls an “indeterminate” (i.e., the wh-phrase *nani* ‘what’) in the CP in (56) is generated in the Spec of the DP and is outside the island (i.e. the Complex NP), the operator movement does not violate Subjacency. The same holds true of (57).

Viewed in this light, the operator movements in (56), for example, would be schematically as in (58).

(58) \[
\begin{array}{c}
\text{DP[NP[CP \ nani-o kaita] hito] OP-o sagasiteiru ka} \\
\text{DP[NP[CP[DP[NP[CP dare-o hihan-sita] ronbun]]-ga notta] zassi] OP-o sagasiteiru ka}
\end{array}
\]

Neither of the operator movements (I) and (II) in (58) violates Subjacency. Hence, the sentences in (50) at least may appear not to be counterexamples to the S-Structure Subjacency violation.16

However, Watanabe’s DP analysis sketched above, as it stands, leaves much to be desired. For one thing, the positioning of the operator in the Spec DP is a stipulation in order to avoid the CNPC effect (i.e., Subjacency) and hence explain the grammaticality of the sentences like (53) and (54). He gives no independent evidence to show that the operator appears in the DP Spec.

Second, the operator can appear in the Spec of the lower DP in (57), in which case the movement must cross the higher CP and NP, resulting in a Subjacency violation. In order to avoid this unwanted situation, Watanabe must, then, force the operator to appear only in the highest DP Spec. But, this needs an explanation.

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16 The sentences in (51) and (52), which contain adjunct clauses, stand as a counterexample to the claim because the embedded adjunct clause, being construed as a barrier (Chomsky 1986), makes the higher clauses become another barrier, with the operator movement (I) resulting in a violation of Subjacency.
Third, though Watanabe (1991:62) mentions that the relation between the operator and the indeterminate in (55) “is different from Subjacency” because the sentences (53) and (54) are good, he does not say what the relation really is. Notice, as Watanabe himself notes, that the relation between the operator and the indeterminate in (55), whatever it may be, is exactly the configuration that violates Subjacency. The CP in (55) is a BC and a barrier at the same time. The NP above that immediately dominates the CP becomes another barrier by inheritance. Thus, the indeterminate and operator are separated by two barriers, giving rise to a Subjacency violation.

Fourth, his DP analysis for the operator associated with a relative head will not work as desired with a Complex NP which does not contain a wh-phrase as in (51) and (52). For example, unlike in (53) and (54), the complex NP (with the relative clause) in (52a) does not contain in it an indeterminate (a wh-phrase). So, the complex NP should not have a structure like (55), and hence the sentences in (51) and (52) are incorrectly predicted to be ruled out due to a Subjacency violation.

Fifth, the following sentence, which has exactly the same structure as (54), is bad. Watanabe cannot explain why this is the case even with the assumption in (55).

\[
(59)*\text{John-wa} \ [\text{DP[NP[CP[DP[NP[CP nani-o katta] hito]]-ga}\]
\text{John-Top} \ [\text{what-Acc bought person-Nom}\]
\text{tabeta] ringo] OP]-o mitumeteiru ka}\]
\text{ate apple-Acc staring-at Q}\]

“What is John staring at the apple that a person who bought ate?”

If (55) were the correct structure for (54), then (59) should be predicted to be equally acceptable, which it is not.\(^\text{17}\) For all these considerations, Watanabe’s speculations about

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\(^{17}\) The contrast follows from Takami and Kamio’s (1993) and Haig’s (1993a) condition on extractability, proper characterization: the extracted element must be “properly characterized” by the rest of the sentence. In (54), John’s looking for the journal in which an article that criticized someone unknown to the speaker appears is a proper characterization about the journal, while in (59) John’s...
a Complex NP as a DP with the operator in Spec DP position lack convincing support at present. Instead, we adopt the structure in (48) above, which is the one traditionally assumed for a Complex NP. Accordingly, all the relevant examples with relative clause formation should constitute a Subjacency violation with respect to the operator movement.

Fourth, Watanabe (1992:277) follows Kikuchi (1987) in assuming that a sentence is deviant when an island intervenes between the null operator and its trace in the Comparative Deletion construction. In section 2.2.2.4, I refuted Kikuchi's (1987) claim that Subjacency effects appear with the null operator (OP) movement out of islands. Here, we look at the operator movement out of the *ka dooka* 'whether' clause in the Comparative Deletion construction. Now consider (60):

(60) (the *ka dooka* clause)

\[
\begin{align*}
\text{[CP Kanemaru-wa } & \text{[PP[CP[NP tokusoo-ga] 20-nen} \\
\text{Kanemaru-Top} & \text{Special prosecutors-Nom 20-years} \\
\text{mae } & \text{[CP[Tanaka moto syusyoo-ga e1 kigyoo-kara uketotta]ip} \\
\text{ago } & \text{Tanaka ex premier-Nom company-from received} \\
\text{ka dooka]} & \text{[CP tuikyuu-sita]ip toki]NP OP1]CP yorimo]pp harukani} \\
\text{whether searched when than by far} & \text{takusan-no kane1-o onazi kigyoo-kara uketotteita rasii]} \\
\text{much-Gen money-Acc same company-from received seem} & \text{‘Kanemaru seems to have received more money1 by far from the same} \\
\text{company than when Tanaka had received e1 from the company twenty years} & \text{ago.’} \quad \text{(Izutani 1993, (10))}
\end{align*}
\]

The operator crosses the adjunct (CNP) island and *wh*-island clause in (60), and hence the sentence is, according to Watanabe, predicted to be ungrammatical. But, it is

---

staring at the apple has nothing to do with its being eaten by a person who bought something unknown to the speaker. For details, see Haig (1993a) and Takami and Kamio (1993).
grammatical, suggesting that operator movement is free from Subjacency in the Comparative Deletion construction.

Finally, Watanabe (1992:281), following Saito (1985), claims that S-Structure Scrambling obeys Subjacency. Though I have already shown in 2.2.1.2 that Saito's claim that Scrambling out of a wh-island must result in Subjacency is wrong, let us here look at Watanabe's example, which appears to be a Subjacency violation:

(61)*Sono hon-o [CP Mary-ga [CP dare-ga Tom-ni that book-Acc Mary-Nom who-Nom Tom-Dat [CP dare-ga t1 katta ka] tazuneta ka] siritagatteiru] who-Nom bought Q asked Q know-want

'That book1, Mary wants to know who asked Tom who bought t1.'

Here, the NP sono hon 'that book' has been scrambled out of the lowest clause to the initial position of the matrix clause, crossing two wh-islands. And, (61) is indeed bad. At first sight, the ungrammaticality appears to be a violation of Subjacency. However, this is not the case. The pre-scrambled version of (61) itself is bad, as seen in (62).


'That book1, Mary wants to know who asked Tom who bought t1.'

The marginality of (62) may be due to processing difficulty arising from two-fold embedded questions with the same subject wh-phrases and from the three layers of center embedding structure: a difficulty of matching each occurrence of the wh-phrase dare 'who' with its associated verb makes the processing job much more difficult in (61), the scrambled version of (62). Thus, the marginality of (61) and (62) is not syntactic, i.e., not a Subjacency violation.
We have argued above that the movement of the null operator (whether it is associated with a \(wh\)-phrase or not) does not obey Subjacency at S-Structure. If this is indeed the case, then the ungrammaticality of (42a) cannot be attributed to a Subjacency violation. We have to look to a reason other than Subjacency for why (42a) is bad. This will be a topic of the next section.

2.2.2.6.2 Ungrammaticality of a \(wh\)-extraction out of \(ka\ dooka\) clause

If Subjacency is irrelevant to Scrambling in Japanese, what then is responsible for the ungrammaticality of (42a), repeated below as (63)? I speculate that it is bad because the \(wh\)-question is nested in a \(yes-no\) question headed by \(ka\ dooka\) in the same (embedded) clause, (reminiscent of a \(wh\) question in the A-not-A question of Chinese); a case of a "mixed question" in the sense of Xu (1990a).

(63) ??John-wa [Mary-ga nani-o katta ka dooka] Tom-ni
   John-Top Mary-Nom what-Acc bought whether Tom-Dat
   tazuneta ka?
   asked Q

'What did John ask Tom whether Mary bought e?'

Xu (1990a:359-363) observes that in Chinese \(wh\)-phrases cannot be incorporated in A-not-A questions or alternative questions, as in (64a) and (64b), respectively.

(64) a. *Shui xihuan-bu-xihuan ta
    who like-not-like he
    ‘Does who like him?’

b. *Ta xihuan haishi hen shenme
   he like or hate what
   ‘What does he like or hate?’
He argues that “[t]here is a particular kind of semantic correspondence which holds between a wh-question like ([65]) and an indefinite statement like ([66])” (p. 361).

(65) Shui xihuan ta
    who like he

‘Who likes him?’

(66) You ren xihuan ta
    have man like he

‘Someone likes him’ (Lit. ‘There is someone that likes him.’)

According to the propositional approach to the semantics of questions (Katz and Postal 1964, Karttunen 1978, Hintikka 1978, etc.), a wh-question like (65) presupposes the truth value of (66). And, in the case of (64a), for example, something like (67) would be the presupposition underlying it.

(67) You ren xihuan-bu-xihuan ta
    have man like-not-like he

‘Does anyone like him?’

(Lit. ‘*There is someone that likes him or not?’)

However, Xu (1990a: 361) says that “[(67)] is itself a question with no truth value,” and hence, “[(64a)] fails as a question because the presupposition cannot be satisfied.”

Xu says that the failure of (64a) can be also accounted for by the propositional approach (PA) of Kiefer 1983 as follows. In asking the A-not-A question like (64a), the speaker is saying to the hearer,

(68) Tell me which of the following is true: who likes you, or who doesn’t like you.

Neither of the disjuncts in (68) has truth value and this is why (64a) is semantically uninterpretable.
I believe that the same line of argument can apply to the Japanese case (63/42a), which would roughly correspond to the Chinese A-not-A or alternative question in (64). That is, (63) would presuppose the truth of (69).

(69) Did John ask Tom whether Mary bought something or not?
But (69) involves an embedded question with no truth value. So, (63) fails as a question because the presupposition cannot be satisfied. Or, according to the PA of Kiefer (1983), in asking (63), the speaker would be saying to the hearer either (70a) or (70b):

(70) Tell me which of the following is true:
   a. John asked Tom whether Mary bought what, or
   b. John asked Tom whether Mary did not buy what.
But, again, neither of the disjuncts has a truth value, and hence (63) is semantically uninterpretable and unanswerable.

(63/42a) becomes perfectly grammatical when "whether" is replaced by a [+Q, +WH] question marker ka, as in (71).

(71) John-wa [Mary-ga nani-o katta ka] Tom-ni
    John-Top Mary-Nom what-Ace bought Q Tom-Dat
tazuneta ka?
asked Q
‘Did John ask Tom what Mary bought?’
Here in (71), the embedded question is not an alternative question: it is a yes-no question. And, (71) presupposes the truth value of (72).

(72) Did John ask Tom if Mary bought something?
And, (72) involves an embedded question with a truth value. Or, under Kiefer’s (1983) PA, the speaker is saying to the hearer something like (74).

(74) Tell me which of the following is true:
   a. John asked Tom whether Mary bought something, or
b. John did not ask Tom whether Mary bought something.

Either of the disjuncts in (74) has truth value, and hence (71) is a semantically appropriate question and is interpretable and answerable.

2.2.2.6.3 The contrast

Now we can try to explain the contrast claimed by Watanabe between (42a) and (42b), assuming that it exists at all. Since both the sentences are ungrammatical to most speakers as argued above and hence the subtle contrast between them is very hard to obtain, we will use *ka* in place of *ka dooka*, as in (75), to make the contrast more detectable.

(75) a. ?John-wa [Mary-ga nani-o katta ka] Tom-ni
tazuneta ka?
asked Q
‘Did John ask Tom what Mary bought?’

b. John-wa [Mary-ga nani-o katta ka] dare-ni
tazuneta ka?
asked Q
‘Who did John ask what Mary bought?’

The sentences in (75) are both grammatical. However, there seems to be a very subtle contrast between them. I propose that the contrast is attributable to the flow of information, as described by Kuno (1978). According to Kuno, a sentence is made up of elements carrying old and new information and the preferable order of these elements is “from-old-to-new.”

(76) Principle of the Flow of Information (Kuno 1978)

Elements of a sentence are arranged so that the one carrying older
information precedes the one carrying newer information. Both the sentences involve the embedded *yes-no* and matrix *wh*-question. In uttering the sentences in (75b), the thing unknown to the speaker (expressed by *nani* ‘what’) that Mary bought must have already been a topic in the previous discourse context before the time of questioning, and now the main concern of the speaker is who John asked about the thing that Mary bought rather than what Mary bought. That is, the embedded *yes-no* question clause carries older information than the matrix *wh*-phrase *dare* ‘who,’ the focus of the matrix *wh*-question. (75b) observes the principle in (76). In contrast, in (75a) the phrase with a definite proper noun (*Tom-ni*) arguably carries older information, and could be interpreted as carrying older information than the embedded *yes-no* question. Since the element carrying older information follows the element carrying newer information, it results in a violation of the principle in (76). (75a) is, however, discoursally repairable either by placing a heavy stress on the phrase *Tom-ni*, whereby the phrase is focused and interpreted as carrying newer information than the preceding embedded question clause, as in (77a), or by preposing the phrase before the embedded clause, as in (77b), in conformity to the old-new principle in (76).

(77) a. John-wa [Mary-ga nani-o katta ka] **Tom-ni** tazuneta ka?
   b. John-wa **Tom-ni** [Mary-ga nani-o katta ka] tazuneta ka?

In summary, we have argued that not only overt movement (Scrambling) but also null operator movement at S-Structure out of the purported islands such as a *kadooka* clause, a *wh*-island, and adjunct islands is not subject to Subjacency, contrary to Watanabe’s claim. And, we also have shown that the unacceptability of sentences such as (42a) is not syntactic but semantic. Further, we have suggested that if there were a contrast in grammaticality between (42a) and (42b) at all, it would be not due to S-Structure movement of the null operator associated with the higher *wh*-phrase but due to word order in terms of Kuno’s (1978) discourse principle of the “old-to-new” flow of information.
2.2.3 *Wh*-movement at LF

Huang’s (1982) argues that in languages like Chinese and Japanese, which do not have overt *wh*-movement at S-Structure, *wh*-phrases move at LF. Observing that, in these languages, movement of *wh*-arguments out of various islands results in grammaticality, while movement of *wh*-adjuncts out of the islands results in ungrammaticality, he makes the claim (78):

(78) Subjacency is not active at LF.

If Subjacency constrains movement at LF, *wh*-movement out of islands should result in unacceptability. Since the movement does not result in unacceptability, it must be the case that Subjacency is irrelevant to the movement at LF. Huang claims that *wh*-movement does not obey Subjacency at LF, while the ungrammaticality that arises with the adjunct *naze* in examples such as the (b) sentences in (80)-(84) is due to a violation of the ECP in (79):

(79) ECP (Proper government)

A nonpronominal empty category is properly governed iff X governs Y and (a) or (b):

(a) X is a lexical category (lexical government),
(b) X is coindexed with Y (antecedent government).


This position is confirmed by the examples in (80)-(83) below, with the one exception that extraction of the *wh*-arguments out of *wh*-island in (84) results in ungrammaticality.

(80) Complex NP:

a. Kimi-wa [NP[ John-ga dare-o hometa] koto]-o
   you-Top John-Nom who-Acc praised] fact-Acc
oboeteiru ka
remember Q
‘Who do you remember the fact that John praised t?’

b. *Kimi-wa [NP[ John-ga naze Mary-o hometa] koto]-o
you-Top John-Nom why Mary-Acc praised] fact-Acc
oboeteiru ka
remember Q
‘Why do you remember the fact that John praised Mary t?’

(81) Relative clause:

a. Kimi-wa [NP[ dare-ga kaita] hon]-o yonda ka
you-Top who-Nom wrote book]-Acc read Q
‘Who did you read a book that t wrote?’

b. *Kimi-wa [NP[ kare-ga naze kai-ta] hon]-o yonda ka
you-Top he-Nom why wrote book]-Acc read Q
‘*Why are the books that he wrote t interesting?’

(82) Sentential Subject NP:

a. [NP[ Syoonen-ga nani-o tabeta] koto]-ga uwasa-sareta ka
boy-Nom what-Acc ate fact-Nom rumored-was Q
‘What did that the boy ate was rumored?’

b. *[NP[ Syoonen-ga naze sore-o tabeta] koto]-ga
boy-Nom why it-Acc ate fact-Nom
uwasa-sareta ka
rumored-was Q
‘Why did that the boy ate it t was rumored?’
(83) Adjunct clause:

   you-Top who-Nom came when/after beer-Acc
   nondaka ka
drank Q
   'Who did you drink beer when/after t came?'

   you-Top who-Nom why came when/after beer-Acc
   nondaka ka
drank Q
   'Why did you drink beer when/after/before John came t?'

(84) Wh-island:

a. Kimi-wa [dare-ga nani-o tabeta ka] oboeitiru ka
   you-Top who-Nom what-Acc ate Q remember Q
   (a) 'Do you remember who ate what?'
   (b) NOT 'For which x, x a person, do you remember what x ate?'
   (c) NOT 'For which y, y a thing, do you remember who ate y?'

b. *Kimi-wa [dare-ga naze sore-o tabeta ka] oboeitiru ka
   you-Top who-Nom why it-Acc ate Q remember Q
   *Why2 do you remember who1 ate it2?'

The extraction of naze 'why' in the (b) sentences above is ruled out by the ECP violation.
Subjacency is violable in the (a) sentences except (84a), which shows the wh-island effect of Subjacency.
Nishigauchi (1985, 1990) claims (85), contra Huang's (78).

(85) *Wh*-movement at LF is subject to Subjacency in Japanese.

According to Nishigauchi's theory, the ECP violation cases with the adjunct *naze* 'why' in the (b) sentences in (80)-(84) are analyzed as a Subjacency violation at LF. And, the ungrammaticality of (84a) is also considered as such. In order to explain the facts in these sentences, he assumes the following:

(86) Bounding nodes

S', in addition to NP and S, is a bounding node for the purpose of Subjacency if and only if its Comp contains a question marker *ka* (Nishigauchi 1990:26).19

(87) Well-formedness Condition

*Wh*-phrase in Comp must be governed by [+Q] associated with a question or scope marker *ka* (Nishigauchi 1990:21).

(88) Pied-piping

A syntactic node bearing [+WH] is pied-piped with a *wh*-phrase to the Spec of Comp containing *ka* with [+Q, +WH] (Nishigauchi 1990:41).20

(89) [+WH] feature percolation

[+WH] feature associated with a *wh*-phrase climbs up to the dominating nodes if the syntactic category of the *wh*-phrase is identical to that of the dominating node in the sense of X'-schema (Nishigauchi 1990:90).

---

18 The discussion and the material in this section and the next section have greatly benefited from Hirano (1994).

19 Nishigauchi (1990:26) actually says that S' is a bounding node if and only if its Comp is marked for [+/-WH]. However, the condition [-WH] should be erased from this statement: The Comp with [-WH] being to 'that,' movement of any *wh*-phrase out of the embedded [-WH] Comp will cross at least two bounding nodes, the embedded S' and the matrix S on its way to the matrix Comp, resulting in a Subjacency violation.

20 "Q" stands for quantificational and "WH" for interrogative in Nishigauchi's feature system.
With this much in mind, we look to see how Nishigauchi’s theory accounts for the sentences in (80)-(84). Since the embedded clauses in (80)-(83) form a Complex NP in Japanese, they are treated together as a CNP island. Let us begin by looking at the wh-island in (84a), which is repeated below as (90).

(90) Kimi-wa [dare-ga nani-o tabeta ka] oboeteiru ka
     you-Top who-Nom what-Acc ate Q remember Q
(a) ‘Do you remember who ate what?’
(b) NOT ‘For which x, x a person, do you remember what x ate?’
(c) NOT ‘For which y, y a thing, do you remember who ate y?’

In (90), neither wh-phrase in the embedded clause can have matrix scope, as shown in the translations (b)-(c). The wh-phrases must have embedded scope, instead. Nishigauchi argues that the embedded clause marked by the question/scope marker ka ‘Q’ forms an island in Japanese. According to his theory, S’ marked by a [+WH] Comp containing the question marker ka ‘Q’ is construed as a bounding node as well as S (see (86)). Thus, if the wh-phrase moves from the embedded clause to the matrix Comp, it crosses two bounding nodes, the embedded S’ and the matrix S, resulting in a Subjacency violation. The impossibility of matrix scope for the wh-phrases contained in the clause marked by ka in sentences like (90) follows from the Subjacency condition operating at LF.

Nishigauchi (1990:31) gives another instance of the wh-island effect of Subjacency at LF--the wh-constructions involving kadooka ‘whether’ in (91).

(91) *Kimi-wa [John-ga nani-o tabeta kadooka] oboeteiru ka
     you-Top John-Nom what-Acc ate whether remember Q
     ‘What do you remember whether John ate?’

If this construction were free from the wh-island effect of Subjacency, (91) should be grammatical with the interpretation (92).

(92) For which x, x a thing, do you remember whether John ate x?
And, Nishigauchi says that the fact that (91) is ungrammatical indicates that the wh-island effect obtains in the *kadooka* clause at LF as well.\(^{21}\)

Let us next consider the case of the CNP island in (80)-(83). Observe (81a), which is repeated here as (93).

\[
(93) \text{Kimi-wa } [\text{NP}[S' \text{ dare-ga kai-ta} \text{ hon]-o yonda ka you-Top who-Nom wrote book]-Acc read Q}
\]

‘Who did you read a book that t wrote?’

The above sentence contains an embedded relative clause in which the wh-phrase *dare* ‘who’ occurs in subject position. Sentence (93) is grammatical with *dare* taking matrix scope. If *dare* first moves to the Spec of Comp in the Complex NP (CNP), then to the Spec of the matrix Comp in order to be governed by [+Q] (for the well-formedness condition in (87)), the movement apparently violates Subjacency: it crosses at least two bounding nodes, the NP and the embedded S’. Accordingly, (93) is predicted to be ungrammatical on the intended interpretation if wh-movement is subject to Subjacency at LF. But (93) is acceptable. This fact in turn suggests that wh-movement is immune to Subjacency at LF. Yet, Nishigauchi argues that the grammaticality of (93) does not imply that Subjacency is irrelevant at LF. In order to account for (93) in keeping with Subjacency, he proposes the pied-piping mechanism in (88), arguing that the wh-phrase does not move independently, but that the entire CNP containing it moves to the Spec of Comp marked with [+WH] and then, only the wh-phrase moves to the Spec of Comp within the relative clause to satisfy the condition in (87). As a result, the movement of the wh-phrase does not violate Subjacency.

\(^{21}\) Lasnik and Saito (1992:36-37) and Takahashi (1993:657) judge sentences like (91) to be grammatical with the wh-phrase having matrix scope. Watanabe (1990, 1991), as seen directly above, considers them ungrammatical with that interpretation. I concur with Nishigauchi and Watanabe on their judgments, but not with the explanations for the ungrammaticality of (91). In section 2.2.2.6.2, I have already pointed out that the ungrammaticality of wh-movement out of the *kadooka* clause as in sentences like (91) is not due to a syntactic violation of Subjacency but a semantic fallacy.
One crucial motivation for this analysis comes from the fact that there is more than one felicitous elliptical answer to such a wh-question. Consider the elliptical answers in (94) to the question in (93).

(94) A. Austen-desu ‘(It’s) Austen.’

B. [[Austen-ga kai-ta] hon] desu
Austen-Nom wrote book is

‘(It’s) the book that Austen wrote.’

In addition to a full-fledged answer which covers the whole sentence, (94A) and (94B) are also possible answers. Nishigauchi contends that the elliptical answer supplies information which matches the wh-expression in an operator position at LF. Given this assumption, if only dare ‘who’ in (93) moves to the Spec of the matrix Comp, we expect to obtain only (94A), providing information which matches the wh-phrase dare. On the other hand, if the whole CNP containing the wh-phrase moves to the matrix Comp, as illustrated in (95) in the pied-piping analysis, we would have (94B) as one of the elliptical answers.

(95) [kimi yonda y] [Comp [NP[S[x kaita] [Comp darex]] hon]y ka]

Concerning the shorter answer like (94A), Nishigauchi (1990:53) says that “[(94A)] is actually a truncated form which derives from [(94B)] via some sort of deletion operation, the conditions on which would be essentially pragmatic in nature.”

The above discussion amounts to (96).

(96) The pied-piping approach crucially depends on the existence of felicitous elliptical answers to wh-questions.

Now, let us consider how CNPs with naze ‘why’ are analyzed under Nishigauchi’s approach—the case of (81b), for example. (81b) is repeated here as (97).
(97)*Kimi-wa [NP[ kare-ga naze kai-ta] hon]-o yonda ka
you-Top he-Nom why wrote book]-Acc read Q

"Why are the books that he wrote t interesting?"

If the whole CNP in the object position is pied-piped along with naze ‘why,’ (97) must be predicted to be grammatical just as in the case of (93) since the wh-movement does not violate Subjacency after pied-piping. Contrary to this prediction, (97) is ungrammatical, an ECP violation in Huang’s (1982) and the customary GB (Government and Binding) analyses. Nishigauchi sees this as a Subjacency violation despite the pied piping mechanism as follows. Naze ‘why’ is not categorially a noun, i.e., it is defined as [-N]. Thus, it is impossible for the [+WH] feature associated with naze to percolate up to the immediately dominating NP marked with [+N]. Hence, the pied-piping operation is blocked by (89) since the structure does not meet the requirement of categorial identity, as schematized in (98).

(98) the case of (97):

```
x ______________________> NP

S’ [+N] N

\n
naze ________________C

[+WH, -N]
```

```

O.K. __________________________> NP [+WH]

S’ [+N] N

\n
O.K. dare______________C

[+WH, +N]
```

Exactly the same thing can apply to the Complex NP (80), Sentential Subject NP (82), and Adjunct clause in (83) since the embedded clauses in these examples all involve a Complex NP construction.

The success of the pied-piping analysis may lead us to admit that Subjacency is a viable constraint at LF. However, there are some problems with Nishigauchi’s theory, to which we turn in the next section.
2.2.3.2 Problems with Nishigauchi (1985, 1990)

Nishigauchi's proposal to replace an ECP violation with respect to adjunct movement out of syntactic islands by a Subjacency violation and to avoid the apparent violation of Subjacency with respect to the argument movement by the pied piping operation is quite ingenious. However, his pied piping analysis faces a serious flaw in some important respects.

The first problem has to do with Nishigauchi's claim that clauses headed by *ka* as in (90) constitute a wh-island for LF extraction from within, leading to a Subjacency violation. That is, the fact that neither of the wh-phrases can have matrix scope in (90) is attributed to a Subjacency violation at LF. In order to exclude the matrix scope of one of the wh-phrases in (90), Nishigauchi must assume the sort of Comp filter that Watanabe (1990, 1991) assumes at S-Structure in (43), at LF:

(99) Comp filter (LF)

\[ [+WH] \text{Comp requires one and only one wh-phrase (OP) to occupy Spec of CP at LF.} \]

It is only with a filter like (99) that the matrix scope can be excluded by Subjacency in (90), repeated below:

(90) Kimi-wa [dare-ga nani-o tabeta ka] oboeteiru ka

(a) 'Do you remember who ate what?'

(b) NOT 'For which *x*, *x* a person, do you remember what *x* ate?'

(c) NOT 'For which *y*, *y* a thing, do you remember who ate *y*?'

Given (99), one of the wh-phrases must move to the SpecCP of the matrix clause, and this movement results in a violation of the Subjacency condition. However, if the embedded Comp can accommodate more than one wh-phrase, the other wh-phrase(s) need not move to the matrix Comp. In fact, the fact that both wh-phrases have embedded scope, i.e., stay...
in the embedded Comp in (90), refutes the existence of a Comp filter such as (99) at LF; wh-phrases do not move to the matrix SpecCP. Since movement does not occur, the impossibility of matrix scope cannot be blocked by Subjacency.

In order to support his claim, Nishigauchi (1990:30) argues that the wh-island effect of Subjacency shows up even in sentences which contain only one wh-expression, as in (100), which is taken from Nishigauchi (1990:30, (35)).

(100) Sato-kun-wa [Suzuki-kun-ga nani-o tabeta ka]
Sato-Mr.-Top Suzuki-Mr.-Nom what-Acc ate Q
oboeteimasu ka
remember Q
‘Does Sato remember what Suzuki ate?’

In (100), the wh-phrase *nani* ‘what’ has embedded scope and cannot have matrix scope. Nishigauchi (1990:30) says that if *nani* moves to the matrix Comp, the movement violates Subjacency because “the presence of the interrogative Comp *ka* is sufficient to define the minimal clause that contains it as a wh-island.” Again, however, this does not show that Subjacency is at work in this sentence. For one thing, since the trace of *nani* in the embedded Comp is not [+WH] (cf. Lasnik and Saito 1992:9-10), the selectional restriction required by the matrix verb that the embedded Comp be [+WH] is not met—providing an alternative explanation for the impossibility of the broad scope interpretation. Second, since the well-formedness condition is satisfied at the embedded Comp, *nani* ‘what’, need not and should not, move any further—given the familiar “Economy” principles of Chomsky (1989, 1992) (e.g., Epstein 1992, etc.).

We have shown at greater length in the previous sections that Subjacency is irrelevant to both overt (Scrambling) and covert (OP) movement at both S-Structure and LF. The impossibility of matrix scope for the wh-phrases contained in the clause marked by *ka* in (90) and (100) should not be attributed to Subjacency. It can be accounted for by the
Comp filter (i.e., the well-formedness condition in (87)) coupled with the "Least Effort" version of the "Economy" Principle of Chomsky (1989).

(101) Economy Constraint

\[
\text{Satisfy a filter, using the fewest possible applications of affect } \alpha. 
\]

(cf. Epstein 1992)

Given (101), \textit{nani} in (100) for example, need not move any further.

A second problem has to do with the adjunct island in (83) when the adjunct clause is headed by a complementizer-like element such as \textit{node} 'because,' or \textit{kara} 'because, from.' Before pointing out the problem, let us first look at cases when the adjunct clause is headed by a noun such as \textit{toki} 'when/time,' \textit{ato} 'after,' \textit{mae} 'before,' etc. as in (83).

As claimed by Nishigauchi, if Subjacency is relevant to the derivation at LF, we would expect an adjunct-island effect to show up with \textit{naze} extraction out of adjunct clauses but not with argument extraction. Observe the relevant sentences in (83), repeated here as (102) and (103). Sentence (102) involves an adjunct clause containing a \textit{wh}-phrase \textit{dare} 'who' and (103) a \textit{wh}-phrase \textit{naze} 'why.'

(102) \text{Kimi-wa} [\text{[dare-ga ki-ta] toki}] \text{biiru-o nonda ka}

'Who did you drink beer when t came?'

(103)*\text{Kimi-wa} [\text{[John-ga naze kita] toki}] \text{biiru-o nonda ka}

'Why did you drink beer when John came t?'

The morpheme \textit{toki} 'when' heads the adjunct clause in the above sentences. If \textit{toki} is analyzed as a noun, it may be possible to extend Nishigauchi's approach to these cases. In fact, \textit{toki} in Japanese exhibits the characteristics typical of nouns. First, \textit{toki} independently occurs as a lexical morpheme, with the determiner element such as \textit{ano} 'that' and the
following postpositional particle *kara* ‘from,’ as in (104a, b) respectively. Second, it can appear between two genitive markers, being a part of a larger NP, as in (104c).

(104) a. Ano toki-ga yokat-ta
    that time-Nom good-was
    ‘Those days were good.’

b. Sono toki kara
    that time from
    ‘From that time.’

c. Kodomo-no toki-no dekigoto
    child-Gen time-Gen event
    ‘The event in one’s childhood.’

Given this, the contrast between (102) and (103) above is straightforwardly accounted for under the pied piping analysis since the adjunct clauses have the same structure as CNPs involving a relative clause. Accordingly, the whole adjunct clause is pied-piped as a CNP when it has an argument *wh*-phrase as in (102). Hence, no violation of Subjacency is observed. When the adjunct clause contains *naze* ‘why,’ as in (103), the [+WH] feature percolation stated in (89) cannot take place because of the categorial non-identity between *naze* [-N] and the head noun *toki* ‘when/time’ [+N]. Hence, the *wh*-phrase must move to the Spec of the matrix Comp independently. This movement violates Subjacency.

If *toki* ‘when’ is taken as a complementizer, however, the above contrast cannot be obtained under the pied-piping approach because the clause does not undergo the pied-piping operation. Thus, the *wh*-phrase *naze* ‘why’ moves successively at LF. However, this movement does not violate Subjacency because the embedded S’, with its Comp not containing [+WH], cannot be construed as a bounding node (see (86)). Therefore, *naze* can move to the matrix Comp without violating Subjacency, predicting that sentence (103) is grammatical.
The pied piping analysis also predicts that there are at least two felicitous elliptical answers to the \textit{wh}-question in (102). In fact, the prediction is borne out as seen below:

\begin{enumerate}
\item (105) A: John desu ‘It’s John.’
\item B: [[John-ga \text{ki-ta}] toki] desu
\begin{itemize}
\item John-Nom came time is
\end{itemize}
\begin{itemize}
\item ‘The time when John came.’
\end{itemize}
\end{enumerate}

Nishigauchi’s claim holds as far as the relevant elements are taken as nouns. It, thus, seems that the pied-piping analysis covers a wide range of data. However, there arise some problems with the adjunct clause with the \textit{kara} ‘from’ construction. If elements such as \textit{toki} ‘when’ and \textit{mae} ‘before’ are nouns, they can cooccur with a postposition \textit{kara}, as in (106).

\begin{enumerate}
\begin{itemize}
\item kara] kare-o sitteiru ka
\item from he-Acc know Q
\end{itemize}
\begin{itemize}
\item ‘Who have you known John from the time he married t?’
\end{itemize}
\end{enumerate}

In (106) the [+WH] feature associated with \textit{dare} ‘who’ is percolated up to the NP headed by the noun \textit{toki} ‘when/time.’ The adjunct clause undergoes pied-piping as a CNP in order to ensure government of the \textit{wh}-phrase by the matrix Comp with \textit{ka}. Hence, Sentence (106) is grammatical with the matrix interpretation of \textit{dare}. Again, the adverbial \textit{naze} ‘why’ cannot occur in the “adjunct complex noun phrase” in (106), as the analysis predicts.

Now, let us observe whether felicitous elliptical answers are also possible:

\begin{enumerate}
\item (107) A: Mary desu ‘It’s Mary.’
\item B: *[[John-ga Mary to kekkonsita] toki] desu
\begin{itemize}
\item John-Nom Mary-with married time is
\end{itemize}
\end{enumerate}
‘It is when John married to Mary.’

C: [[[John-ga Mary to kekkonsita] toki] kara] desu
   John-Nom Mary-with married when from is

‘It is from the time John got married to Mary.’

Answer (A), which matches the wh-phrase only is acceptable. Answer (B), corresponding to the whole CNP in the adjunct clause, is not acceptable. Another possible answer is Answer (C), consisting of the CNP and the postposition kara. The above sentences show that CNPs are not always pied-piped. Here, it is impossible to argue that toki ‘when/time’ is not a noun but a complementizer. If it were a complementizer, we could not account for the unacceptability of (103). As discussed above, naze ‘why’ cannot occur in the adjunct clause headed by the noun toki ‘when,’ but dare ‘who’ can. It has been shown that this contrast is accounted for only by assuming that the adjunct toki-clause is a CNP susceptible to pied-piping.

Nishigauchi proposes pied-piping to account for the grammatical sentences whose LF derivation apparently violates Subjacency. The strongest motivation for the analysis is that it can provide the reason why there is more than one possible elliptical answer for wh-questions involving a CNP. His pied-piping analysis is weakened by the fact that there is not always an acceptable elliptical answer corresponding to a CNP. Furthermore, the acceptable answer (107C) suggests that even PPs can be pied-piped. A whole PP cannot be moved under his analysis because postpositions are not marked with [+N] in the sense of X’ theory. Since the percolation mechanism operates only under the categorial identity, pied-piping of the entire PP is blocked. The analysis has difficulty in explaining why Answer (C) in (107) is possible.

One may want to say that kara is not a postposition or particle but a Case marker. However, this speculation cannot hold. Postpositions and Case markers can be
distinguished in the following three ways\textsuperscript{22}. First, Japanese Case markers such as ga ‘Nom’ and o ‘Acc’ can be suppressed as in (108a, b), while Case markers such as kara ‘from’ and de ‘in, at’ cannot as in (108c, d).

(108)  
\begin{align*}
\text{a. } & \text{Kinoo John(-ga) kita} \\
& \text{yesterday John-Nom came} \\
& \text{‘John came yesterday.’} \\
\text{b. } & \text{John-ga keiki(-o) tabeta} \\
& \text{John-Nom cake-Acc ate} \\
& \text{‘John ate a cake.’} \\
\text{c. } & \text{John-ga Amerika*(-kara) kita} \\
& \text{John-Nom America-from came} \\
& \text{‘John came from America.’} \\
\text{d. } & \text{John-ga uti*(-de) benkyoo-sita} \\
& \text{John-Nom home-at studied} \\
& \text{‘John studies at home.’}
\end{align*}

Second, Case markers must be suppressed before the topic marker wa, whereas postpositions need not, as shown in (109).

(109)  
\begin{align*}
\text{a. } & *\text{Kinoo John-ga-wa kita} \\
& \text{yesterday John-Nom-Top came} \\
& \text{‘John came yesterday.’} \\
\text{b. } & *\text{Keiki-o-wa John-ga tabeta} \\
& \text{cake-Acc-Top John-Nom ate} \\
& \text{‘Cakes, John ate.’} \\
\text{c. } & \text{Amerika-kara-wa John-ga kita} \\
& \text{America-from-Top John-Nom came}
\end{align*}

\textsuperscript{22} The distinction can be seen in Korean, too (cf. O’Grady 1994, class handout).
‘From America, John came.’

d. Uti-de-wa John-ga benkyoo-sita
    home-at-Top John-Nom studied

‘At home, John studied.’

Third, a conjunction particle to ‘and’ can be attached to the second member of the coordinate structure followed by a postposition, while this is not the case with a Case marker, as illustrated in (110):

(110) a. [John to Mary (to)-ga kita
    John and Mary and-Nom came

    ‘John and Mary came.’

b. John-ga [keiki to pai to]-o tabeta
    John-Nom cake and pie and-Acc ate

    ‘John ate cakes and pies.’

c. Gakusei-ga [Nihon to Amerika (*to)-kara kita
    students-Nom Japan and America and-from came

    ‘Students came from Japan and America.’

d. John-ga [uti to tosyokan (*to)-de benkyoo-sita
    John-Nom home and library and-at studied

    ‘John studies at home and the library.’

Further, it is difficult to consider kara ‘from’ as a Case marker because unlike argument NPs (subject and object NPs), the toki phrase, being an adjunct, does not require Case.

Nishigauchi’s analysis is further weakened when we examine the sentences with adjunct clause containing an overt complementizer. Although we have analyzed some complementizer-like elements as nouns, it seems difficult to take all the elements heading adjunct clauses as nouns. For example, irai ‘since,’ made ‘till,’ nagara ‘while’ and node/kara ‘because’ are such elements. These elements do not exhibit the properties of
nouns as discussed previously. For example, they do not occur with a determiner, as seen in (111), and a genitive marker *no* cannot appear with them, as in (112).

(111)*Sono irai/made/kara desu

that since/till/from be

‘It’s since/till/from that.’

(112)*Go-zi-no irai/made/kara/nagara-no dekigoto

5 o’clock-Gen since/till/because/while-Gen event

‘An event since/till/because/while 5 o’clock.’

Hence, these elements may be analyzed as complementizers or postpositions rather than nouns. Now observe (113) involving an adjunct clause headed by such an element.

(113)*[John-ga naze Tookyoo-e itte] irai Mary-ga

John-Nom why Tokyo-to went since Mary-Nom

syokuzi-o tukutte-kure-masu ka?

meal-Acc fix-give Q

‘Why has Mary fixed a meal for you since John left for Tokyo t?’

Sentence (113) with *naze* ‘why’ is ungrammatical. The pied-piping analysis cannot capture the fact that *naze* cannot obtain matrix scope interpretation. The complementizer is not marked with [+WH] because the [+WH] feature percolation is blocked due to the categorial non-identity, so that the embedded S’ of an adjunct clause does not count as a bounding node (see (86)). Under Nishigauchi’s analysis, *naze* can move to the Spec of the matrix Comp without violating Subjacency. The unacceptability of (113) shows that such movement must be blocked. However, there would be no way to block it in his system.23

23 The *Barriers* system can help here, according to which the adjunct is always construed as a barrier or bounding node. It also correctly disallows *naze* extraction out of the CNP island as an ECP violation because *naze* crosses one Minimality barrier, N’.

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75
Further, let us consider the following grammatical sentences with an adjunct clause containing an argument \textit{wh}-phrase in (114) and (116) and the corresponding short elliptical answers (115) and (117) to them.

(114) \[[\text{Dare-ga Tookyoo-e itte] irai}] \text{Mary-ga syoku}^{\text{z}}\text{-o}
\text{who-Nom Tokyo-to went since Mary-Nom meal-Acc}
tukuttte-kure-masu ka?
fix-give Q

‘Who has Mary fixed a meal for you since t left for Tokyo?’

(115) A: John desu ‘It is John.’
B: [[John-ga Tookyoo-e itte] irai] desu
John-Nom Tokyo-to went since is

‘It is since John has left for Tokyo.’

(116) [Dare-ga Tookyoo-e itte-simatta] kara] Mary-ga
who-Nom Tokyo-to has-gone because Mary-Nom
kawarini hataraiitemasu ka?
instead is-working Q

‘Who has Mary been working for him because t left for Tokyo?’

(117) A: John desu ‘It’s John.’
John-Nom Tokyo-to gone-has because is

‘It is because John has left for Tokyo.’

The argument \textit{wh}-phrases in (114) and (116) are able to take matrix scope. Since the sentences do not contain any CNPs, the pied-piping operation does not take place. Hence, \textit{dare} ‘who’ must move independently to the Spec of the matrix Comp at LF.

Nishigauchi’s analysis predicts that there must be only one possible answer (Answer A) matching the moved \textit{wh}-phrase in an operator position. However, there are at least two
possible answers, as seen above. Even when the pied-piping operation does not take place, it is still possible to have another elliptical answer (Answer B). In order to cope with this problem, Nishigauchi might make even S' to be pied-piped, assuming with Stowell (1981) that S' has a [+N] feature (Nishigauchi 1990:90) and also assuming that the element such as *irai* and *kara* of the embedded clause in (114) and (116) are complementizers rather than postpositions. This provision will account for the (B) answers under the pied piping mechanism. But, it creates a new problem at the same time. That is, if S' can be pied-piped, the embedded clause in (90), repeated here as (118) can also be pied-pied, with the result that the wh-phrases in the embedded clause headed by *ka* can have matrix scope, contrary to fact.

(118) Kimi-wa [dare-ga nani-o tabeta ka] oboeteiru ka
you-Top who-Nom what-Acc ate Q remember Q
(a) ‘Do you remember who ate what?’
(b) NOT ‘For which *x, x* a person, do you remember what *x* ate?’
(c) NOT ‘For which *y, y* a thing, do you remember who ate *y*?’

Finally, Nishigauchi’s (1985, 1990) theory cannot explain the grammaticality of sentences such as those in the following.

(119) Kore-ga [gakusei-ga naze yom-anakerebanaranai]Cp
this-Nom student-Nom why read-must
hon]NP desu ka
book be Q
‘Why is this the book that the students must read t?’

(120) John-wa [[e kotosi naze Nihon-e iku]Cp tumori]NP
John-Top this year why Japan-to go intention

---

24 The sentences are problematic not only for Nishigauchi’s theory but also for any theory in the GB framework such as Lasnik and Saito (1984, 1992), Chomsky (1981, 1986), among others. They are also a problem for Kuno and Takami (1993). For details see Hirano and Izutani (1994a, b, c, d).
desu ka
be Q

‘Why does John intend to go to Japan this year?’

(121)[John-ga naze Mary-o nagutta]\CP no]\NP desu ka
John-Nom why Mary-Acc hit NM be Q

‘Why is it that John hit Mary?’

In these sentences, the adjunct naze ‘why’ is contained in the Complex NP. And, naze has matrix scope. Nishigauchi’s pied piping analysis will mark them ungrammatical by a violation of Subjacency. The GB-based theory will mark them ungrammatical by the ECP violation as well. However, contrary to the predictions, these sentences are grammatical.

See Izutani 1995, forthcoming for a semantic account of these sentences.

Summarizing, the discussions so far rather suggest that the possibility of having more than one short answer does not always justify the existence of pied-piping. It seems difficult to account for the asymmetry between naze ‘why’ and other wh-phrases with respect to the extraction out of adjunct clauses in Nishigauchi’s approach employing pied-piping operation. Also, the fact that elliptical answers do not always correspond in the expected way to pied-piping destroys the motivation for pied-piping as stated in (96). Since the pied-piping is not successful, Nishigauchi’s claim of Subjacency at LF cannot be maintained.

2.3 A semantic constraint on movement

I have discussed various types of movement (overt or covert) in Japanese and claimed that there is no Subjacency condition on any type of movement in Japanese. In this section, we note that some instances of Scrambling result in ungrammaticality.
2.3.1 Overt movement (Scrambling)

In section 2.2.1.2, I refuted Saito's claim that the Subjacency condition constrains Scrambling and showed that Scrambling is immune from Subjacency. The inapplicability of the Subjacency condition to Scrambling means that any element can cross more than two bounding nodes or barriers. A typical example is a case of Scrambling out of a relative clause (CNP) as given in (9), which is repeated here as (122).

\[(122)\text{Relative clauses:}\]

\[\text{Sono kikanzyuu}_2\text{-o } [\text{IP keisatu-ga } [\text{NP[CP e}_2 \text{ t}_1 \text{ nusunda]}] \text{ that machine gun-Acc police-Nom stole}\]

\[\text{yatu}_2\text{-o sagasite-iru rasii]} \text{ guy-Acc looking for-is seems}\]

'That machine gun\text{1}, the police seem to be looking for the guy\text{2} who\text{2} stole \text{t}_1.' \quad (Haig 1993b, (6a))

In (122) the object NP sono kikanzyuu\text{1}-o 'machine gun-Acc' is scrambled to sentence-initial position, crossing the CNP headed by yatu 'guy' (two bounding nodes, CP and NP). Since Scrambling is free from Subjacency, it can cross more than one CNP (e.g., four bounding nodes). And, this is borne out, as in (123).

\[(123)\text{a. Sono keiki}_2\text{-o John-wa } [\text{CP[NP[CP e}_1 \text{ t}_2 \text{ tabeta]}] \text{ that cake-Acc John-Top ate}\]

\[\text{hito}_1\text{-ga minna sinde-simatta to} \text{ person-Nom all die-ended-up that thought}\]

'That cake\text{2}, John thought that the persons who ate \text{t}_2 have all died.'

\[\text{b. Sono keiki}_2\text{-o John-wa } [\text{NP[CP[NP[CP e}_1 \text{ t}_2 \text{ tabeta]}] \text{ that cake-Acc John-Top ate}\]

\[\text{hito}_1\text{-ga minna sinde-simatta kissaten]-e itte-mita} \text{ person-Nom all die-ended-up coffee shop-to going-tried}\]
That cake_2, John tried going to the coffee shop where the persons who ate t_2 have all died.'

The object NP *sono keiki-o* 'that cake-Acc' has been scrambled to the sentence-initial position over one CNP in (123a) and two CNPs in (123b), respectively. The sentences are, as expected, grammatical, confirming our claim that Scrambling is immune from Subjacency.

However, this is not always the case. Consider (124).

(124)a. Sono keiki_2-o John-wa [CP[NP[CP e_1 t_2 tabeta] that cake-Acc John-Top ate
hito_1]-ga hon-o kaita to] omotteita
person-Nom book-Acc wrote that thought

'That cake_2, John thought that the person who ate t_2 wrote a book.'

b. Sono keiki_2-o John-wa [NP[CP[NP[CP e_1 t_2 tabeta] that cake-Acc John-Top ate
hito_1]-ga hon-o kaita] kissaten]-e itte-mita
person-Nom book-Acc wrote coffee shop-to going-tried

'That cake_2, John tried going to the coffee shop where the person who ate t_2 wrote a book.'

In contrast to the sentences in (123), those in (124) are relatively low in acceptability, though both involve the same movement. Since Scrambling does not obey Subjacency, the contrast in grammaticality cannot be attributed to syntactic factors. The ungrammaticality of (124) must be due to semantic factors.

Further, consider the sentences in (125), in which *hon* 'book' has been scrambled from the higher relative clause in (124):

(125)a. Sono hon_3-o John-wa [CP[NP[CP e_1 keiki_2-o tabeta] that book-Acc John-Top cake-Acc ate

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The sentences in (125) are no worse than those in (124) in acceptability. If Subjacency is relevant to Scrambling, (125) should be better than (124) because the movement is from the higher relative clause in (125), while it is from the lower relative clause in (124).

No element is moved or scrambled without reason. Since the phrase is moved to the sentence-initial position to be emphasized (Haig 1976), it must be highlighted or somehow focused in relation to the other elements in the sentence.

In topic constructions, it has been noted in the literature that a topic phrase must have a special relation with the rest of the sentence—"aboutness" (Kuno 1973a, b; Kuno and Takami 1993) or "characterization" (Takami and Kamio 1993). Since both Topicalization and Scrambling involve the same operation—movement of a phrase to a sentence-initial position, what has been said of topic constructions can be applied to Scrambling as well. We will pursue this line of inquiry in the following to account for the contrast between (123) and (124)/(125).

In the grammatical (123) there is a clear semantic connection between the scrambled NP and the rest of the sentence, whereas there is no such connection in the ungrammatical (124). That is, in the grammatical (123), the cake is highlighted, focused or emphasized by the rest of the sentence in that we can easily establish a connection between the cake
and the people’s death as a result of eating it. In contrast, in (124a) and (125a), there is no direct connection between the person’s eating the cake and his writing a book. Likewise in (124b) and (125b), John’s going to the coffee shop and the person’s writing a book there have no direct bearing on the cake. Notice that the sentences in (124) and (125) become acceptable if the person eating the cake is a confectioner, as shown in (126) and (127), respectively:

(126) a. Sono keiki₂-o John-wa [CP[NP[CP e₁ t₂ tabeta] that cake-Acc John-Top ate kasi-syokunin₁]-ga hon-o kaita to] omotteita confectioner-Nom book-Acc wrote that thought ‘That cake₂, John thought that the confectioner who ate t₂ wrote a book.’

b. Sono keiki₂-o John-wa [NP[CP[NP[CP e₁ t₂ tabeta] that cake-Acc John-Top ate kasi-syokunin₁]-ga hon-o kaita] kissaten]-e itte-mita coffee shop-to going-tried confectioner-Nom book-Acc wrote ‘That cake₂, John tried going to the coffee shop where the confectioner who ate t₂ wrote a book.’

(127) a. Sono hon₃-o John-wa [CP[NP[CP e₁ keiki₂-o tabeta] that book-Acc John-Top cake-Acc ate kasi-syokunin₁]-ga t₃ kaita to] omotteita confectioner-Nom book-Acc wrote that thought ‘That book₃, John thought that the confectioner who ate the cake₂ wrote t₃.’

b. Sono hon₃-o John-wa [NP[CP[NP[CP e₁ keiki₂-o tabeta] that book-Acc John-Top cake-Acc ate
'That book John tried going to the coffee shop where the confectioner who ate the cake wrote t3.'

Since it is plausible that a confectioner writes a book about the cakes he ate, the scrambled phrase is properly characterized by the rest of the sentence.

2.3.2 Null operator movement

The semantic considerations just discussed can extend to cases of a null operator (OP) movement as well. In discussing Comparative Deletion constructions in section 2.2.2.4, we said that the key factor that distinguishes grammatical sentences (37-41) from ungrammatical ones (26-27, 30-31) is that there is a semantic connection between the highlighted element that is being compared and the rest of the sentence in grammatical sentences, while there is no such semantic connection in ungrammatical ones (see the last paragraph after sentence (41) in section 2.2.2.4). The same holds true of the OP movement out of other constructions such as WCO and relative clause constructions. For the application of the semantic constraint with respect to the WCO constructions, see section 5 of Chapter 3. We look at relative clause constructions next.

Hasegawa (1984) and Imai (1987) assume, following Chomsky (1982, 1986b), that relative clause formation involves movement of a null operator (OP). In their analyses the relation between the OP and the trace is constrained by Subjacency. However, given that Subjacency is irrelevant to movement, the contrast between the sentences in (128) and those in (129) should be attributed to semantic factors.

(128)a. \[ CP[[CP[NP[IP e_1 e_2 tabeta] hito_{1}]-ga minna ate person-Nom all \]
Both in (128) and (129), the OP movement crosses the CNP. In spite of the fact that the OP movement in (128) is ‘longer’ than that in (129), the latter are ungrammatical. The ungrammaticality can be accounted for by semantic considerations. In (129), the relative head has no direct or semantic bearing on the clause which it is associated with. For
example, in (129a), a person's buying a book has nothing to do with eating the cake under normal circumstances, and in (129b), a person's giving a brooch to Mary has no direct connection with his death. On the other hand, someone's death can be attributed to the cake they have eaten in (128a), and the deaths and the health department's punishment of the coffee shop that sells the cake are all related to the cake in (128b).

We also showed above (section 2.2.2.6.2) that what prohibits occurrence of wh-phrases in the kadooka 'whether' clause is not syntactic but semantic. The seeming ungrammatical sentences involving overt or covert movement are not a real instance of Subjacency violation. The ungrammaticality stems from semantic oddity as just discussed.

2.4 Consequences of no Subjacency constraint and conclusion

Since movement is immune from Subjacency, a phrase can be moved long-distance from deeply embedded clauses. There may be some cases where it is difficult to locate the original position for the scrambled phrase because the two are hierarchically far apart from each other. In that case, an overt "resumptive pronoun" may be used as in the case of Topicalization in order to facilitate matching the two. For example, in (121) above, the scrambled phrase sono keiki 'that cake' is separated by two CNPs (i.e., four bounding nodes) from the original position from which it has been scrambled. In this case, a resumptive pronoun agreeing in number, person, gender, and animacy can be used to mark the original position. This is shown in (130):

(130) a. Sono keiki2-o John-wa [CP[NP[CP e1 sore2-o tabeta]
that cake-Acc John-Top it-Acc ate
hitoj-ga minna sinde-simatta to] omotteita
person-Nom all die-ended-up that thought
'That cake2, John thought that the persons who ate it2 have all died.'
b. Sono keiki-o John-wa [NP[CP[NP[CP e1 sore2-o tabeta] that cake-Acc John-Top it-Acc ate hito1] ga minna sinde-simatta] kissaten]-e itte-mita person-Nom all die-ended-up coffee shop-to going-tried ‘That cake2, John tried going to the coffee shop where the person who ate it2 have all died.’

The resumptive pronoun strategy is employed in the following sentences, where the distance between the scrambled phrase and its original position is great:


b. Saki-no sensoo2-o [Amerika-wa [[e1 sore2-o sikaketa] last-Gen war-Acc America-Top it-Acc began Nihon1]-ni sekinin-ga aru to] itteiru] Japan-in blame-Nom exit that saying ‘The last war2, America claims a blame on Japan which began it2.’

Let us next consider a consequence of the lack of Subjacency effects on null operator movement. Since Subjacency is a diagnostic for movement, the absence of Subjacency effects on null operator movement may suggest two options: (i) that the OP movement takes place and the gap is a trace (i.e., a variable), and (ii) that such a movement takes place at neither S-Structure nor LF, and hence that the gap is not a trace (i.e., variable) but a null pronoun (i.e., pro). We will pursue option (ii) rather than option (i) in Chapter 3.

In summary, I have shown that movement, regardless of whether it is overt or covert, and whether it takes place at S-Structure or at LF, does not obey Subjacency in Japanese. The inapplicability of the Subjacency condition to movement will imply that the gap left behind by Scrambling can be considered as a variable bound by the scrambled phrase, which is adjoined to an adjunct (A'-) position (Saito 1985, and subsequent work). I will argue in Chapter 4 that Scrambling as well as Topicalization is not A'-movement but A'-movement. The resumptive pronoun strategy will be taken up in Chapter 5.
Chapter 3
Empty categories as pro

3.1 Introduction

In this chapter, we argue that empty or null categories in Japanese are pro. Specifically we argue that those empty categories appearing in Weak Crossover (WCO) constructions are not parasitic gaps, i.e., variables. Saito (1985), Hoji (1985, 1987), and Yoshimura (1986) argue that empty categories in the WCO constructions are parasitic gaps (i.e., variables) licensed by a scrambled c-commanding antecedent at S-Structure. Saito (1992), following Yoshimura (1989), drops the former claim and argues that empty categories in the WCO constructions are null pronouns pro licensed by a scrambled c-commanding antecedent at S-Structure, because the movement of an empty operator (OP) associated with the gap is not subject to Subjacency. Nakamura (1991) argues for the pronominal status of empty categories in constructions other than the WCO, claiming that they are licensed after LF reconstruction (cf. Saito 1989). We refute these analyses. I will argue against such analyses and show that there are no WCO effects with respect to empty categories in the WCO constructions in Japanese. I claim for reasons different from those of Saito (1992) and Yoshimura (1989) that they are pro licensed by discoursal and functional conditions at S-Structure.

The organization of the chapter is as follows. Section 3.2 introduces parasitic gap constructions in English, noting their peculiar characteristics. Section 3.3 discusses empty categories in the so-call ‘parasitic gap’ constructions in Japanese. I will first describe WCO constructions, the environment in which parasitic gaps appear (3.3.1). I examine analyses by Saito (1985), Hoji (1985, 1987), and Yoshimura (1986) (3.3.2), noting their theoretical and empirical difficulties (3.3.3). In section 3.3.4, I will argue against Saito’s

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25 Part of material in this chapter is from Izutani (1994), which originated in Izutani (1989).
(1992) claim that the empty categories in the WCO constructions are bound pronouns licensed by a scrambled antecedent at S-Structure and show in section 3.3.5 that the gaps display none of the characteristics of a parasitic gap (described in section 3.2) in the WCO/parasitic gap constructions in Japanese. In section 3.4, I will discuss empty categories in non-WCO constructions. Following Nakamura (1991), I present the standard analysis by Huang (1994) and Hasegawa (1994) (3.4.1), demonstrate the problems with their analyses, and argue that that empty categories in complement clauses are instances of pro (3.4.2). In so doing, I reject Nakamura’s (1991) claim of LF licensing of pro (3.4.3). In section 3.5, I will specify discoursal and functional licensing conditions on pro. Section 3.6 concludes the chapter.

3.2 Empty categories in parasitic gap constructions in English


3.2.1 Parasitic gaps

(1a) is a typical example of a parasitic gap (PG) construction in English. The empty category marked e is considered the PG, while the trace t indicates the ‘real gap’ resulting from wh-movement of which article.

(1) a. Which articles did you file after you read e?
   b. *Which articles did you file them after you read e?
c. Which articles did you file \( t_1 \) after you read them?

The PG \( e_1 \) in (1a), is different in nature from the trace \( t_1 \), a \( wh \)-trace in (1c), in that the former is dependent on the latter, a real gap. If there is no real gap the sentence becomes ungrammatical, as in (1b).

In the framework of Chomsky (1981:330, 1982:35), it has been assumed that empty categories are identified by the features associated with them in the level of representation in which they appear and that the features assigned to empty categories can change in the course of a derivation. This is referred to as 'functional/contextual determination' of empty categories (Chomsky 1982:35). Thus, an empty category in English is identified as one type of NP, PRO (a pronominal-anaphor associated with the feature matrix \([+\text{pronominal}, +\text{anaphor}]\)) at D-Structure (DS) and as variable at S-Structure (SS), by the algorithm in (2).

(2) a. An EC is a variable if it is in an A-position and is locally A'-bound.
   b. An EC in an A-position that is not a variable is an anaphor.
   c. An EC in an A-position that is not a variable is a pronominal if it is free (i.e. not bound) or locally A-bound by an antecedent with an independent theta role.

'A-position' is a position in which arguments with theta roles (e.g., Agent, Theme, etc.) appear at D-Structure (e.g., subject, object position). For example (1a) has the following DS and SS, respectively illustrated in (3).

(3) DS of (1a):
   a. You filed which articles did you read \( e_1 \)?
      \( = \text{PRO}_1 \)

       SS of (1a):
   b. Which articles \( t_1 \) did you file after you read \( e_1 \)?
      \( *\text{PRO}_1/t_1 \)
The empty category starts out as PRO and ends up as a variable being A'-bound by an 'operator,' the coindexed antecedent which articles in the Spec of CP (SpecCP). It cannot be PRO at SS because of the PRO theorem:

(4) PRO theorem (Chomsky 1981:191):

PRO cannot be in a governed position.

On the other hand, in Chomsky (1986a) PG constructions like (1a) are given the structure in (5), where OP is an empty operator.

(5) Which articles did you file t after [CP OP [you read ell]]?

It is assumed that the PG constructions involve two A' chains: the chain of the real gap C = (wh, t) and the chain of the PG independent of C' = (OP, e). An operation of chain composition (Chomsky 1986a:56) then unites the two chains.

(6) If C' = (a₁,...,aₙ) is the chain of the real gap and C' = (b₁,...,bₙ) is the chain of the parasitic gap, then the 'composed chain' (C, C') = (a₁,...,aₙ,b₁,...,bₙ) is the chain associated with the parasitic gap construction and yields its interpretation.

And, the two chains come under the following conditions:

(7) a. Anti-c-command condition:

The trace of the real gap t does not c-command the trace of the operator e (PG).

b. 0-Subjacency condition:

The composed chain (C, C') must be 0-Subjacent.

c. 0-Subjacency:

β is n-subjacent to α iff there are fewer than n+1 barriers for β that excludes α. (Chomsky 1986a:30)

In the next section, we look at properties of the English PG alluded to by the conditions above.
3.2.2 Properties of parasitic gaps

Let us look at the sentence with a parasitic gap in English in (8) with the structures given in (9) and the corresponding trees in (10).

(8)  
   a. Which article did you file after reading?  
   b. *Which article was filed after you read?  
   c. *John filed the article after reading?

(9)  
   a. Which article did you \[\text{VP file } t_1 \text{ [PP OP } t_1 \text{ after [CP reading } e_1]\]  
   b. *Which article \[t_1 \text{ was [VP filed } t_1 \text{ [PP OP } t_1 \text{ after [CP you read } e_1]\]  
   c. *John [\text{VP filed the article } [\text{PP OP } t_1 \text{ after [CP reading } e_1]\]  

(10) 

In the examples above, \( \iota \) is the real gap, a variable A'-bound by a wh-phrase, forming a chain \( C \) (wh, \( \iota \)), and \( e \) is the PG, another variable A'-bound by a null operator \( OP^\prime \), forming
another chain $C'$ ($OP, e$). Chomsky (1982, 1986a) notes the following characteristics of the PG constructions in (7), repeated below.

(7) a. Anti-c-command condition:
   The trace of the real gap $t$ does not c-command the trace of the operator $e$ (PG).

b. 0-Subjacency condition:
   The composed chain $(C, C')$ must be 0-Subjacent.

In Chomsky (1982), it was assumed that a PG is subject to the anti-c-command condition. This explains the contrast between (8a) and (8b). The first trace left behind by the movement of wh-phrase at S-Structure does not c-command the PG ($e_1$) in (8a) (assuming the branching definition of Reinhart 1976), while it does in (8b) in violation of Chomsky’s condition. Hence ungrammaticality results. This assumes that a PG is a variable subject to Principle C of the binding theory (Chomsky 1982, 1986a). The contrast between (8a) and (8c) indicates that a PG is dependent on (and hence ‘parasitic’ on) syntactic wh-movement.

According to Chomsky (1986a), the PGC contains two chains: the chain of the real gap (i.e., the first trace) ($wh, t$) and that of the PG ($OP, t$), giving rise to a composed chain. In this view, PGs are traces/variables bound by an abstract operator and licensed by a specific condition on chain composition: the head of the PG chain must be 0-subjacent to the final element of the real gap chain. For example, in (8a), $OP$ (the head of the PG), which is adjoined to the PP $[pp OP] [pp \text{ after } e_1 ]$, is 0-subjacent to $t$, and satisfies the condition on the composed chain.27

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26 A c-commands B iff the first branching node dominating A dominates B (Reinhart 1976).

27 However, in this formulation of 0-Subjacency condition (Chomsky 1986a:65), the final element of the real gap, the object trace in (8b) is not separated by a potential barrier VP, since it is in the same VP as the head of the PG gap (the operator). Hence, the composed chain does not violate the 0-Subjacency condition and (8b) is incorrectly permitted. In order to avoid this unwanted case, one may want to use the revised formulation of the condition Chomsky (1986a:67) proposes: the operator (the head of the PG chain) must be 0-Subjacent to the head of the A-chain of the real gap. This will account for the
3.3 Empty categories in parasitic gap constructions in Japanese

3.3.1 Weak Crossover (WCO)/PG constructions

3.3.1.1 Overt pronouns

Sentences in (11) and (12) are typical examples showing the WCO effects in English and Japanese, respectively.

(11) English:
   a. *Who₁ does his₁ mother love t₁?
   b. *His₁ mother loves everyone₁?

(12) Japanese:
   a. *Kare₁/Zibun₁-no hahaoya-ga dare₁-o aisiteiru ka
      he/self-Gen mother-Nom who-Acc love Q
      'Who₁ does his₁ mother love t₁?'
   b. *Kare₁/Zibun₁-no hahaoya-ga dare-o-mo₁ aisiteiru ka
      he/self-Gen mother-Nom who-Acc-MO love Q
      'His/self₁ mother loves everyone₁?'

The English example (11) has the following S-Structure/LF representation in (13) after

wh-movement at S-Structure and Quantifier Raising (May 1985) at LF.

(13) [who₁/everyone₁ [his₁ mother love t₁]]

(13) meets the WCO configuration in (14).

ungrammatical (8b). The head of the A-chain is the subject trace but not the object trace this time, and it
is separated by a potential barrier, namely VP, from the operator, resulting in violation of the 0-
Subjacency condition.

However, adoption of the revised condition on chain composition still seems to have at least two
problems. For one, it cannot account for the grammatical (8a, b), since there is no A-chain in this
sentence. The chain (wh₁, t₁) is an A'-chain. Thus, the condition does not work for this sentence.
Second, if, as suggested in Chomsky (1986a:66), the operator adjoins to PP and then to VP, thus avoiding
the barriers along the way, it is no longer separated by any barrier from the head of the A-chain,
incorrectly predicting (8b) to be grammatical. Therefore, neither formulation of the composed chain
condition works for the contrast in (8a, b). For further argument against this approach (of composcd
chain), see Koster (1988:156-157, 361-366) and Cinque (1990:102-110). For an argument for the anti-c-
command requirement, see Koster (1988:366ff).
(14) WCO configuration: OP₁ ... P₁ ... e₁ (linear order irrelevant)

OP₁ c-commands P₁ and e₁, and neither P₁ nor e₁ c-commands the other.

(where OP = operator, P = pronoun/anaphor)

It is assumed in the literature that the Japanese counterpart in (12) has exactly the same structure as the English (13) at LF after wh-movement and Quantifier Raising, thereby giving a unified account to the WCO phenomena in the two languages: English with wh-movement at S-Structure and Japanese without it.


3.3.1.2 Empty/Null pronouns

Let us next look at empty or null categories in the WCO configuration. Consider (15) and (16).²⁸

(15) Dono ronbun₁-o [IP kimi-wa [pp e₁ yonda
which article-Acc you-Top read
ato-de] t₁ suteta] ka
after threw away Q

‘Which article did you throw away e₁ after reading e₁?’

(16) Kimi-wa [pp e₁ yonda ato-de] dono
you-Top read after which

²⁸ We assume, following Saito 1985, that Scrambling, a syntactic movement at S-Structure, is IP-adjunction.
Which article did you throw away after reading?

(15) is derived from (16) by Scrambling at S-structure. The S-Structure representations of (15) would be as in (17).

(17) [IP Dono ronbun-1 [IP[pp.. e1] [vp ... t1 ...]]]

The empty category e1 in (17) meets the WCO configuration in (14) above, and is referred to as a 'parasitic gap' (PG), which is considered a variable in the Government and Binding (GB) literature of Japanese linguistics. Throughout the present work, the empty categories in the WCO constructions are referred to as 'parasitic gaps' without implying 'variablehood' or 'pronominalhood.'

I will argue in the following sections (sections 3.3.3-3.3.5) that parasitic gaps, as in (15), are neither variables as claimed by Saito (1985), Hoji (1985, 1987), and Yoshimura (1986) nor 'bound' pronouns as claimed by Yoshimura (1989) and Saito (1992), but simply pure pronouns. In the next section, we will see 'variable' analysis of parasitic gaps by Saito (1985), Hoji (1985, 1987), and Yoshimura (1986).

3.3.2 Parasitic gaps as variables

Parasitic gaps in Japanese have been discussed in the literature by such authors as Saito (1985), Yoshimura (1986), and Hoji (1985, 1987), who claim that an empty category in WCO constructions is a parasitic gap (i.e., a variable). Since Yoshimura's (1986) position on PGs is different from that of Saito (1985) and Hoji (1985, 1987) in that subject-empty categories are not variables but pronouns (pro), I will start with the analyses of Saito (1985) and Hoji (1985, 1987), then move on to Yoshimura's (1986) analysis.
3.3.2.1 Saito (1985) and Hoji (1985, 1987)

Saito (1985) and Hoji (1985, 1987) account for the ungrammaticality of sentences meeting the WCO configuration in (14) by the WCO constraint in (18) and the condition on overt pronouns in (19).

(18) WCO constraint

A variable cannot be the antecedent of a pronoun or an anaphor that it does not c-command.

(Saito and Hoji 1983:256, also Saito 1985:83, Hoji 1987:166)

(19) Condition on overt pronouns:

An overt NP with the feature [+pronominal] cannot have a quantified NP in an A’-position as its antecedent (direct or indirect)

(Saito 1985:101, (101))

For example, sentences such as (12) with overt pronouns, repeated below, would have the LF structure shown in (20).

(12) Japanese:

a. *Kare₁/Zibun₁-no hahaoya-ga dare₁-o aisiteiru ka
   he/self-Gen mother-Nom who-Acc love Q
   "Who₁ does his₁ mother love t₁?"

b. *Kare₁/Zibun₁-no hahaoya-ga dare-o-mo₁ aisiteiru ka
   he/self-Gen mother-Nom who-Acc-MO love Q
   "His/self₁ mother loves everyone₁?"

(20) LF of (12):

[IP Dare₁/Dare-o-mo₁ [IP kare₁/zibun₁ [VP t₁ aisiteiru]]] ka

In (20) t₁ is a trace/variable A’-bound by the LF-raised wh-phrase or quantified phrase (operator). It is assumed that in languages like Japanese, which do not have syntactic wh-movement, wh-phrases and quantified phrases (QP) are raised at LF. The
pronoun/anaphor *kare* 'he'/*zibun* 'self' can take as an antecedent neither the trace $t_1$ by (18) nor the moved phrase *dare* 'who' *dare-o-mo* 'everyone' by (19). Hence, the ungrammaticality of the sentences in (12) results.

Saito (1985) and Hoji (1985, 1987) explain sentences with empty categories such as (21) by the WCO constraint in (18) in the same way as those with overt pronouns. They claim that sentence (21a), as opposed to (21b), is unacceptable and that the contrast between the two sentences can be explained by the Weak Crossover (WCO) constraint in (18). (21a) and (21b) are from Saito (1985:103, 105) with his judgments:


'Which book did John read before Mary read (it)?'


'Which book did John read before Mary read e.'

Saito (1985) and Hoji (1985, 1987) say that the quantified phrase *dono hon* 'which book' in (21a) is adjoined to the matrix IP by Quantifier Raising (May 1985) at LF, resulting in the structure shown in (22).

(22) LF structure of (21a):

[IP Dono hon₁-o [IP John-wa [pp Mary-ga e₁ yomu mae-ni] [vp t₁ yonda] no]

LF structure of (21b):

Dono hon₁-o [IP t₁ [IP John-wa [pp Mary-ga e₁ yomu mae-ni] [vp t₁
In the LF structure of (21a), the quantified phrase or the operator c-commands both the gaps $e_I$ and $t_I$, neither of which c-commands the other. Thus, the structure in (22) meets the WCO configuration in (14) and violates the constraint in (18) at LF. By contrast, (21b), in which the empty category $e_I$ appears in the same position as in the ungrammatical (21a), is acceptable. Saito (1985) and Hoji (1985, 1987) argue that if the empty category $e_I$ in (21b) is a null pronoun (pro), then the grammaticality of (21b) is unexpected. That is, if $e_I$ were pro, (21b) should be a WCO violation and ungrammatical in the same way as (21a) is. Since (21b) is grammatical, they argue that the empty category in (21b) is not pro but a variable, which is A'-bound by the LF-moved operator in an IP-adjoined position (see the LF structure of (21b) in (22)). The empty category as a variable is not subject to the WCO constraint in (18), explaining the grammaticality of (21b). And, they say that the parasitic gaps are 'licensed' by the syntactic movement of the associated wh-phrase into an A'-position (Hoji 1987:190). Likewise, according to their explanation, sentence (15) is grammatical with the empty category construed as a variable licensed by the syntactic movement of dono ronbun-o ‘which article-Acc’ into an A’-position, and sentence (16) ungrammatical with the empty category in violation of the WCO constraint. Exactly the same explanation applies to sentences like (23), in which the relevant empty category appears in the complex noun phrase (a relative clause). The sentences in (23) are from Hoji (1987:187) with his judgments.

(23) a. *[NP[IP e₁ hitome e₂ mita] hito₁]-ga [VP dare₂-o
  one glance saw person who-Acc
  sukininatta] no
  fell in love Q

‘*Who₂ did the person that took a glance at him₂ fall in love with?’
b. \[[\text{IP } \text{Dare}_2-\text{o} \ [\text{IP[NP[IP } e_1 \text{ hitome } e_2 \text{ mita} ] hito}_1\text{-ga}] \text{ who-Acc one glance saw person-Nom} \]
\[[\text{VP } t_2 \text{ sukininatta}]] \text{ no} \]

"Who did the person that took a glance at him fall in love with?"

c. LF structure of (23a):
\[[\text{IP } \text{Dare}_2-\text{o} \ [\text{IP[NP[IP } e_1 \text{ hitome } e_2 \text{ mita} ] hito}_1\text{-ga [VP } t_2 \text{ sukininatta}]]] \text{ no} \]

Hoji says that \(e_2\) in (23a) is \(\text{pro}\), violating the WCO constraint in the putative LF representation in (23c), and hence (23a) is ungrammatical, while lack of the WCO effect in the grammatical (23b) suggests that \(e_2\) is a parasitic gap.

In summary, Saito's (1985) and Hoji's (1985, 1987) explanations about sentences such as (15), (21), and (23) rely on the following assumptions:

24. a. Both overt and empty pronouns obey the WCO constraint in (18).
   b. PGs are licensed by a syntactic movement.
   c. The adjunction position for \(wh\)- and quantified phrases is an A'-position.
   d. There is LF movement of \(wh\)-phrases and QPs.

In the next subsection, we summarize Yoshimura's (1986) analysis, which is basically the same in important respects as the analyses by Saito and Hoji just described, but differs from theirs in treating subject empty categories as \(\text{pro}\) in parasitic gap constructions.

3.3.2.2 Yoshimura (1986)

Yoshimura (1986) adopts the assumptions in (24) as Saito (1985) and Hoji (1985, 1987) do. In addition, she adopts movement of a null operator associated with the

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29 I will refute the assumption in (24c) in Chapter 4. And the assumptions in (24a) and (24b) will be proven wrong in section 3.3.3.1 and 3.3.3.3, respectively.
parasitic gap coupled with 'chain composition' analysis of Chomsky (1986a) described in section 3.2.1. However, her analysis differs from Hoji’s in assuming that only an object empty category can be a parasitic gap, while a subject empty category is pro, “which is construed as a bound variable” (Yoshimura 1986:297) at LF. In what follows, I present the main points of her analysis of the parasitic gap constructions.

Let us first look at Yoshimura’s argument that the object gap is a parasitic gap. Yoshimura (1986:296, 298) gives the following examples (25) with her accompanying grammaticality judgments.

Taro-Nom Hanako-Nom criticize before
dono ronbun₁-o yonda no (Yoshimura’s (7a))
which article Acc read Q

b. Dono ronbun₁-o Taroo-ga [pp Hanako-ga e₁
which article-Acc Taro-Nom Hanako-Nom
hihan-suru mae-ni] t₁ yonda no (Y’s (7b))
criticize before read Q

‘Which article did Taro read t₁ before Hanako criticized e₁?’

c. Dono ronbun₁-o Taroo-ga [pp[ [NP[CP Hanako-ga
which article-Acc Taro-Nom Hanako-Nom
e₁ hihan-sita] koto]-o siru mae-ni] OP₁] t₁ yonda no
criticized fact-Acc know before read Q

‘*?Which article did Taro read t₁ before knowing the fact that Hanako criticized e₁?’ (Y’s (11))

The object gap is contained in the adjunct mae-ni ‘before’ clause in (25a), and the wh-phrase dono ronbun ‘which article’ is syntactically scrambled to sentence-initial position in (25b, c). In (25c) the gap is contained in the complex NP structure. Yoshimura argues as
follows: In (25a) the wh-phrase *dono ronbun* remains *in situ*, while it is moved to an A'-position in (25b). The object gap *e* in (25a) is a *pro* since no syntactic movement is involved. At LF the WCO Constraint (18) prevents *pro* from taking as its antecedent either the wh-phrase or the trace of the wh-phrase. Hence the ungrammaticality of (25a) results. In contrast, (25b) is grammatical because of the absence of WCO effects, suggesting that *e* is not a *pro* but a parasitic gap (i.e., a variable) licensed by an S-Structure movement or by a null operator (OP) movement (Chomsky 1986a). In the case of (25c), the gap contained in the complex NP structure violates Subjacency, given the null operator movement, thus resulting in the relatively low acceptability.30

Subject gaps, on the other hand, argues Yoshimura, obey neither the WCO constraint nor Subjacency, and hence they are *pro*. Observe the following relevant examples of Yoshimura’s (p. 297, (14)):

(26) a.  
Taro-ga  
[pp[CP e1 munoo da to] sinziteiru noni]  
Taro-Nom  
incapable is that believing though  
dono  
koohosya1-o  
sizi-sita  
no  
which  
candidate-Acc  
supported  
Q  
‘Which1 candidate did Taro support though believing that e1 is incompetent?’  
(Y’s (14a))

b.  
Taro-ga  
[pp[NP[ e1 e2 kaita] hon2]-o]  
Taro-Nom  
wrote  
book-Acc  
yomu  
mae-ni]  
dono  
sakka1-o  
hihan-sita  
no  
read  
before  
which  
author-Acc  
criticized  
Q

---

30 The relative low acceptability of (25c) would be attributed to the semantic oddity arising from the inappropriate wording of *siru mae ni* ‘before knowing.’ The sentence can be improved with *sitteiru noni* ‘though knowing’ or *sirazuni* ‘without knowing’ instead, as shown in (i).

(i)  
Dono ronbunj-o Taro wa [[Hanako-ga e1 hihan-sita koto]-o sitteiru noni/sirazuni] t1  
yonda no  
‘Which article e1 did Taro read though (he) knows/without knowing the fact that Hanako criticized e1.’
‘Which author_1 did Taro criticized t_1 before reading the book_2 which e_1 wrote?’ (Y’s (15))

Unlike in (25b, c) and (27), “syntactic movement is not involved in [(26)], so e must be an empty pronoun” (p. 297). Since e and the wh-phrase-in-situ dono koohosya ‘which candidate’ in (26a) do not c-command each other, the sentences are expected to be ungrammatical as violations of the WCO constraint. In the sentences in (27), the wh-phrases are syntactically moved into an A’-position.

(27) a. Dono koohosya_1-o Taro-ga [pp[NP[ e_1 munoode aru] which candidate-Acc Taro-Nom incapable is koto]-o sitteiru noni] t_1 sizi-sita no fact-Acc know though supported Q

‘Which candidate did Taroo support t_1 though knowing the fact that e_1 is incompetent?’ (Y’s (12))

b. Dono sakka_1-o Taro-ga [pp[NP[ e_1 e_2 kaita] author-Acc Taro-Nom wrote hon_2]-o yomu mae-ni] t_1 hihan-sita no book-Acc read before criticized Q

‘Which author_1 did Taroo criticized t_1 before reading the book_2

---

31 Yoshimura is inconsistent about generation or licensing of object empty category as a parasitic gap. She attributes variable status of the object parasitic gap sometimes to syntactic movement and some other times to null operator movement. For the sentences in (26) she uses syntactic movement, and for those in (27) she uses null operator movement as we will see directly below.
which e₁ wrote?’ (Y’s (13))

Since e in (27) is contained “in the complex NP structure, the context in which a Subjacency violation would be unavoidable” (p. 296), if the subject gap is a variable, a Subjacency violation is expected and the sentences should be ungrammatical. But, since they are grammatical, the subject gap is not a variable but pro.

Yoshimura further claims that the subject pro seen above is construed as a bound variable at LF. That is, the bound variable interpretation is possible for the subject pro. However, there arises a problem, says Yoshimura (p. 299), between (26b) and (27b): (26b) is a typical WCO configuration and hence the bound variable interpretation should not be possible for the subject gap as in the case of the ungrammatical (25a), in which the bound variable interpretation is not possible for the object gap. But the bound variable interpretation is possible for the gap in (26b) as in the case of the gap in (27b). As we have seen above, since it is not Scrambling that licenses the subject gap as a bound variable, some mechanism that will ensure the bound variable interpretation for the subject gap must be sought. Yoshimura (p. 300), following Higginbotham’s (1980) ‘PRO gate’ analysis, hypothesizes that PRO appears as topic at the LF representation of, say, (26b):

(28) LF representation of (26b) with ‘PRO gate’ analysis.32

Yoshimura (p. 300) claims that in (28), “it is not the LF variable t, but PRO in topic position that can be a direct antecedent of pro in subject position” and that since the PRO is c-commanded by the wh-phrase in SpecCP, “the pro subject can take dono sakka indirectly as its antecedent.” And, Yoshimura (ibid.) says that “[(28)] can also be the LF representation of [(27b)], the scrambled case of [(26b)], under the assumption that the LF

---

32 Yoshimura’s ‘PRO topic’ is essentially the same as Huang’s (1984) ‘Empty Operator (topic)’ which is coindexed with an antecedent of an empty category by Free Coindexing. See Huang (1984) and section 3.4.1 for details of Huang’s ‘Empty Operator’ analysis.
trace of dono sakka ‘which author’ may not be left in sentence-initial position (cf. Lasnik and Saito 1984),” thus unifying the bound variable interpretation for the subject gap in both (26b) and (27b). By contrast, says Yoshimura (p. 302), the ‘PRO gate’ approach is not available when pro is the object of the complex NP construction as in the case of (25c). Yoshimura explains that the availability for the subject gap and the unavailability for the object gap, of the PRO gate approach, is attributable to a subject-object asymmetry in the topic construction, as observed by Hasegawa (1984).

\[(29)\]
\[
a. \quad \text{Sono kodomo}_1\text{-wa [pro}_1\text{ e}_2 \text{kawaigatteita]} \\
\quad \text{the child-Top loved} \\
\quad \text{inu}_2\text{-ga sindesimatta} \\
\quad \text{dog-Nom died} \\
\quad \text{‘As for the child, the dog that he loved died.’} \\
\]
\[
b. \quad \text{?*Sono inu}_2\text{-wa [pro}_1\text{ e}_2 \text{kawaigatteita]} \\
\quad \text{the dog-Top loved} \\
\quad \text{kodomo}_1\text{-ga sindesimatta} \\
\quad \text{child-Nom died} \\
\quad \text{‘As for the dog, the child who loved it died.’} \\
\]

The contrast in (29) shows that unlike the subject, the object cannot be topicalized from the complex NP, and accordingly this explains the unavailability of PRO topic analysis for the object gap. Hence, sentences like (25c) containing the object gap will be ungrammatical: Subjacency is violated if it is a variable; and the WCO effects derive if it is pro. To summarize, Yoshimura (1986) assumes the following:

\[(30)\]
\[
a. \quad \text{Both overt and empty pronouns obey the WCO constraint in (18).} \\
\]
\[
b. \quad \text{Object gaps are variables created by operator (OP) movement, while subject gaps are pro construed as bound variables at LF by PRO topic.} \\
\]
\[
c. \quad \text{The adjunction position for wh- and quantified phrases is an A’-position.} \\
\]
d. There is LF movement of wh-phrases and OP.

This concludes the presentation of Yoshimura’s (1986) analysis of parasitic gap constructions. In the next section, I point out problems with the analyses by Saito (1985), Hoji (1985, 1987), and Yoshimura (1986).

3.3.3 Non-variable properties of parasitic gaps

In this section, I refute the analyses by Saito (1985), Hoji (1985, 1987), and Yoshimura (1986) as I illustrate the characteristics peculiar to the Japanese parasitic gaps (PG). First, I show that neither of the characteristics of the English PGs as described in section 3.2.2 (i.e., the anti-c-command condition and the 0-Subjacency condition) applies to the Japanese cases. Second, I show, contrary to the standard analyses above, that empty categories, whether subject or object, are not subject to the WCO constraint in (18). Finally, some minor problems with these analyses will be pointed out.

3.3.3.1 No anti-c-command condition (No subject-object asymmetry)

In section 3.2.2 we have seen that the English parasitic gaps obey an anti-c-command condition, as in (8), repeated below, and sentences in (31).

(8)  a. Which article did you file after reading?  
 b. *Which article was filed after you read?

(31) a. Who₁ do you think Mary criticized t₁ before she met e₁?
 b. *Who₁ do you think t₁ criticized Mary before she met e₁?
 c. Who₁ did you support t₁ though everyone blamed e₁?
 d. *Who₁ supported you though you blamed e₁?

In contrast, there is no such subject-object asymmetry in Japanese. The Japanese counterpart sentences corresponding to (8) are grammatical, as shown in (32).
(32) a. Kimi-ga \[\text{yp}[pp \ e_1 \ yonda \ ato-de]\]
you-Nom read after
[\text{dono \ ronbun}_1-o \ fairu-sita]}V'\text{yp} \ ka
which article-Acc filed Q
‘Which article \text{e}_1 \ did \text{you} \ file \text{t}_1 \ after \text{reading} \text{e}_1?’

b. Dono \text{ronbun}_1-ga \text{t}_1 \ [\text{yp}[pp \ kimi-ga \ e_1 \ yonda}
which article-Nom you-Nom read
ato-de] \[V' \ text{fairu-sare-ta}] \text{ka}
after filed-was Q
‘*Which article \text{e}_1 \ was \text{filed} \text{t}_1 \ after \text{you} \text{read} \text{e}_1?’

In the LF representation of (32a) \text{t} \ does not c-command \text{e} \ under the first branching
definition of c-command (Reinhart 1976) because the first branching node \text{V}' \ dominating \text{t}
does not dominate \text{e}, satisfying the anti-c-command condition. However, in (32b), \text{t} \ in
subject position does c-command \text{e}, in violation of the anti-c-command condition. Hence,
(32b) should be bad in violation of Principle C of the binding theory if the gap is a
variable. But it is grammatical. That is, if \text{e} \ were a variable, it should display the subject-
object asymmetry as in the case of English examples in (8) and (31).

The same thing can be said in (33), involving relative clause constructions.

(33) \[e_1 \text{[}[[\text{Kimi-ga} \text{t}_1 \text{yomu}] \text{OP}_1] \text{mae-ni}] \text{fairu-sare-ta}] \text{ronbun}_1
you-Nom read before filed-was article

‘The article \text{e}_1 \ which \text{was} \text{filed} \text{before} \text{you} \text{read} \text{e}_1.’

The null operator movement analysis of a parasitic gap would rule out these sentences. In
(33), \text{t}_f, a \text{trace} of \text{OP}_f, \text{is} A-bound by \text{e}_f. \text{Thus, t}_f \text{as} \a variable violates the anti-c-
command condition (a Principle C \text{violation}). \text{Given that a} \text{variable} must be A-free in the
domain of its \text{operator} (Chomsky 1986b:86), \text{t}_f \text{in (33) is free in the domain of} \text{OP}_f.
Hence, \text{t}_f \text{can be} \text{a variable} \text{without violating Principle C of the binding theory. If so,
however, since the mae-ni clause in (33) is not a relative clause but an adjunct clause, the value of $t_I$ cannot be determined, unlike in the case of a relative clause where the value of $t_I$ is determined by the relative head via predication (i.e., a case of strong binding) as suggested in Chomsky (1986b:85). Thus, the value of $t_I$ in (33) is left unspecified in the domain of its operator. The value of $t$ in (33) cannot be determined by the relative head of the higher clause either, since the relationship between the embedded adjunct clause and the matrix clause relative head is not that of predication (i.e., the modifier-modifiee relation). Thus, the clause containing $t_I$ (and the associated operator) cannot be predicated of anything, and hence $t_I$, with its value unspecified, is not licensed and violates Full Interpretation (FI) principle of Chomsky (1986b:98ff): “Every element of PF and LF must receive an appropriate interpretation--must be licensed in the sense indicated” (Chomsky 1986b:98); “An element can appear in a representation only if it is properly ‘licensed’” (Chomsky 1989:60-61). So, $t_I$ in (33) as a variable inevitably violates either the relevant binding principle or the FI just discussed, and should be ungrammatical, which it is not. The same holds true of $e_J$ in (32b): it may be free in the domain of the operator, but is not licensed. The chain composition involved in (32b) cannot be reduced to predication (cf. Koster 1986:364). Since there is no subject-object asymmetry with respect to the gap in question in Japanese, it is not a variable.

In the next section, we show that the 0-Subjacency condition on chain composition does not apply to the Japanese parasitic gaps.

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Cinque (1990:100-116) claims that an empty category as pro needs an A'-antecedent for the identification of its $\varphi$-features, assuming the base-generated OP in the Spec position of a relative clause. For example, in (33), so that it can A'-binds (i.e., identifies) the base-generated pro in the adjunct clause. However, the grammaticality of (33), which is ungrammatical in the English counterpart (*the file that is filed before you read) shows that Cinque’s approach does not apply to Japanese.
3.3.3.2 No O-Subjacency condition on chain composition

Chomsky (1986a) assumes that a parasitic gap construction involves two chains, the chain formed by movement of the real gap and the chain formed by the movement of a null operator and that the two chains are subject to the O-Subjacency condition at S-Structure. The intuitive idea behind the condition comes from the assumption that a PG, as a variable created by movement of a null operator at S-Structure, is subject to the Subjacency condition. Below we show that a PG appearing in the Complex Noun Phrase Construction (CNPC) and Relative Clause Island is not subject to the condition on a composed chain.\(^{34}\)

3.3.3.2.1 Complex NP constructions (CNPC)

Observe the sentences in (34), in which *dono ronbun* 'which article' has been scrambled sentence-initially at S-Structure and the PG is contained in the CNPC.

(34) a. Dono ronbun\(_1\)-o 
   [ Taro-wa [\(\text{VP}\)\(\text{PP}\)\(\text{NP}\) Hanako-ga
   which article-Acc Taro-Top Hanako-Nom
   suden\(e\_1\) hihan-sita\] koto\(j\)\(\text{NP-o}\) sirazuni\)\(\text{OP\_1}\)\(\text{PP}\)
   already criticized fact-Acc without-knowing
   [\(\text{VP}\)' gakkai-de \(t\_1\) happyoo-sita\)]\(\text{VP}\) ka
   conference-in presented Q
   'Which article\(_1\) did Taro present \(t\_1\) in the conference without knowing the fact that Hanako had already criticized \(e\_1\)?'

   b. Dono ronbun\(_1\)-ga [\(t\_1\) [\(\text{VP}\)\(\text{PP}\)\(\text{NP}\) Hanako-ga suden\(i\)]
   which article-Nom Hanako-Nom already

\(^{34}\) Lee (1993:36-38) also claims that parasitic gaps in Korean are not 'real' parasitic gaps (i.e., variables) but empty pronouns (i.e., pro). 

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criticized fact-Acc knowing-without

‘Which article was presented by Taro in the conference without knowing the fact that Hanako had already criticized read e1?’

As shown in (35), the null operator $OP_1$ apparently is not 0-Subjacent to the real gap $t_1$ because of the intervening PP in (34a). Moreover, the operator movement crosses two barriers CP and NP in violation of Subjacency. The same holds true of (34b). Notice

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35 If the operator adjoins to PP (as assumed in Chomsky 1986a:65) and then to VP, removing a barrierhood from the PP, then it is 0-Subjacent to $t$, because the VP immediately dominating $t$ does not exclude the operator.

36 We believe that the head koto does not L-mark the preceding clause. For arguments see Hirano and Izutani 1994b.
that in (34b) the anti-c-command condition is also violated. The other sentences given above in (26c) and (27a) with the koto clause are all in violation of the 0-Subjacency condition. The grammaticality of these sentences indicates that the gap in question is not a variable. 

Yoshimura (1986) considers object gaps to be variables because of a Subjacency violation in the sentences like (25c), repeated here.

(25) c. ??Dono ronbun\textsubscript{1-o} Taro-ga [PP[[NP[CP Hanako-ga which article-Acc Taro-Nom Hanako-Nom e\text{\textsubscript{1}} hihan-sita] koto]-o siru mae-ni] OP\textsubscript{1}] t\textsubscript{1} yonda no criticized fact-Acc know before read Q

"*?Which article did Taro read t\textsubscript{1} before knowing the fact that Hanako criticized e\textsubscript{1}.' (Y's (11))

Though Yoshimura considers (25c) as marginal, it is in fact not bad, as pointed out in footnote 30. The following sentences which have exactly the same structure with the embedded complex NP structure are perfectly acceptable:

(36) Dono ronbun\textsubscript{1-o} Taro-ga [[[NP[IP Hanako-ga e\textsubscript{1} sakini which article-Acc Taro-Nom Hanako-Nom before yonda] koto]-o sirazuni] OP\textsubscript{1}] t\textsubscript{1} sensei-ni miseta ka read fact-Acc knowing-without teacher-Dat showed Q

'Which article\textsubscript{1} did Taro show t\textsubscript{1} to his teacher without knowing the fact that Hanako read e\textsubscript{1} first?'

(37) Dono ronbun\textsubscript{1-ga} [[[NP[IP Hanako-ga e\textsubscript{1} sakini yonda]] which article-Nom Hanako-Nom before read

---

\[37\] Given the discussions in Chapter 2, the gaps in question can still be considered to be variables since Subjacency is irrelevant to movement in Japanese. Nonetheless, I contend that the gaps are not variable but pro. See section 3.3.5 for the arguments that they are indeed pro.
If the analysis of the operator-bound variable is correct, then the sentences (36)-(38) should be ruled out due to a violation of Subjacency (assuming that Subjacency is a diagnostic for variable). The grammaticality of these sentences indicates that not only subject gaps (as Yoshimura claims) but also object gaps are not variables but pro.\(^{38}\)

3.3.3.2.2 Relative clauses

Consider (39a), which is taken from Saito (1992:72) who attributes it to Yoshimura (1989) and (39b), which is based on an example in Xu (1990b:458).

(39) a. Dono hon-o j-Masao-wa [vp[pp Hanako-ga [np e]] which book-Acc Masao-Top Hanako-Nom
kaita hito]-ni au mae-nil [vp t1 yonda]] ka
wrote person-to meet before read Q

\(^{38}\) Déprez (1989, chap 3) argues that object gaps in these structures are base-generated pronominal empty objects.
‘Which book \( t_1 \) did Masao read before Hanako met the person who wrote \( e_1 \)?’

b. Dono kikai-o [IP kimi-wa [CP[NP[CP \( t_1 \) sekkei-sita]]] designed

hito-ga [vp[pp[CP minna-ga \( e_1 \) tukau] mae-ni] person-Nom everyone-Nom use before

[vp sinda]] to] itta]IP ka
died Comp said Q

‘Which machine \( t_1 \) did you say that the person who designed \( t_1 \) died before everyone used \( e_1 \)?’

In (39a), the PG is contained in the relative clause which is in turn contained in the adjunct PP. Hence, as in the case of (34a), the operator is not 0-Subjacent to the trace of the real gap, as shown in (40a) below. In (39b), too, the PG is contained in the adjunct PP. As illustrated in (40b), the real gap is within a CNPC separated from the operator by CP, NP, VP, PP, and so forth.
The grammaticality of these sentences again suggests that there is no movement of a null operator involved or at least that there is no 0-Subjacency requirement on chain composition. Hence, the gap under discussion is not a PG, i.e., a variable. Notice also that the sentences in (26b) and (27a) violate the 0-Subjacency condition.

Before leaving this section, some remarks are in order about Yoshimura’s (1986) ‘PRO gate’ analysis for subject gaps. I agree with Yoshimura on the view that subject gaps are pro, but I do not think that they are construed as bound variables at LF. For the arguments that they are pure pro, see section 3.3.5. Yoshimura applies Higginbotham’s (1980) ‘PRO gate’ analysis to the subject gaps just in order to provide the bound variable interpretation for them with a ‘PRO topic’ (see (28)). However, her analysis with ‘PRO topic’ has some problems.

For one thing, ‘PRO topic’ is just a stipulation without any independent evidence to show that this is indeed the case.39

Second, Yoshimura assumes that the PRO topic analysis is not available when the gap is the object within a complex NP construction. Since she does not deny the PRO topic analysis for an object gap which is not contained in a complex NP construction, the object gap the sentences such as (25b), repeated directly below, can be pro (and is construed as a bound variable through the PRO topic at LF), contra her position that the object gaps are variables.

(25) b. Dono ronbun_1-o Taro-ga [pp Hanako-ga e_1
which article-Acc Taro-Nom Hanako-Nom
hihan-suru mae-ni] t_1 yonda no (Y’s (7b))
criticize before read Q

‘Which article did Taro read t_1 before Hanako criticized e_1?’

---

39 Yoshimura (1986:301) denies the possibility of a zero topic being pro rather than PRO simply because “the ‘PRO gate’ is not available.” However, this is no explanation.
That is, (25b) can have two S-Structure derivations: one in which $e_J$ is a variable licensed by syntactic scrambling of the wh-phrase *dono ronbun* ‘which article’ or null operator movement (cf. Chomsky 1986a, b), and the other in which $e_J$ is a *pro* at S-Structure (and construed as a bound variable by the PRO topic at LF). A contradiction results. Recall that Yoshimura employs the PRO topic analysis to ensure the bound variable interpretation for the subject gaps both in (26a), the unscrambled case, and in (27a), the scrambled case.

Third, in relation to the second point above, Yoshimura’s claim based on Hasegawa (1984) about the impossibility of Topicalization of the object of the relative clause is ill-founded. As we have shown in Chapter 2, the object in question can be topicalized without violating Subjacency (cf. also Haig 1993a, b).

Finally, Yoshimura’s PRO topic analysis would be incompatible with the fact that wh-phrases (e.g., *dono sakka* ‘which author in (26/28)) can never be a topic in Japanese and Korean (and probably for any topic language).^{49}

In the next section, we argue that there are no Weak Crossover effects for empty categories in Japanese, contrary to the widely-held view in the literature.

3.3.3.3 No WCO effects--counter-evidence to variablehood of parasitic gaps

Before presenting counter-evidence to the WCO effects, let us first briefly point out some problems with Saito’s (1985) and Hoji’s (1985, 1987) analyses. For one, though Saito and Hoji consider sentence (21a) to be unacceptable, it has exactly the same LF representation as the acceptable (21b), the LF representation (22) which they claim is unacceptable. Hence (21b) is predicted to be unacceptable showing the WCO effects. Second, their judgments about the sentences such as (21), repeated below, is dubious.

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40 This was pointed out to me by John Haig.
Though they claim (21a) is unacceptable, most native speakers I consulted judge it as acceptable. [The grammaticality judgment is mine.]

(21) a. \[\text{IP} \text{John-wa} \quad \text{[pp} \text{Mary-ga } e_1 \text{ yomu mae-ni]} \]
    \[\text{John-Top} \quad \text{Mary-Nom} \quad \text{read} \quad \text{before} \]
    \[\text{[VP dono hon}_1\text{-o yonda]} \quad \text{no} \quad \text{which} \quad \text{book-Acc} \quad \text{read} \quad Q \]
    ‘Which book did John read before Mary read (it).’

b. \[\text{[IP} \text{Dono hon}_1\text{-o} \quad \text{[IP} \text{John-wa} \quad \text{[pp} \text{Mary-ga } e_1 \text{ yomu mae-ni]} \]
    \[\text{Which} \quad \text{book-Acc} \quad \text{John-Top} \quad \text{Mary-Nom} \quad \text{read} \quad \text{before} \quad \text{read} \quad Q \]
    ‘Which book did John read before Mary read e.’

(22) LF structure of (21a):

\[\text{[IP} \text{Dono hon}_1\text{-o} \quad \text{[IP} \text{John-wa} \quad \text{[pp} \text{Mary-ga } e_1 \text{ yomu mae-ni]} \]
\[\text{[VP t}_1\text{ yonda]} \quad \text{no} \]

In the same way, the following sentences, in which the \text{wh}-phrases in (33a) and (34a) are in the pre-scrambled position, are acceptable:

(41) a. \[\text{Kimi-ga} \quad \text{[VP[pp} \text{e}_1 \text{ yonda ato-de]} \quad \text{[V'} \text{dono ronbun}_1\text{-o} \text{fairu-sita]} \quad \text{ka} \]
    \[\text{you-Nom} \quad \text{read} \quad \text{after} \quad \text{which} \quad \text{article-Acc} \quad \text{filed} \quad Q \]
    ‘Which article\textsubscript{1} did you file \textsubscript{t1} after reading \textsubscript{e1}?’

b. \[\text{Taroo-wa} \quad \text{[VP[pp[CP \text{Hanako-ga sudeni } e}_1 \text{ hihan-sita]} \]
    \[\text{Taro-Top} \quad \text{Hanako-Nom} \quad \text{already} \quad \text{criticized} \quad \text{fact-Acc} \quad \text{without-knowing} \quad \text{conference-in} \quad \text{which} \quad \text{article-Acc} \]
presented Q

‘Which article 1 did Taro present t1 in the conference without knowing the fact that Hanako had already criticized e1?’

These sentences are acceptable without overt movement of the wh-phrases. Further, the following sentences, taken from Tonoike (1991, 1992) with some modifications, support our claim that there are no WCO effects in Japanese. (42a) is modified from the Tonoike’s original example.


‘Who1 are you thinking that John head-hunts t1 before the company promotes e1 to an executive position?’

b. Kimi-wa [vp[NP e1 uketoru kenri-no nai hito]-ni you-Top receive right-Gen not person-to [ikura-no isyaryoo]1-o haratta] no how-much-Gen consolation-Acc paid Q

‘How much consolation1 did you pay t1 to a person who has no right to receive e1?’

The sentences in (42) are perfect even though they have exactly the same WCO configuration as in the case of (21a). More examples of the same pattern follow.

Consider (43).

(43) a. [NP Mary-ga e1 uragitteiru koto]-ga Mary-Nom betray fact-Nom
The sentences in (43) are unscrambled versions of those in (44) and are as grammatical as (44) without invoking the WCO effects. This also shows that the empty categories are not subject to the WCO constraint and that as pro they do not obey Subjacency, either. That is, Saito’s (1985), Hoji’s (1985, 1987), and Yoshimura’s (1986) claim that Scrambling licenses a PG or that the PG is a variable (licensed by null operator movement) is wrong since a PG does not require Scrambling in order to be licensed as in (43) and since it is subject to neither the anti-c-command condition nor the O-Subjacency condition as shown in sections 3.3.3.1 and 3.3.3.2.
3.3.4 Parasitic gaps as bound pronouns

Recently, Saito (1992), following Yoshimura (1989), drops his former claim that empty categories in the WCO constructions (i.e., PGs) are variables (Saito 1985), and argues that they are bound pronouns (i.e., pro) A-bound to the scrambled phrase to be licensed at S-Structure. On the other hand, Nakamura (1991) argues from different grounds that pro appearing in constructions other than the WCO configurations must be licensed at LF. In either analysis, (21a) and (45a), as opposed to (21b) and (45b), respectively, are considered to be ungrammatical because the empty category is not licensed by the scrambled phrase at S-Structure. (45) is taken from Saito (1992:71) with his accompanying judgments.

(45) a. *Masao-wa [pp Hanako-ga e1 yomu mae-ni
Masao-Top Hanako-Nom read before
[dono hon1-o yonda]] no
which book-Acc read Q
‘Which book1 did Masao read t1 before Hanako read e1?’

b. Dono hon1-o [Masao-wa [pp Hanako-ga e1
which book-Acc Masao-Top Hanako-Nom
yomu mae-ni] [t1 yonda]] no
read before read Q

In this section I will argue that the empty categories appearing in the WCO construction as in (21) and (45) are not ‘bound’ pronouns licensed by ‘an A-binder’ and show that the kind of licensing assumed by Saito (1992) and Nakamura (1991) for (bound) pronouns by an operator is not necessary.
3.3.4.1 Saito (1992)--S-Structure licensing

Saito (1992:72), following Yoshimura (1989), abandoned the previous idea of treating the gap in (46) below as a PG (i.e., a variable), for the following reason: if it were a variable left by null operator movement, the movement would violate Subjacency and hence the sentence should be predicted to be ungrammatical. But (46) is grammatical, contrary to the prediction. Hence, the gap is not a variable. If it is not a variable, it must be a bound pronominal. In Saito’s analysis, the landing site of the scrambled phrase is a non-operator A’-position at S-Structure, which is then reanalyzed as an A-position at LF. Hence, the gap in (46) is claimed to be a bound pronoun.

(46) Dono hon-oj [Masao-wa [VP[pp Hanako-ga [NP e1 which book Masao-Top Hanako-Nom kaita hito]-ni au mae-ni] [VP t1 yonda]]] no wrote person-to meet before read Q

‘Which book did Masao read t1 before Hanako met the person who wrote e1?’

Saito (1992:71-72) thinks that (47), the pre-scrambled version of (46), is bad.

(47)*Masao-wa [VP[pp Hanako-ga [NP e1 kaita hito]-niMasao-Top Hanako-Nom wrote person-Dat au mae-ni] [VP dono hon-oj yonda]]] no meet before which book read Q

In order to account for the contrast between (46) and (47), Saito claims that the gap in (46) is licensed by the scrambled phrase in a non-operator position at S-Structure while it is not in (47).
3.3.4.2 Problems with Saito (1992)

Saito’s account does not go through for the following reasons. First, as mentioned above, most speakers judge as acceptable the sentences in which the relevant wh-phrases remain *in situ* as in (33a), (34a), (42)-(43), and (45a) above. (47) is indeed odd but not as completely ungrammatical as Saito thinks it to be: it is just semantically odd. That is, we see no direct relation between Masao’s reading a book and Hanako’s meeting a person who wrote that book in (47). (47) would improve if *Hanako* is replaced by *pro* coreferential with the matrix subject *Masao*, whereby the relation between Masao’s reading a book and his meeting the author who wrote that book becomes clear. This is shown in (48).

(48) Masao₂-wa [VP[pp e₂ [NP e₁ kaita hito]-ni Masao-Top wrote person-Dat au mae-ni] [VP dono hon-o₁ yonda]] ka meet before which book read Q

‘Which book₁ did Masao₂ read t₁ before (he₂) met the person who wrote e₁?’

Second, Saito’s reasoning that the gap in (46) is not a PG (variable) but a bound pronoun is based on the assumption that the PG, more specifically the null operator movement associated with PG, is constrained by the Subjacency condition. However, that alone does not demonstrate its pronounhood. Given that there are no Subjacency effects on movement in Japanese, as we showed in Chapter 2, the violation of Subjacency exhibited in (46) with the null operator does not deny the variablehood of the gap. See also Haig 1993a, b and Izutani 1993 for the claim that there is no such condition as Subjacency on movement in S-Structure in Japanese as claimed by Watanabe (1991, 1992). Here, we repeat just two examples of overt movement at S-Structure that violate Subjacency.
(49) a. Sono dokumanzyuu1-o [hokenzyo-ga [[e2 t1 utta]
that poison-dumping-Acc health dept.-Nom sold
mise2]-o eigyoo-teisi-syobun-ni sita]
shop-Acc service-stop-punish did
‘That poison-dumpling1, the health department ordered the shop that
sold t1 to stop business.’

b. Sono dokumanzyuu1-o [keisatu-ga [pp[[NP[e2 t1 tabeta]
that poison-dumping-Acc police-Nom ate
person-Nom many died because investigation-Acc began
‘That poison-dumpling1, the police began the investigation because
a number of the persons who ate t1 died.’

*Sono dokumanzyuu* ‘that poison-dumpling’ is fronted across the matrix clause out of the
relative clause (CNPC) in (49a) and out of the adjunct clause containing the relative clause
(CNPC) in (49b), respectively. The evidence that the movement of overt phrases can
violate Subjacency strongly indicates the irrelevance of Subjacency to invisible null
operator movement, if such a movement exists at all.

Third, Saito’s (1992) analysis cannot account for the ungrammaticality of the sentences
in (50).

(50) a. *[IP[NP[e1 John-ni e2 syookai-sita] Yamada-sensei1]NP-ga
John-Dat introduced Yamada-Prof.-Nom
[dono zyosei2-o aisiteiru] VP]IP ka
which woman-Acc love Q
‘Which woman2 does Prof. Yamada1 [who e1 introduced e2 to John]
love t2?’


e. Structure of (50c, d):

To begin with, (50a, b) are, according to Saito, Hoji, and Yoshimura, ruled out due to the WCO effects. But, we argued in the previous section that there are no WCO effects with respect to null pronouns in Japanese (cf. (42), (43)). If this is indeed the case, then Saito's (1992) analysis as well as Saito's (1985) and Hoji's (1985, 1987) and Yoshimura's (1986), must offer an account by which to rule out (50a, b).

Next, (50c, d) are derived from the corresponding original (50a, b) by S-Structure scrambling of dono zyosei 'which woman' out of the matrix clause and the embedded relative clause, respectively. According to Saito's (1992) approach, (50c, d) should be predicted to be grammatical: e₂ in each sentence is licensed by the scrambled phrase dono zyosei in the non-operator position at S-Structure. Contrary to the prediction, they are ungrammatical. The S-Structure Scrambling does not save (50c, d). Notice that the ungrammatical (50c) has exactly the same structure as the grammatical (46). (50d) cannot be ruled out by a Subjacency violation of the scrambled phrase dono zyosei because we
showed in Chapter 2 (cf. (49)) that there are no Subjacency effects in Japanese. We will offer an explanation of the ungrammaticality of these sentences in (50) in section 3.5.

3.3.5 Parasitic gaps as pure pronouns (pro)--Pronominal properties

We have shown that gaps in the WCO construction are neither PGs (i.e., variables) nor bound pronouns licensed at S-Structure. We argue in this section that they are just null pronouns, noting that the gaps in question have some properties peculiar to pronouns such as non-c-commanding antecedents and split antecedents. We will offer evidence that shows the pronounhood of the gap.

3.3.5.1 Non-c-commanding antecedents

Observe (51).

(51) a. John\textsubscript{1}-wa [e\textsubscript{1} e\textsubscript{2} tabeta ato-de] [(dono tiizu keiki)\textsubscript{2}-no resipi\textsubscript{3}-o suteta ka recipe-Acc threw away Q

\textquoteleft [The recipe of [which cheese cake]\textsubscript{2} did John threw t\textsubscript{3} away after eating e\textsubscript{2}?\textquoteright ]

b. John\textsubscript{1}-wa [Mary-ga e\textsubscript{1/2/3} hihan-sita ato-de] dono John-Top Mary-Nom criticized after which ronbunj\textsubscript{2}-o kaki-naosita ka article-Acc write-repaired Q

c. Dono ronbunj\textsubscript{2}-o John\textsubscript{1}-wa [Mary-ga e\textsubscript{1/2/3} which article-Acc John-Top Mary-Nom hihan-sita ato-de] t\textsubscript{2} kaki-naosita ka criticized after write-repaired Q
‘Which article\textsubscript{2} did John\textsubscript{1} re-write \textsubscript{2} before Mary criticized \textsubscript{1/2/3}?’

In (51a), the PG (\textsubscript{e\textsubscript{2}}) refers to \textit{tiizu keiki} ‘cheese cakes’ which does not c-command it because \textit{tiizu keiki} is in the larger NP \textit{tiizu keiki no resipi} ‘the recipe of cheese cakes.’ If the gap in question is a variable left by the operator movement (as assumed in Saito 1985, Hoji 1985, and Yoshimura 1986), the intended coreference between the gap and its antecedent cannot obtain. The gap must then be \textit{pro}. In (51b, c) the PG (\textsubscript{e}) can refer to either \textit{dono ronbun} ‘which article’ (\textsubscript{e\textsubscript{2}}), John (\textsubscript{e\textsubscript{1}}), or someone in the previous discourse context (\textsubscript{e\textsubscript{3}}). If the gap were a bound pronoun licensed either by a scrambled phrase at S-Structure (as assumed in Saito 1992, especially for (51c)), or by the condition on a composed chain (as in the case of Chomsky (1986a)), it should be coreferential with only \textit{dono ronbun} ‘which article’ in (51c). Were it a bound pronoun, it could neither be coreferential with \textit{dono ronbun} in (51b) because it does not bind \textit{dono ronbun}, nor could it be coreferential with the antecedent in the previous discourse in both (51b) and (51c) because it is not A-bound structurally.\footnote{However, as indicated above, this is not the case.} The gap can be coreferential with either \textit{dono ronbun}, John, or the discourse antecedent in both (51b) and (51c). The facts that the gap under discussion in (51) can have a non-c-commanding antecedent indicate that it is not a bound pronoun but just a null pronoun. The gap in (51b, c) has exactly the same coreference properties as full pronouns, shown in (52).

\begin{equation}
(52) \text{John}_{1}\text{-wa [Mary-ga kare}_{1/2/3}\text{-o hihan-suru mae-ni] Bill}_{2}\text{-ni atta}
\end{equation}

\begin{equation}
\text{John-Top Mary-Nom him-Acc criticize before Bill-Dat met}
\end{equation}

\begin{equation}
‘\text{John\textsubscript{1} met Bill\textsubscript{2} before Mary criticized him\textsubscript{1/2/3}.’}
\end{equation}

Here one may want to argue that the gap in (51c) is a variable (in the case of Saito 1985, Hoji 1985, 1987, and Yoshimura 1986) or a bound pronoun (in the case of Saito 1985).
1992) when it is coreferential with the scrambled phrase, and a pronoun otherwise. If this were the case, then how could we account for the coreference of the gap both with *dono ronbun* ‘which article’ in (51b) and with the discourse antecedent in (51b, c)? Neither of the antecedents binds (i.e., c-commands) the gap. And, why should we need two different types of empty categories *pro* (‘bound’ *pro* and ‘pure’ *pro*) when the one can do the job of the two in combination? The ‘pure’ *pro* can cover a range of pronominal coreference facts that the ‘bound’ *pro* does, but not vice versa. Further, as we see directly below, the ‘bound’ *pro* analysis cannot explain split antecedent facts.

3.3.5.2 Split antecedents

The PG under discussion shows another property of pronouns: it can have split antecedents. Null pronouns/PGs can have split antecedents as well as multiple antecedents, as shown in (53) and (54).

(53) John₁-wa [Mary-ga e₁+2/1/2/3 hihan-suru mae-ni] Bill₂-ni atta
John-Top Mary-Nom criticize before Bill-Dat met
‘John₁ met Bill₂ before Mary₂ criticized e₁+2/1/2/3.’ (cf. (52))

(54) a. John₁-wa [Mary-ga e₁+2/1/2/3 hihan-suru mae-ni]
John-Top Mary-Nom criticize before
dare₂-ni atta ka
who-Dat met Q

b. Dare₂-ni John₁-wa [Mary-ga e₁+2/1/2/3 hihan-suru
who-Dat John-Top Mary-Nom criticize
mae-ni] t₂ atta ka
before met Q
‘Who₂ did John₁ meet t₂ before Mary criticized e₁+2/1/2/3.’
In (54), whether *dare-ni* ‘who-Dat’ is scrambled sentence-initially or not, the gap *e* can have both *John* and *dare* collectively as one of its antecedents as well as *John* and *dare* individually, displaying both the split and multiple antecedent properties of overt pronouns, as in e.g., ‘Who2 did John1 meet t2 before Mary criticize them1+2?’ in English.

Further, the gap in (53) and (54) as well as in (41)-(43), (51a, b), just like the full pronoun in (52), can have a non-c-commanding phrase as its antecedent.

Summarizing, we argued first that there is no WCO effect with respect to empty categories in Japanese and that gaps appearing in the WCO construction are not variables but pronouns. We then argued, contra Saito’s (1992) claim, that in order to account for the contrast between (46) and (47), the null pronouns need not be bound by the scrambled phrase at S-Structure for licensing. Finally, we showed that the null pronouns display pronominal properties of taking split antecedents as well as taking a non-c-commanding phrase as an antecedent.

Nakamura (1991) claims that empty categories in the WCO and other constructions are null pronouns (*pro*), which is what I have argued so far, but he differs from my position in that he assumes that null pronominals (*pro*) must be licensed at LF, while full pronouns are licensed at S-Structure. In the next section, we sketch Nakamura’s analysis of null pronouns and show that such licensing at LF is not required of null pronouns.

3.4 Empty categories in other constructions

Nakamura (1991) argues that empty categories in complement, adjunct, and relative clauses are null pronouns (*pro*), criticizing the analysis of Huang (1984) and Hasegawa (1984), who follows Huang (1984). In section 3.4.1, I briefly summarize Huang’s (1984) and Hasegawa’s (1984) analyses of empty categories, and in section 3.4.2, I present some problems with their analyses, mainly drawing on Nakamura (1991), and

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See also Izutani 1989 for the criticism of Huang 1984 and Hasegawa 1984, and see Cole 1987 for the *pro* analysis for an embedded object empty category.
show that the empty categories in the constructions other than the WCO construction are pro. In section 3.4.3, I sketch Nakamura's (1991) claims of LF licensing of pro. Finally, in section 3.4.4, I point out some problems with his LF licensing for pro.

3.4.1 Huang (1984)-Hasegawa (1984)

Huang (1984, 1987) accounts for the subject-object asymmetry of pronouns or empty categories in topic-prominent languages such as Chinese and Japanese, and claims that empty categories of these languages can be either a pro or a variable in subject positions but that they must be variables in object positions on the basis of sentences like (55), taken from Huang (1984:537).

(55) a. Empty subject:

Zhangsan₁ shuo [IP e₁/₂ bu renshi Lisi]

Zhangsan say not know Lisi

‘Zhangsan₁ said that [he₁/₂] did not know Lisi.’

b. Empty object:

Zhangsan₁ shuo [IP Lisi bu renshi e*₁/₂]

Zhangsan said Lisi not know

‘Zhangsan₁ said that Lisi did not know [him*₁/₂].’

If the empty category (EC) in (55b) is a variable, but not pro, then the ungrammaticality of the empty object can be explained by Principle C of the binding theory (Chomsky, 1981, 1986a, b), since the EC as a variable must be A-free, which it is not in (55b). Huang (1987:329) says that an important fact about (55b) is “that the null object is normally interpreted as deictic, referring neither to the embedded Lisi nor to the matrix subject Zhangsan.” According to him, variable ECs are A’-bound by an null operator topic (op. cit.:330). The binding relation between the null topic and the empty category is established by either topic movement or by free coindexing. The subject EC in (55a) can
be either *pro* (when coindexed with the matrix subject *Zhangsan*) or a variable (when coindexed with a null topic, which is licensed by an element in the preceding discourse context). This is illustrated as in (56).

   (56)  (i)  a.  [OP₂] [Zhangsan₁ shuo [t₂ [pro₁ bu renshi Lisi]]]
   b.  [OP₂] [Zhangsan₁ shuo [t₂ [t₂ bu renshi Lisi]]]
   (ii)  a.  [OP₂] [Zhangsan₁ shuo [t₂ [Lisi bu renshi e₂]]]
   b.  *[OP₂] [Zhangsan₁ shuo [t₂ [Lisi bu renshi e₁]]]*

In (56i) that corresponds to (55a), the subject EC is *pro* (ia) when coindexed with the matrix subject by the Generalized Control Rule (GCR) in (57) and it does not violate the Disjoint Reference Condition (DJR) on pronominals (i.e., Principle B of the binding theory) in (58). And it is a variable (ib) when bound by an empty topic operator in A'­position.

   (57)  Generalized Control Rule (GCR):
   
   Coindex an empty pronominal with the closest nominal element

   (58)  Disjoint Reference (DJR):
   
   A pronominal must be free in its governing category.

In (56ii) corresponding to (55b), the object EC cannot be coindexed with *Lisi* by the GCR because this coindexing violates DJR. It cannot be also coindexed with the matrix subject *Zhangsan* because it is not the closest nominal to the object EC, and this coindexation violates Principle B of the binding theory. Thus, the object EC must be a variable bound by a null operator, which in turn is coindexed with something identifiable in the preceding discourse context.

Hasegawa (1984), following Huang (1984), applies Huang's analysis to Japanese, and makes exactly the same claim about empty categories. (59) and (60) are from Hasegawa (1984), cited in Nakamura (1991:282-283).
(59) a. John-ga [e Bill-o nagutta to] itta
   John Nom Bill-Acc hit Comp said
   ‘John said that (he) hit Bill.’

b. John₁-ga [pro₁ Bill-o nagutta to] itta.

c. [OP₂] [John₁-ga [t₂ [t₂ Bill-o nagutta to]] itta]

(60) a. John-ga [Bill-ga e nagutta] to itta
   John-Nom Bill-Nom hit Comp said
   ‘John₁ said that Bill hit (him).’

b. [OP₂] [John₁-ga [t₂ [Bill-ga t₂ nagutta]] to itta]

c. *[OP₁] [John₁-ga [t₁ [Bill-ga t₁ nagutta]] to itta]

The asymmetry in (59) and (60) in Japanese is the same as in (55) in Chinese. In section 3.4.2, I argue, drawing on Nakamura’s (1991) work, that Huang’s and Hasegawa’s treatment of the object EC as a variable is wrong with respect to Japanese, and claim that empty categories in both subject and object positions in any constructions are pro but not variables.


In this section, I reproduce Nakamura’s (1991) pro analysis against the Huang-Hasegawa analysis with a null operator (topic), of empty categories.

3.4.2.1 Empty categories in complement clauses

To begin with, according to the Huang-Hasegawa null operator analysis, object empty categories (EC), being construed as variables, cannot be bound by NPs in the matrix.

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Cole (1987) argues that Huang’s claim for assuming object ECs to be always variables does not apply to Inbablyar Quenchua, Korean, and Thai. Rather he claims that languages are parameterized as to whether they can, for object ECs, have either pros and/or variables, or neither. Thai, for example, is considered to allow both pros and variables. Indrambarya (1991) argues against Cole, claiming that in Thai, empty objects in complement clauses are not variables but pros. For a different analysis for ECs in question in Chinese, see Xu (1986).
clause because this would lead to a violation of Principle C of the binding theory.
However, this prediction is not borne out. Hasegawa’s example in (60c) is counter-factual
(see also Izutani 1989). The object EC can have multiple and split antecedent readings
(cf. section 3.3.5) where it refers to the matrix subject and indirect object NPs selectively
or both of them collectively, as shown in (61), which are created by combining
Nakamura’s (1991:285) examples (11a) and (11b) with some modifications.

\[(61) \]
\[
\begin{align*}
\text{a. } & \text{John}_1\text{-wa } \text{Mary}_2\text{-ni } [\text{Tom-ga } e_{1/2/3/1+2(+3)} \text{ miteiru } ] \\
& \text{John-Top Mary-Dat Tom-Nom } \text{watching} \\
& \text{kadooka] tazuneta} \\
& \text{whether asked} \\
& \text{‘John}_1\text{ asked Mary}_2\text{ whether Tom was watching e}_{1/2/3/1+2(+3)}.\]
\[
\text{b. } \text{John}_1\text{-wa } \text{Mary}_2\text{-ni } [e_{1/2/3/1+2(+3)} \text{ Tom-o miteiru-} ] \\
& \text{John-Top Mary-Dat Tom-Acc } \text{watching-} \\
& \text{beki kadooka] tazuneta} \\
& \text{must whether asked} \\
& \text{‘John}_1\text{ asked Mary}_2\text{ whether e}_{1/2/3/1+2(+3)} \text{ should be watching Tom.’}
\]

Contrary to Hasegawa, the object EC in (61a) can be coindexed with John or Mary in the
matrix clause, which would be impossible if it were a variable. Notice also that under the
null operator analysis, the operator cannot be moved out of the embedded wh-island
clause in violation of Subjacency. The pro analysis can give a natural account for the facts
about the multiple and split antecedents for the EC. Exactly the same arguments hold true
of the subject EC in (61b), which we do not give here.

3.4.2.2 Empty categories in adjunct clauses

Nakamura (1991) argues that empty categories in an adjunct clause can take matrix
subjects or objects as their antecedents, as in (62), taken from Nakamura (1991:285-286).
Hasegawa (1984) argues that object empty categories in adjunct clauses have matrix subjects as their antecedents as in (62a). Since an OP cannot move out of the adjunct clause due to the Condition on Extraction Domain (CED)\(^{44}\) of Huang (1982), Hasegawa assumes a Predication rule, which coindexes OP and John in (62a) in the manner illustrated in (63).

\[(63) \quad \text{John}_1\text{-ga [OP}_1 \text{ [Mary}\text{-ga e}_1 \text{nagutta toki]] naiteita}\]

However, this explanation contains some problems. First, it cannot account for cases like (62b) with the subject EC coreferential with the matrix object NP. Since, according to Hasegawa, the Predication rule is assumed to apply only between matrix subjects and the OP, the object EC in (62b) cannot take a matrix object as its antecedent.

Second, object ECs cannot pick out discourse elements in the preceding context as their antecedents in Hasegawa’s OP-movement analysis because of a violation of CED. Consider (64), taken from Nakamura (1991:286).

\[(64) \quad \text{a. Sono ookina inu}_2\text{-ga dooka sita no the big dog-Nom what happened Q}
\]

‘What is the trouble with the big dog?’

\[\text{b. Mary}_1\text{-ga [pro}_1 \text{ e}_2 \text{ mita totan] naki-dasitan-desu Mary-Nom saw as soon as began-to-cry}\]

\(^{44}\) Condition on Extraction Domain (CED):
A phrase \(A\) may be extracted out of a \(B\) only if \(B\) is [lexically] properly governed. The condition subsumes both the adjunct condition effects and the subject condition effects.
‘Mary began to cry as soon as she saw it.’

The object EC in (64b) can refer to the preceding discourse antecedent *sono ookina inu* ‘the big dog’ in (64a). In order to explain this, Hasegawa must have a structure like (65), which is taken from Nakamura (1991:286).

(65) \[OP_2 \[\text{Mary}_{1}\text{-ga} \[t_2 [\text{pro}_{1} e_2 \text{mita totan}] \text{naki-dasitan-desu}]\]\]

However, the movement of the OP to the matrix clause from the embedded adjunct clause is banned by the CED, failing to account for the coreference between the object EC and the discourse antecedent.

Third, since “the empty operator analysis predicts that both OP-movement and topicalization out of an adjunct clause will be disallowed by the CED” (Nakamura 1991:286), it rules out both the (a) and (b) sentences in (66) and (67) equally, while the *pro* analysis makes a distinction between them. (66) and (67) are from Nakamura (1991:287), with his grammaticality judgments.

(66) a. Mary-ga \[e_{1} \text{sono omotya-o kowasita toki}\] naki-dasita
Mary-Nom the toy-Acc broke when began-to-cry
‘Mary began to cry when he/she\textsubscript{1} broke the toy.’

b. \*Bill\textsubscript{1}-wa Mary-ga \[e_{1} \text{sono omotya-o kowasita toki}\]
Bill-Top Mary-Nom the toy-Acc broke when naki-dasita
began-to-cry
‘Bill\textsubscript{1}, Mary began to cry when t\textsubscript{1} broke the toy.’

(67) a. Mary-ga \[Bill-ga e_{1} \text{kowasita toki}\] naki-dasita
Mary-Nom Bill-Nom broke when began-to-cry
‘Mary began to cry when Bill broke it.’

b. \*Sono \textit{omotya\textsubscript{1}-wa} Mary-ga \[Bill-ga e_{1} \text{kowasita toki}\]
the toy-Top Mary-Nom Bill-Nom broke when
naki-dasita
began-to-cry
‘The toy, Mary began to cry when Bill broke t₁.’

Nakamura (p. 286) says that “the pro analysis predicts that ‘OP-movement’ constructions with empty categories in an adjunct clause will be acceptable because no movement is involved [in the (a) sentences], while topicalization out of an adjunct clause will be banned by CED since movement is involved.”

3.4.2.3 Empty categories in relative clauses

Let us next consider empty categories in relative clause which have empty subject and object, as in (68), which Nakamura (1991:287) credits to Naoki Fukui.

\[
(68) \text{John-al} \quad \text{NP}[	ext{NP} \ e_{1/2} \ e_{2/1} \ siken-ni \ otosita}] \\
\text{John-Nom} \quad \text{exam} \quad \text{flunk} \\
\text{hito}-o \quad \text{nikindeiru} \\
\text{person-Acc} \quad \text{hate} \\
(i) \quad ‘\text{John₁ hates the person₂ who (he₁) flunked.}’ \\
(ii) \quad ‘\text{John₁ hates the person₂ who flunked (him₁).}’
\]

---

45 Nakamura contradicts himself here in that the object empty categories in the (b) sentences in (66) and (67) are pro coindexed with the topic phrases even though he assumes that ‘topicalization’ involves movement. If topicalization indeed involves movement, the trace left behind should be a variable, not pro.

However, given the discussion in Chapter 2 that Subjacency is irrelevant to movement in Japanese, the (b) sentences in (66) and (67) are predicted to be acceptable even if the traces left by topicalization are considered variables. In fact, contrary to Nakamura’s judgments, the (b) sentences are acceptable, while the (a) sentences are bad not syntactically but semantically, a matter to which I return shortly in section 3.4.3. Still, I claim that the empty categories in topicalization constructions are pro but not variables. See Chapter 4 for the arguments.

46 I will argue later (at the very beginning of section 3.4.3) that the grammaticality judgments Nakamura gives to (67a, b) are in fact directly in conflict with those of most people including me, as shown in (71) and that the ungrammaticality involved in both (67) and (71) is not due to the CED effect but to semantic effects.
(68) is ambiguous between the two readings, as indicated in the gloss. The empty operator analysis of Huang-Hasegawa predicts that the object gap in (68) must be bound by the relative head and must not be bound by the matrix subject because, if the subject is relativized, as illustrated in (69), the OP associated with the object gap violates both Subjacency and Principle C of the binding theory. That is, the reading (ii) cannot be obtained.

(69) \[\text{OP}_1[\text{John}_1\text{-ga} [\text{NP}[\text{IP} e_2 e_1 \text{siken-ni otosita}] \text{hit0}_2\text{-o nikundeiru}]]\]

On the other hand, the pro analysis can correctly account for the ambiguity of (68), giving each reading the following structure:

(70) a. \[\text{John}_1\text{-ga} [\text{NP}[\text{IP} \text{pro}_1 t_2 \text{siken-ni otosita}] \text{hit0}_2\text{-o nikundeiru}]

b. \[\text{John}_1\text{-ga} [\text{NP}[\text{IP} t_2 \text{pro}_1 \text{siken-ni otosita}] \text{hit0}_2\text{-o nikundeiru}]

Further, as the empty categories in complement clauses and adjunct clauses seen above, the empty categories in relative clauses can also have antecedents in a preceding discourse context, which is banned by the empty operator analysis due to a Subjacency violation.

To summarize, it is clear from the preceding discussions that empty categories in complement clauses, adjunct clauses, and relative clauses are pro, not variables—be they in subject or object positions.

3.4.3 Nakamura’s (1991) LF licensing of pro

We are much in the same spirit as Nakamura (1991) in treating empty categories as pro in the complement, adjunct, and relative constructions seen above as well as in the WCO constructions in section 3.4. However, we do not think that licensing of pro is needed at LF as Nakamura claims. In the following, we present Nakamura’s (1991) arguments for

\[\text{I assume that empty categories associated with a relative head NP in relative clauses (e.g., } t's \text{ in (70)) are also pro, whose value is then identified via predication if relative clause formation does not involve movement. However, if it involves (operator) movement, the empty categories can be traces (i.e., variables).}\]
LF licensing of *pro and show that his analysis is not on the right track. But, before discussing Nakamura’s LF licensing of *pro, let us first briefly return to the case of topicalization, (66b) and (67b), repeated here as (71a) and (71b) respectively. [The grammaticality judgments are mine.]

(71) a. *Bill-wa Mary-ga [e1 sono omotya-o kowasita toki]
    Bill-Top Mary-Nom the toy-Acc broke when
    naki-dasita
    began-to-cry
    ‘Bill, Mary began to cry when t1 broke the toy.’

b. Sono omotya1-wa Mary-ga [Bill-ga e1 kowasita toki]
    the toy-Top Mary-Nom Bill-Nom broke when
    naki-dasita
    began-to-cry
    ‘The toy, Mary began to cry when Bill broke t1.’

(71b) is perfect to me, though (71a) is out. However, the unacceptability of (71a) seems not to be of syntactic nature but of semantic nature: it stems partly from parsing difficulty and partly from semantics with a topicalized element. The parsing problem is due to a crossing-over constraint of Kuno (1980) as an anti-ambiguity device:

(72) Crossing-over constraint (Kuno 1980:175)
    In general, the greater the likelihood of ambiguous interpretation, the more difficult it is to switch the word order of two NPs marked with the same grammatical formative (e.g., particle).

In (71a) the matrix subject *Mary is susceptible to be identified as the embedded subject because the latter is simply empty (invisible and inaudible) and as a result, the sentence-initial topicalized NP Bill is construed as if it were the subject of the matrix clause. That is, (71a) is ambiguous between the two readings: one on which *Mary is construed as the
subject of the matrix clause and the other on which Bill is construed as the subject of the matrix clause. Hence, the condition in (72) prohibits the switch of the word order between Mary and Bill brought about by Topicalization.

The semantic problem concerns the relationship between the topicalized (or topic) phrase and the rest of the sentence. According to Kuno (1973a), Kuno and Takami (1993), Takami and Kamio (1993), and Haig (1993a, b), the rest of the sentence must be about the topic (Kuno 1973a) or must characterize the topic (Takami and Kamio 1993). In (71a) it is hard to see how Mary’s crying directly relates to Bill who happened to break the toy, while it is much easier to see the direct connection between Mary’s crying and the toy which Bill happened to break in (71b). That is, a thing like a toy is a more plausible cause of Mary’s crying when it was broken than is the person (Bill) who breaks that toy. (71b) is not subject to the crossing over constraint in (72) because the topic NP sono omotya ‘that toy’ is readily construed as the subject of the embedded clause. Hence the contrast between (71a) and (71b).

Sentences involving topicalization out of an adjunct are acceptable, given the right context, as in (73):

(73) Sono omotya₁-wa Mary-ga [e₁ kowareta toki] kyuuni the toy-Top Mary-Nom broke when suddenly naki-dasita
began-to-cry

‘The toy₁, Mary began to cry suddenly when it₁ broke.’

(73) satisfies both the parsing condition (i.e., crossing over condition) and the aboutness condition. The discussion above shows that the unacceptability of (71a) has nothing to do with the CED effect as Nakamura contends, but rather with semantic effects. I will discuss Topicalization in detail in Chapter 4.
Let us now turn to Nakamura's (1991) LF licensing for pro. Nakamura (1991) argues that the sentences in (74), taken from Nakamura (1991:292), are bad because the LF representations (after LF reconstruction) in (75) violate the condition on pronouns in (77), while those in (76) do not.

\[(74) \ a. *[[\text{IP} [\text{CP} \text{Mary}_1 \text{-ga} \text{ iku} \text{ kadooka}_2] [\text{IP} \text{John-ga} \text{ go whether John-Nom}]
[\text{VP} \text{pro}_1 \text{ t}_2 \text{ tazuneta}]]]
\]

'Whether Mary\textsubscript{1} would go, John asked her\textsubscript{1} t\textsubscript{2}.'

\[(74) \ b. *[[\text{IP} \text{John-ga} \text{ [VP} \text{pp} \text{ Mary}_1 \text{-ga} \text{ kaita hon-ni tuite}_2]
\text{John-Nom} \text{ Mary-Nom wrote book-about}
[\text{VP} \text{kinoo pro}_1 \text{ t}_2 \text{ tazuneta}]]]
\]

'John asked e\textsubscript{1} t\textsubscript{2} yesterday [about a book which Mary wrote\textsubscript{2}].'
A pronominal cannot c-command its antecedent. (=Binding Principle C)

Nakamura, following Saito (1989), says that at LF the scrambled phrase can reconstruct into its original (D-Structure) position, as illustrated in (75): that is, Scrambling is undone at LF. In (75), pro c-commands its antecedent in violation of the condition in (77), and hence the ungrammaticality of (74) results. Concerning full pronouns as in (76), Nakamura assumes that they are interpreted or licensed at S-Structure (or at LF before reconstruction). (76) is grammatical because the full pronoun kanozyo ‘she’ is licensed at S-Structure (after scrambling) or at LF before reconstruction. If full pronouns are to be licensed at LF like null pronouns, then the pronoun kanozyo would end up c-commanding its antecedent, violating the condition in (77). Hence, the full pronouns must be interpreted at S-Structure (after Scrambling) or at LF before reconstruction. However, Nakamura’s assumption that null pronouns are licensed at LF while full pronouns are licensed at S-Structure coupled with LF reconstruction of scrambled phrase has some problems, as we see in the following.

First of all, Nakamura’s LF licensing of null pronouns (pro) and S-Structure licensing of full pronouns is a pure stipulation, which is dependent on the further stipulation that there is LF reconstruction, just in order to account for the data in (74) and (76) (if the relevant data in (74) and (76) are solid at all).

Second, in (74) and (75), the original pre-scrambled position of the clause/phrase [CP Mary-ga iku kadooka] ‘whether Mary goes or not’/[pp Mary-ga kaita hon-ni-tuite] ‘about a book which Mary wrote’ is considered to be sister to the verb tazuneta ‘asked’ while pro is sister to the V’ [Mary-ga iku kadooka tazuneta]/[Mary-ga kaita hon-ni tuite tazuneta]. But, the order of these two constituents can be the other way round. That is, (74) could have the following LF structure.

(78) Another LF structure of (74):

a. [jp John-ga [VP [CP Mary-ga iku kadooka] [V pro tazuneta]]]
b. \[[IP \text{John-ga} [\text{VP kinoo [\text{PP \text{Mary}-ga kaita hon-ni-tuite}] [V' pro_1 tazuneta]]]\]

c. The tree structure of (78a, b):

```
  IP
   /\  
  NP  CP/PP
   \  /  \  /  \  
  John-ga  Mary-ga iku kadooka  pro_1  tazuneta
                Mary-ga kaita hon-ni-tuite
```

Since (78) does not violate the condition in (77), as illustrated in (78c), the ungrammaticality of (74) cannot be accounted for by LF reconstruction and LF licensing of null pronouns if (74) could have the LF structure in (78).

Third, the ungrammaticality of (74) vis-à-vis (76) has nothing to do with the LF licensing coupled with the assumption of LF reconstruction. That is, I do not see a sharp contrast in grammaticality between (74) and (76). In fact, the sentences in (74) are grammatical, contrary to Nakamura’s judgments. Since the main concern of the *kadooka* ‘whether’ clause in (74a) is about *Mary*, *pro* in the matrix clause is easily reconstructable as referring to *Mary*. So is *pro* in (74b).

A fourth difficulty with Nakamura’s analysis involves the same problem as Saito (1992) faces. Namely, it cannot account for the ungrammaticality of (50), repeated here as (79).

```
(79) a. *[IP[NP[e_1 John-ni e_2 syookai-sita] Yamada-sensei_1]NP-ga
          John-Dat introduced Yamada-Prof.-Nom
       [dono zyosei_2-o aisiteiru]VP]p ka
    which woman-Acc love Q
‘Which woman_2 does Prof. Yamada_1 [who e_1 introduced e_2 to John]
love t_2?’
```
(79c)/(79d)  

Nakamura’s analysis also incorrectly permits (79c, d). After reconstruction of the scrambled phrase *dono zyosei* ‘which woman,’ the LF representations of (79c, d) are exactly the same as (79a, b), respectively. At LF pro (e2) does not violate the condition on pronouns in (77) because it does not c-command its antecedent, predicting the sentences to be grammatical, which they are not. Nakamura’s analysis also cannot rule out (79a, b), the pre-scrambled versions of (79c, d) at S-Structure for exactly the same reason as (79c, d).

Nakamura (1991:293) gives the following examples (80) and (81) with the condition on pronominals in (82), in support of the claim that pro is interpreted at LF after reconstruction of scrambled phrases while full pronouns are interpreted at S-Structure (or at LF before reconstruction).

\[
(80) \quad (a. \quad [\text{NP } \text{pro}_1 \text{ hirotte-kita inu}_2\text{-o Taro}_1\text{-ga t}_2 \text{ taisetuni} \quad \text{picked-up dog-Acc Taro-Nom good-care})
\]
sodateteiru
is-taking
‘Taro₁ is taking good care of the dog₂ that he₁ picked up.’

\( b. \text{??}[\text{NP} \ kare₁-ga \ hirotte-kita \ inu₂]-o \ Taro₀₁-ga \ t₂ \ taisetuni \)

he-Nom picked-up dog-Acc Taro-Nom good-care

sodateteiru
is-taking

\( a. \text{??}[\text{NP} \ pro₁ \ hirotte-kita \ inu₂]-wa \ Taro₀₁-ga \ t₂ \ taisetuni \)
picked-up dog-Top Taro-Nom good-care

sodateteiru
is-taking

\( b. \text{??}[\text{NP} \ kare₁-ga \ hirotte-kita \ inu₂]-wa \ Taro₀₁-ga \ t₂ \ taisetuni \)

he-Nom picked-up dog-Top Taro-Nom good-care

(81) A pronominal in subject position in phrases moved to sentence-initial position cannot have matrix subject as its antecedent.

In (80) the NP \[pro \hirotte \kita \ inu\] is scrambled sentence-initially and in (81) it is topicalized. Nakamura says that since only Scrambling can be undone at LF, \(pro\) in (80a) can be licensed by the matrix subject in LF. On the other hand, the sentences in (81) are both ruled out by (82) because the sentence-initial phrase is a topic (not the \(wa\)) and LF reconstruction is unavailable for topicalization. (80b) is ruled out by (82) because the full pronoun must be licensed at S-Structure.

However, the sentences in (80) and (81) do not qualify as supporting evidence because the line of explanation Nakamura offers for (80) and (81) contains at least two problems. For one thing, Nakamura just stipulates the condition in (82) on pronominals in order to

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rule out (80b) and (81). But, the sentences (80b) and (81) are not as bad as Nakamura judges. In fact, the following sentences, which have exactly the same structure as (80) and (81), are acceptable:

(83) a.  [pro₁ Kyonen oya-ni moratta omotya₂]-o
       last year parents-Dat received toy-Acc
       Taroo₁-wa ima-mo t₂ totemo taisetuni siteiru
       Taro-Top now-too very good-care doing
       ‘Taro₁ is still now taking good care of the toy that he₁ received from his₁ parents last year.’

b.  [pro₁ Kyonen oya-ni moratta omotya₂]-wa
       last year parents-Dat received toy-Top
       Taroo₁-wa ima-mo t₂ totemo taisetuni siteiru
       Taro-Top now-too very good-care doing
       ‘Taro₁ is still now taking good care of the toy that he₁ received from his₁ parents last year.’

c.  [Kare₁-ga ayauku obore-kaketeiru tokoro-o tasukete-
       he-Nom nearly being-drown brink-Acc help-
       kureta hito₂]-ni Taroo₁-wa ima-mo t₂ kansya-siteiru
       received person-Dat Taro-Top now-too thank-doing
       ‘Taro₁ is still now thanking for the person who saved him₁ from nearly being drowned.’

d.  [Kare₁-ga ayauku obore-kakete-iru tokoro-o tasukete-
       he-Nom nearly being-drown brink-Acc help-
       kureta hito₂]-ni-wa Taroo₁-wa ima-mo t₂ kansya-siteiru
       received person-Dat-Top Taro-Top now-too thank-doing
(83a, c) involve scrambling of NP and (83b, d) topicalization of NP. According to Nakamur's explanation, (83c) should be ruled out by (82) at S-Structure because full pronouns must be interpreted at S-Structure with LF reconstruction being unavailable for them. Likewise, (83b, d) are ruled out by (82) because of the assumption that LF reconstruction is available only for Scrambling but not for topicalization. The grammaticality of the sentences in (83) refutes Nakamura's claim of LF licensing and reconstruction of pro.

Second, consider (84), which is from Nakamura (1991:291).

(84) [IP[NP Hanako-ga zibun1-o kiratteiru koto]-ga Hanako-Nom self-Acc dislike fact-Nom [pro1 yuuutu-ni siteiru]]
  depress make

'The fact that Hanako dislikes self1 has depressed e1.'

In (84) pro can be coreferential with zibun, when both are discourse bound. However, under the empty operator (OP) analyses of Huang (1984) and Hasegawa (1984) as well as Saito (1985), Hoji (1985, 1987), and Yoshimura (1986) the structure for (84), which is given in (85), meets the WCO configuration in (14) (see (12)), and hence the sentence would be predicted to be ungrammatical. (85) is also from Nakamura's (1991:291).

(85) [OP1 [NP Hanako-ga zibun1-o kiratteiru koto]-ga [VP t1 yuuutu-ni siteiru]]

And, Nakamura concludes, as we did in section 3.3.3.3, no WCO effects show up with pro. So far so good.

However, Nakamura's pro licensing outlined above cannot account for the contrast in grammaticality in (86) on the intended reading.

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48 Here Nakamura seems to assume that topicalization is not a movement. However, this contradicts what Nakamura mentions previously in the same paper (p. 287) about topicalization when discussing pro analysis for empty categories, to the effect that it is a movement. Cf. footnote 45.
3.5 Discoursal and functional licensing of pro

Pro appearing in the matrix clause must be discourse-linked to be licensed.

(87) Discourse-linking:

A phrase is discourse-linked when it refers to an element (i.e., an antecedent) in the preceding discourse context.

For example, pro in (88a-d) is not licensed when it does not refer to an antecedent in the preceding discourse.


John-Nom hit
b. *e John-o nagutta ‘e hit John.’
   John-Acc hit

c. *e₁ Mary-ni [Bill-ga John₁-o uragitta to] itta
   Mary-Dat Bill-Nom John-Acc betrayed Comp said
   ‘e₁ told Mary that Bill betrayed John₁.’

d. *John-ga e₁ [Bill-ga Mary₁-o uragitta to] itta
   John-Nom Bill-Nom Mary-Acc betrayed Comp said
   ‘John told e₁ that Bill betrayed Mary₁.’

e. John₁-ga Mary₂-ni [Bill-ga e₁/2/3 uragitta to] itta
   John-Nom May-Dat Bill-Nom betrayed Comp said
   ‘John₁ told Mary₂ that Bill betrayed e₁/2/3.’

(89) a. Mary-o mita ka
   Mary-o saw Q
   ‘Did you see Mary?’

b. Mary-ga nanika sita ka
   Mary-Nom something did Q
   ‘Did Mary do anything?’

Unless the referent of e (pro) is fixed in the discourse, it is uninterpretable and hence not licensed. We say that the e in (88e) is discourse-linked when it refers to an element in the preceding discourse. For example, e in (88a, b) is licensed if it is discourse-linked (i.e., refers to a phrase like Mary in the preceding discourse like (89a, b), respectively). Notice that e in the matrix clause in (88c, d) cannot take the coindexed embedded phrase as its antecedent for licensing, while e in the embedded clause in (88e) can take either the matrix phrase John, Mary, or some other person in the discourse. This comes as no surprise considering that pro is dependent on the preceding discourse context and that an element in an embedded clause is dependent on one in the matrix clause. That is, pro in the matrix
clause cannot take as its antecedent or is not licensed by the coindexed phrase in the embedded clause.

Let us next consider a pro appearing in an embedded clause which is not discourse-linked. It can be licensed when preceded (and c-commanded) by the scrambled antecedent, as in (27)-(29), (36)-(39), and so forth. As mentioned in section 3.3.5.1 above, pro can also take a non-c-commanding antecedent, as in (41)-(43), (48), and (51)-(52). Here, only (42) is repeated as (90).


‘Who are you thinking that John head-hunts t1 before the company promotes e1 to an executive position?’

b. Kimi-wa [VP[NP e1 uketoru kenri-no nai hito]-ni you-Top receive right-Gen not person-to [ikura-no isyaryoo1]-o haratta] no how-much-Gen consolation-Acc paid Q

‘How much consolation did you pay to a person who has no right to receive e1?’

In (90), e takes a non-c-commanding NP as its antecedent, as shown in the structure (91).
The antecedents *dare* ‘who’ and *ikura no isyaryoo* ‘how much consolation’ are within the VP and they cannot c-command *pro* given the first branching definition of c-command of Reinhart (1976) (see footnote 26 for the definition). Since the sentences in (90) are grammatical on the intended reading, it must be the case that *pro* can have a non-c-commanding antecedent.

Likewise, (92), in which the *wh*-phrase of (39b) is replaced by the corresponding non-*wh*-phrase in the original position, is acceptable:

\[
(92) \quad \text{[IP Kimi-wa [CP[NP[CP sono kikai-o sekkei-sita]CP you-Top the machine-Acc designed hito]-ga [VP[PP[CP minna-ga e1 tukau]CP mae-ni] person-Nom everyone-Nom use before]}
\]
'You said that the person who designed the machine\textsubscript{1} died before everyone used e\textsubscript{1}.'

b. Partial structure of (92)

(92) is grammatical because the antecedent \textit{sono kikai} 'the machine' precedes \textit{pro}, though it does not c-command it. From this we have the following:

(93) \textit{Pro} licensing (First approximation)

(a) \textit{Pro} in the matrix clause can be licensed when it is discourse-linked.

(b) \textit{Pro} in an embedded clause can be licensed when:

(i) it is discourse-linked, or

(ii) it is preceded or m-commanded by the antecedent.\textsuperscript{49}

(94) M-command (cf. Chomsky (1986a:8))

\(X \text{ m-commands } Y \text{ iff } X \text{ does not dominate } Y \text{ and every maximal projection that dominates } X \text{ dominates } Y.\)

(93) can account for the contrast between (95) and (96). Cf. (79).

(95) \textit{Yamada-sensei}_{1}\textsubscript{-ga} \textit{VP[NP e\textsubscript{1} John-ni e\textsubscript{2} syookai-sita}

\textit{Yamada-Prof.-Nom} \textit{John-Dat introduced}

\textit{ano zyosei}_{2}\textsubscript{-NP-o aisiteiru} \textit{VP}

that \textit{woman-Acc love}

'Prof. Yamada\textsubscript{1} loves that woman\textsubscript{2} who he\textsubscript{1} introduced e\textsubscript{2} to John.'

\textsuperscript{49} 'M-command' here can be defined in terms of the original 'c-command' by replacing 'the first branching node' with 'the first maximal projection.' We use 'm-command' for expository purposes.
In (95), \(e_2\) is m-commanded by its antecedent \(ano\ yosei_2\), while in (96a) it is neither m-commanded nor preceded by it because the VP dominating \(ano\ yosei\) does not dominate the subject NP which contains \(e_2\). In (96b), though \(e_2\) is preceded by the antecedent, it is an argument in the matrix clause. Hence, \(e_2\) in (96b) is not licensed in violation of (93a).

I stated above that \(pro\) can take a non-c-commanding NP as its antecedent in a sentence such as (42)/(90), but this is not the case in (96a). Let us first look at (42)/(90). Notice that in the grammatical (90) \(pro\) (i.e., \(e_1\)) is inside the VP which dominates its antecedent, whereas in the ungrammatical (96a) it is outside the VP containing the antecedent. When the maximal projections dominating \(pro\)'s antecedent also dominate \(pro\), the sentence is acceptable. In (95), for example, the maximal projection (VP) dominating \(dare\) ‘who’ also dominates \(pro\) (\(e_1\)). On the other hand, in the ungrammatical (96a), the maximal projection (VP) dominating \(pro\)'s antecedent does not dominates \(pro\). The contrast between (90) and (96a) is accounted for by (93bii).
Notice the sentences in (96a, b) cannot be improved even when *ano zyosei* ‘that woman’ is scrambled to sentence-initial position, as in (97a, b) respectively.

(97) a. *Ano zyosei-o [IP[NP[e₁ John-ni e₂ syookai-sita]
Yamada-sensei]NP-ga [t₂ aisiteiru]yp]


(97b) is out because *pro (e₂)* is in the matrix clause and hence is not discourse-linked in violation of (96a). However, since *pro (e₂)* in (97a) is preceded by its antecedent in the scrambled position, (97a) is incorrectly permitted by our (93bii). Since it is ungrammatical, it may be the case that the antecedent of *pro* should be in an argument position that bears a grammatical function (subject, object, etc.). In (97a) *ano zyosei* is not in an argument position but in an adjunct position and hence it does not qualify as an antecedent for *pro*. Accordingly, (93) is revised as follows:

(98) Pro licensing (Second approximation)

(a) Pro in the matrix clause can be licensed when it is discourse-linked.

(b) Pro in an embedded clause can be licensed when

(i) it is discourse-linked, or

(ii) it is preceded or m-commanded by an antecedent in an A position.

Given (98b), (97a) is correctly ruled out because *e₂* is neither m-commanded nor preceded by the antecedent which is in the A position. (98) also accounts for all the sentences thus far examined: (27)-(29), (36)-(39), (41)-(43), (51), (53)-(54), (88)-(90), and (95)-(96).

As noted previously in section 3.3.4.2, Saito’s (1992) approach incorrectly permits both of the sentences in (97): *e₂* is licensed by the scrambled phrase *ano zyosei₂* in the non-operator position at S-Structure. Nakamura’s (1991) analysis also permits them. After reconstruction of the scrambled phrase, the LF representations of (97a, b) are
exactly the same as (96a, b) respectively. The condition on pronominals in (77) cannot rule them out because \( e_2 \) does not c-command the antecedent \( \text{dono zyosei}_2 \).

The situation is the same even if \( \text{ano zyosei} \) ‘that woman’ in (96a, b) and (97) is replaced by the corresponding wh-phrase \( \text{dono zyosei} \) ‘which woman’ as seen in (50/79). In our analysis, (79a, c) are ruled out by (98b), and (79b, d) by (98a). As pointed out above in the cases of (96a-c) and (97), Saito’s (1992) and Nakamura’s (1991) analyses have difficulty accounting for the ungrammaticality of (50/79).

Pro licensing in (98) seems to work well with the sentences so far examined. However, it has difficulty accounting for sentences such as (99).

(99) a. \[ \text{[NP[CP } e_1 \text{ e}_2 \text{ uketoru kenri-no nai } \text{ hito}_1 \text{-ga} \text{ receive right-Gen not person-Nom} \]
\[ \text{[vp ikura-no isyaryoo}_2 \text{-o yookyuu-sita] ka} \text{ how-much-Gen consolation-Acc demanded } \text{ Q} \]

‘How much consolation\(_2\) did a person\(_1\) who has no right to receive \( e_2 \) demand \( t_2 \)?’

b. The structure of (99a):

Here in (99), \( \text{pro } (e_2) \) is in the matrix subject (relative clause) and is not m-commanded by its antecedent \( \text{ikura-no isyaryoo} \) ‘how much consolation’ in the VP in violation of (98bii). But, (99) is acceptable, and hence it is incorrectly ruled out by (98b). (99) has exactly the same structure as the unacceptable (96a). Thus, whatever licenses (99) also licenses (96a) as long as the licensing conditions are stated in terms of structure as in (98bii).
Condition (98a) also seems to have a problem. It has difficulty explaining sentences in (74) (which Nakumura judges as unacceptable), (83a, b), and (102). (74) and (83a, b) are repeated here as (100) and (101), respectively.

(100) a. \[IP[CP \text{Mary}_1\text{-ga} \ \text{iku} \ \text{kadooka}_2] \ [IP \text{John}\text{-ga} \ \text{go} \ \text{whether} \ \text{John-Nom} \ [\text{vp} \ pro_1 \ t_2 \ \text{tazuneta}]]

asked

‘Whether Mary\text{$_1$} would go, John asked her\text{$_1$} t\text{$_2$}.’

b. \[IP \text{John}\text{-ga} \ [\text{vp}[\text{pp} \text{Mary}_1\text{-ga} \ \text{kaita} \ \text{hon-ni-tuite}_2] \ \text{Mary-Nom} \ \text{wrote} \ \text{book-about} \ [\text{vp} \ \text{kinoo} \ pro_1 \ [t_2 \ \text{tazuneta}]]]]

asked

‘John asked e$_1$ t$_2$ yesterday [about a book which Mary$_1$ wrote]$_2$.’

(101) a. \[\text{pro}_1 \ \text{Kyonen} \ \text{oya-ni} \ \text{moratta} \ \text{omotya}_2\text{-o} \ \text{last year parents-Dat received} \ \text{toy-Acc} \ \text{Taroo}_1\text{-wa} \ \text{ima-mo} \ t_2 \ \text{taietumi siteiru} \ \text{Taro-Top now-too very good-care doing} \ \text{‘Taro$_1$ is still now taking good care of the toy that he$_1$ received from his$_1$ parents last year.’} \]

b. \[\text{pro}_1 \ \text{Kyonen} \ \text{oya-ni} \ \text{moratta} \ \text{omotya}_2\text{-wa} \ \text{last year parents-Dat received} \ \text{toy-Top} \ \text{Taroo}_1\text{-wa} \ \text{ima-mo} \ t_2 \ \text{taietumi siteiru} \ \text{Taro-Top now-too very good-care doing} \ \text{‘Taro$_1$ is still now taking good care of the toy that he$_1$ received from his$_1$ parents last year.’} \]
Here in (100)-(102), \textit{pro} (i.e., \textit{e}) is in the matrix clause and is not licensed when it is not discourse-linked. Thus, these sentences are wrongly predicted to be ungrammatical by (98a). We must therefore apparently give up on (98) and look for some other way to explain the data.

The difference between (99a) and (96a) is semantic rather than syntactic. The relative clause in the acceptable (99a) is a relevant statement about, ‘says something about’ (cf. Kuno and Takami 1993), or ‘characterizes’ (cf. Takami and Kamio 1993) the antecedent of \textit{pro}. The phrase \textit{uketoru kenri (no nai)} ‘(not having) the right to receive’ easily makes one associate it with \textit{isyayoo} ‘consolation money.’ Hence, the relative clause containing \textit{pro} is an appropriate statement about \textit{pro}’s antecedent. On the other hand, in the unacceptable (96a), the relative clause is not a relevant statement about the antecedent of \textit{pro}: the relative clause does not force us to interpret that the person who Prof. Yamada introduced to John is the woman who he loves; it could be someone else. Further, a sentence having the same structure as (96a) becomes acceptable if both the relative and main clauses are directly relevant to the antecedent of \textit{pro}, as in (103).
(103) [IP[NP[e\textsubscript{2}] Saikin sikirini e\textsubscript{2} John-to kekkon-sase-
recently eagerly John-Dat marry-make-
tagatteiru] Yamada-sensei\textsubscript{1}]NP-wa zituwa [ano zyosei\textsubscript{2}-
want Yamada-Prof.-Top in fact that woman-
to mae-kara kankei-ga atta rasii]\textsubscript{VP}IP
with before-from relation-Nom was seems

'It seems that Prof. Yamada who recently eagerly wants to make e\textsubscript{2}
marry John, in fact, had relations with that woman\textsubscript{2} before.'

The relative clause \textit{John to kekkon-sase-tagatteiru} ‘want to make (one) marry John’
makes us easily imagine a situation in which Prof. Yamada has a woman on his mind
whom he wants to marry John, and the phrases \textit{saikin} ‘recently’ and \textit{sikirini} ‘eagerly’ on
the one hand, and the phrases \textit{zituwa} ‘in fact’ and \textit{mae-kara} ‘from before’ on the other,
contrast with one another, helping to focus on the antecedent of \textit{pro}, \textit{ano zyosei} ‘that
woman.’ Both the relative clause and the main clause are relevant statements about or
characterize the antecedent of \textit{pro}, and hence the acceptability of (103) results.

The acceptability of (100)-(102) can be explained in the same way. In (102), for
example, the relative clause is a relevant statement about the antecedent of \textit{pro}, \textit{Mary}.
That is, if Mary is a policewoman who arrested the guy, it is likely that she could be a
target of a suit.

We now propose the following discoursal and functional conditions on \textit{pro} licensing:

(104) \textit{Pro} licensing (Final version)

(a) Discourse condition:

\textit{Pro} can be licensed when it is discourse-linked.

(b) Functional condition:

\textit{Pro} can be licensed when there is a semantic congruity between the
clause containing \textit{pro} and the clause containing \textit{pro}’s antecedent.
Unlike previous pro licensing conditions in (93) and (98), pro in both matrix and embedded clauses comes under the same discoursal and functional conditions in (104). (104) accounts not only for the sentences so far examined above, but also sentences such as (105) below.

(105) a. Boku-wa [[[kinoo Mary1-ga e2 taiho-sita] otoko2]-ga I-Top yesterday Mary-Nom arrested man-Nom atode e1 kokuso-suru to] omotteiru later sue that think

‘I think that the man Mary1 arrested yesterday will sue e1 later.’

b. Keisatu1-wa [[[maeni Mary2-ga e3 taiho-sita] otoko3]-ga police-Top before Mary-Nom arrested man-Nom atode e1/2 kokuso-site-kuru mae-ni] taisaku-o netta later sue-do-come before measure-Acc took

‘The police1 took preventive measures before the man who Mary2 had arrested before would sue e1/2 later.’

Both the clauses containing pro and pro’s antecedent are a relevant statement about pro’s antecedent, Mary in (105a). And, in (105b) exactly the same can be said with pro referring to Mary or keisatu ‘police.’ Hence, the acceptability of (105) results.

Further, (104) explains the contrast in the following sentences:

(106) a. [IP[NP[ Kyonen e1 e2 rikon-sita bakari no] Yamada1]-ga last year divorced just Adn Yamada-Nom saikin mata okusan2-to atteiru] recently again wife-with seeing-is

‘Mr. Yamada1 who just divorced e2 last year is seeing his ex-wife2 again recently.’
b. *[IP[NP[ e₁ e₂ kenka-sita] Yamada₁]-ga quarreled Yamada-Nom wife-with issyo-ni syokuzi-o siteiru] together meal-Acc doing-is

‘Mr. Yamada₁ who had a quarrel with e₂ is eating out with his wife₂.’

(107) a. [IP[NP[ e₁ e₂ zekkoo-sita hazu no] Yamada₁]-ga broke-off ought-to NM Yamada-Nom saikin mata mae-no koibito₂-to sige-sige-to atteiru] recently again before-Gen girl friend-with frequently seeing-is

‘Mr. Yamada₁ who ought to have broken up with e₂ is frequently seeing the ex-girl friend₂ recently.’

b. *[IP[NP[ e₁ e₂ zekkoo-sita hazu no] Yamada₁]-ga broke-off ought-to NM Yamada-Nom kondo-wa atarasii koibito₂-to atteiru] this time-Top new girl friend-with seeing-is

‘Mr. Yamada₁ who ought to have broken up with e₂ is seeing a new girl friend₂ this time.’

In (106a) both the relative clause containing pro and the main clause are relevant statements about pro’s antecedent mae-no-okusan ‘ex-wife.’ The phrase kyonen rikon-sita bakari ‘just divorced last year’ makes it easier for the hearer to associate pro in the relative clause with mae-no-okusan in the main clause. Both the relative and the main clauses being relevant to the antecedent of pro, pro is licensed. Likewise in (107a).

In contrast, pro in (106b) and (107b) is not licensed. The relative clause in (106b) is not a directly relevant statement about pro’s antecedent: the person who Yamada had a quarrel with would not necessarily be his wife; it could be his friend. Hence, pro is not licensed. In (107b), on the other hand, the relative clause can be a relevant statement
about *pro*'s antecedent *koibito* 'girl friend,' but the main clause is not: the phrases *kondo* 'this time' and *atarasii* 'new' force the *koibito* in the main clause to be interpreted differently from that of *pro*'s antecedent. That is, the main clause is not a relevant statement about *pro*'s antecedent. Hence, the unacceptability of (107b) results. Replacing *kondo* 'this time' by *mata* 'again' improves (107b). This is because the phrase *mata* forces the interpretation that Yamada is repeatedly seeing the same girl friend that he broke up with before.

The *pro* licensing condition (104) also accounts for the contrast in (86). *Pro* in (86b) is licensed by the discourse condition (104a). On the other hand, *pro* in (86a) is licensed by neither the discourse condition (104a) nor the functional condition (104b). Hence, the contrast results. The *pro* licensing condition (104) can also accommodate the sentences covered by the preliminary versions in (93) and (98) such as (27)-(29), (36)-(39), (41)-(43), (48), (51), (53)-(54), (83)-(84), (90)-(92), (86), (88)-(89), and (95)-(97).

3.6 Conclusion

I have argued that a PG, an empty category appearing in the WCO constructions, is not a variable, but *pro*, a null pronoun. First I showed that the PG is not a variable licensed by S-Structure Scrambling (as assumed in Saito and Hoji 1983) by showing that it does not exhibit WCO effects. Next, I refuted the analyses of Saito (1992) and Nakamura (1991) and argued that the PG is not a bound pronoun licensed by the coindexed scrambled phrase at S-Structure (Saito 1992) or at LF (Nakamura 1991) for the same reason, namely that the PG does not exhibit WCO effects. I also pointed out some problems with Saito's and Nakamura's analyses (e.g., (96)-(97)). I showed that PGs are simply null pronouns, *pro*, in that, like full pronouns, they can take split and non-c-commanding phrases as their antecedent. Finally, I proposed the discoursal and functional licensing conditions on *pro*.
to account for the distribution of empty categories both in matrix and embedded clauses in various types of constructions.
Chapter 4

Scrambling and Topicalization as A-movement

4.1 Introduction

Topicalization is a process that puts a topic phrase marked by the topic particle *wa* in sentence-initial position, which bears a semantic "aboutness" relation (Kuno 1973a, b) to the rest of the sentence. Typical examples are given in (1):

(1) a. Ano hon2-wa [John-ga e2 kaita] rasii
    that book-Top John-Nom wrote seem
    'As for the book2, it seems that John wrote e2.'

b. Ano hon2-wa [John-ga [[e1 e2 kaita] ]
    that book-Top John-Nom wrote
    hito1]-ni aitagatteiru rasii]
    person-with want-to-meet seem
    'As for the book2, John wants to meet the person who wrote (it2).'

Since Kuno's (1973a, b) pioneering work, Topicalization has been extensively discussed in the literature in relation to Subjacency by authors such as Kuroda (1965, 1987), Haig (1976), Saito (1983, 1985), Hoji (1985), Hasegawa (1984), Yoshimura (1987), among others. Two views have been put forward about the derivation of topic constructions: the base-generation hypothesis and the null operator movement hypothesis. Both hypotheses assume Subjacency.

In section 2, I will first summarize the two views of Topicalization (4.2.1 and 4.2.2), and at the same time point out some problems with these analyses. Then, in section 4.2.3, given the conclusion obtained in Chapter 2 that movement in Japanese is free from Subjacency, I will propose the movement analysis of topic constructions for reasons different from those given by Hasegawa (1984). In section 3, I will show, noting the
similarities between Topicalization and Scrambling, that both involve A-movement in accordance with Principle A of the binding theory (Chomsky 1981), contrary to Saito’s (1992) position that Scrambling is an A’-movement reanalyzed to A-movement in LF. I will also look at topic constructions without a gap in section 3.4, followed by a summary in section 3.5. In section 4.4, I will argue that PP Scrambling and Topicalization behaves the same as NP Scrambling and Topicalization. There I will show some similarities and differences between the two. In section 4.5, I will investigate Possessor Topicalization and Possessor Scrambling constructions in terms of movement and discuss properties peculiar to the constructions. Finally, in order to complete the discussion, in section 4.6, I will examine Takahashi’s (1993) claim that Scrambling of wh-phrases is syntactic movement (i.e., A’-movement), and refute his analysis in defense of my claim that Scrambling as well as Topicalization involves A-movement. Section 4.7 concludes the chapter.

4.2 Topicalization

4.2.1 The base-generation hypothesis

In this section, I briefly summarize the base-generation hypothesis of topic phrases. I use the analyses of Kuno (1973a), Saito (1985), and Yoshimura (1987) as representatives of this hypothesis.

Based on the difference between Scrambling and Topicalization to the effect that the former but not the latter is constrained by Subjacency, the base-generation hypothesis assumes that a topic phrase is base-generated in the sentence-initial position rather than moved there. Proponents of this hypothesis argue that Subjacency is irrelevant to Topicalization as in (2), which is taken from Yoshimura (1987:222), who credits it to Saito (1985).
(2) a. John-ga [[e₁ ano hon-o katta] hito₁]-ni
   John-Nom that book-Acc bought person-with
   aitagatteiru rasii
   want-to-meet seems

   ‘It seems that John wants to meet the person who bought that book.’

b. *Ano hon₂-o [John-ga [[e₂ katta] hito₁]-ni aitagatteiru rasii]
c. *Ano hon₂-wa [John-ga [[e₂ katta] hito₁]-ni aitagatteiru rasii]

(2b) is derived from (2a) by scrambling the object NP *ano hon ‘that book’ out of the relative clause. (2c) is the topic construction counterpart of (2a) with the same NP from the relative clause as a topic phrase. And e in (2c) is base-generated as an empty pronoun (pro). The relative ill-formedness of (2b) is due to a Subjacency violation. If (2c) were to be derived from (2a) by Scrambling in the same manner as (2b), then the same degree of unacceptability would be expected in (2c) as well. Since (2c) is clearly much better than (2b), it is assumed that (2c) is not generated by movement. That is, the topic phrase is base-generated in topic position. Since Topicalization does not involve movement, it is immune to Subjacency.

A second piece of evidence for the claim that Topicalization is different from Scrambling is the possibility of resumptive pronouns in the former, but not in the latter. Observe (3) and (4), again taken from Yoshimura (1987:222) and Saito (1985:312), respectively. 50

(3) a. Ano yoohuku₂-wa [IP[NP[e₁ sore₂-o kiteiru]
   that suit-Top it-Acc is wearing

---

50 We assume with Saito (1985) that Topicalization, like Scrambling, is IP-adjunction operation. But, Kuroda (1987) considers Topicalization as CP movement and Scrambling as IP movement. In the present dissertation we take IP movement for both Scrambling and Topicalization in terms of binding-theoretic considerations (to be discussed in section 4.3.3).
sinsi1-ga suteki da]
gentleman-Nom handsome is

‘As for that suit2, the gentleman who is wearing (it2) is handsome.’

b. *Ano yoohuku2-o [IP[NP[e1 sore2-o kiteiru] that suit-Acc it-Acc is wearing
sinsi1-ga suteki da]
gentleman-Nom handsome is

‘That suit2, the gentleman who is wearing t2 is handsome.’

(4) a. ?Sono boosij-wa [IP John-ga [NP[e1 sore2-o
that hat-Top John-Nom it-Acc
kabutteita] hito1-o yoku sitteiru rasii] wearing-was person-Acc well know seem

‘As for that hat2, it seems that John knows the person who was wearing
(it2) very well.’

b. *Sono boosij-o [IP John-ga [NP[e1 sore2-o
that hat-Acc John-Nom it-Acc
kabutteita] hito1-o yoku sitteiru rasii] wearing-was person-Acc well know seem

‘That hat2, it seems that John knows the person who was wearing it2
very well.’

In (3b) and (4b), as opposed to (3a) and (4a), the appearance of the resumptive pronoun
sore ‘it’ results in ungrammaticality. This contrast, argues Yoshimura (1987:223),
supports the hypothesis that topic constructions are base-generated: “if they were created
by movement, then the gap would have to be a trace, and there could not be a pronoun.”

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51 This, of course, ignores the whole rationale behind resumptive pronouns, which is discussed in
section 2.2.1 in Chapter 5.
Yoshimura (1987) gives additional data supporting the non-movement hypothesis as in (5), which she draws from Hoji (1985). The grammaticality judgments are Hoji's and Yoshimura's.

(5) a. *[[e₁ Sono mise-de hitome e₂ mita] hito₂]-wa
   that store-at one glance saw person-Top
   [daremo₁-ga sukini-natta]
   everyone-Nom love-became
   'As for [the person that (he₁) saw at that store₂, everyone₁ fell in love with (him₂)].'

   b. [[e₁ Sono mise-de hitome e₂ mita] hito₂]-o
      that store-at one glance saw person-Acc
      [daremo₁-ga sukini-natta]
      everyone-Nom love-became
      '[The person that (he₁) saw at that store₂, everyone₁ fell in love with him₂.]

The sentence-initial NP is a topic in (5a) and it is a scrambled object in (5b). Yoshimura, following Hoji, argues that in the ungrammatical (5a), the gap $e_I$ cannot be construed as a variable bound to the quantifier daremo 'everyone', while in the grammatical (5b), the bound variable reading is possible. That is, given that reconstruction is possible for the moved element but not for the topic (Yoshimura 1987:225, cf. also Saito 1989), the trace of the quantifier daremo 'everyone' in (5a) cannot c-command $e_I$ at LF (a Weak Crossover effect), thus blocking the bound variable reading for the gap $e_I$. In contrast, in (5b) reconstruction of the scrambled NP is possible, and hence the trace of the quantifier can c-command $e_I$ at LF (no Weak Crossover effect), thus ensuring the bound variable reading for the gap $e_I$. The point is that the contrast in (5) shows that Topicalization, unlike Scrambling, does not involve movement.
Yoshimura (1987:226) adds to (2) examples in (6) in terms of Subjacency as a supporting data for the base-generation hypothesis. Consider (6), which she takes from Hoji (1985). The grammaticality judgments are Hoji's and Yoshimura's.

(6) a. *[e1 Ginza-de e2 katta] yubiwa2-o [John1-ga the Ginza-in bought ring-Acc John-Nom
[[e3 t2 nusunda] otoko3-o sagasite-iru]
stole man-Acc looking for-is

'The ring that (he1) bought in the Ginza2, John1 is looking for the man who stole t2.'

b. [e1 Ginza-de e2 katta] yubiwa2-wa [John1-ga the Ginza-in bought ring-Top John-Nom
[[e3 t2 nusunda] otoko3-o sagasite-iru]
stole man-Acc looking for-is

'As for [the ring that (he1) bought in the Ginza2, John1 is looking for the man who stole (t2).'

The complex NP \textit{Ginza de kattayuhiwa} 'the ring (he) bought in the Ginza' has been scrambled sentence-initially out of the relative clause in the object NP in (6a), and it has been topicalized in (6b), respectively. (6a) is ungrammatical because of a Subjacency violation. The grammaticality of (6b) shows that topicalization of the relative clause does not involve movement, and hence that Subjacency is irrelevant.

4.2.2 Null operator (OP) movement hypothesis

Hasegawa (1984) argues that Topicalization involves movement of a null NP coindexed with a topic phrase and hence observes Subjacency. She assumes that what actually moves is not a topic phrase but an empty category associated with the topic and that once an empty category moves to an A'-position, it becomes a null operator (OP) (p. 305).
More specifically, she claims that the object gap in the construction is a variable bound by a null OP, while the subject gap can be either a variable or PRO (p. 302). Hasegawa gives three pieces of evidence in the topic construction for the movement hypothesis: (i) quantifier floating, (ii) parasitic gaps, and (iii) subject-object asymmetry. We will look at each in the following.

The first piece of evidence has to do with quantifier floating. (7b) is derived from (7a) by moving the quantifier oozei ‘many’ out of the containing NP by quantifier floating. It is well-known that the quantifier cannot float across another NP as noted (first in the literature as far as I know) by Haig (1980:1068). The ungrammatical (7c) shows the point in case:52

(7)  a. [NP Oozei-no gakusei]-ga sake-o nondeiru
     many-Gen student-Nom liquor-Acc drinking-are
     ‘Many students are drinking sake.’
     b. Gakusei-ga oozei sake-o nondeiru
     c. *Gakusei-ga sake-o oozei nondeiru

A similar paradigm obtains in the topic construction as well, as shown in (8):

(8)  a. [NP Oozei-no gakusei]-wa sake-o nondeiru
     b. Gakusei-wa oozei sake-o nondeiru
     c. *Gakusei-wa sake-o oozei nondeiru

Given the assumption that the topic formation, like Scrambling, involves movement (cf., Haig 1981, Kuroda 1987, among others), (8b, c) are represented as (9a, b), respectively.

(9) is taken from Hasegawa (1984:304):

(9)  a. Gakusei1-wa [[t₁ oozei sake-o nondeiru] OP₁]
     b. *Gakusei1-wa [[sake₂-o [t₁ oozei t₂ nondeiru]] OP₁]

52 Actually, the facts about quantifier float are considerably more complicated. For details, see Haig (1980) and the references cited in section 4.2.3.2.3 below.
In (9), \( t_1 \) is a trace left by the gap which has become \( \text{OP}_1 \) which is associated with the topic phrase, and \( t_2 \) a trace left by scrambling the object \( \text{sake} \). Hasegawa accounts for the ungrammaticality of (8c/9b) by the Path Containment Condition of Pesetsky (1982): the association lines between the traces and their antecedents must not cross each other. (9b) violates the condition, as illustrated below.

\[
(9') \quad \text{a. Gakusei}_1\text{-wa } [[ t_1 \text{ oozei sake-o nondeiru} ] \text{ OP}_1]
\]

\[
\text{b. *Gakusei}_1\text{-wa } [[\text{sake}_2\text{-o } t_1 \text{ oozei } t_2 \text{ nondeiru} ]] \text{ OP}_1
\]

The second argument for a movement analysis of the topic construction concerns parasitic gaps. Hasegawa characterizes a parasitic gap as “a gap in an A-position that refers to a variable created by syntactic movement” (p. 304). Consider (10).

\[
(10) \quad \text{a.?*Sono } \text{ hon}_2\text{-wa } [[[t_1 \text{ e}_2 \text{ hirotta } \text{ hito}_1]\text{-ga} \text{ John datta} ] \text{ OP}_2]
\]

\[
\text{John was} \quad \text{ As for that book}_2, \text{ the person who found (it}_2\text{) was John.}
\]

\[
\text{b. Sono } \text{ hon}_2\text{-wa } [[[t_1 \text{ e}_2 \text{ hirotta } \text{ hito}_1]\text{-ga} \text{ keisatu-ni } t_2 \text{ todoketa} ] \text{ OP}_2]
\]

\[
\text{police-to reported} \quad \text{ As for that book}_2, \text{ the person who found e}_2\text{ reported (it}_2\text{) to the police.}
\]

Hasegawa argues that the ungrammaticality of (10a) is due to a Subjacency violation because the OP associated with the topic \( \text{sono hon} \) ‘that book’ is moved from the relative clause, whereas no such violation is involved in (10b) because the OP is moved from the position of the matrix object and licenses \( e_2 \) as a parasitic gap. That is, if the topic
construction does not involve movement, there will be no licensing trace (Chomsky 1982) (cf. also Yoshimura (1987:224)).

Yoshimura (1987:224) offers one additional supporting argument for Hasegawa’s movement hypothesis. According to Yoshimura, there is a subject-object asymmetry in (11), taken from Yoshimura (1987:224) with her grammaticality judgments:

(11) a. Sono kōdomo1-wa [[[PRO1 t2 kawaigatteita] OP2] 
that child-Top loved
inu2]-ga sine-de-simatta] OP1] 
dog-Nom die-ended-up

‘As for the child1, the dog2 that (he)1 loved e2 died.’

b.?*Sono inu2-wa [[[PRO1 t2 kawaigatteita] OP1] 
that dog-Top loved
kōdomo1]-ga sine-de-simatta] OP2] 
child-Nom die-ended-up

‘As for the dog2, the child1 who loved e2 died.’

Hasegawa further assumes that the subject PRO is an empty resumptive pronoun coindexed with a base-generated OP1, while the object gap is a variable left by the movement of another null OP2 (see section 4.2 in Chapter 3 for details of her analysis). Thus, the contrast in (11) can be accounted for by a Subjacency violation with the movement of OP2 from the relative clause in (11b).

As seen above, both hypotheses depend on the existence of Subjacency, and neither assumes the actual movement of topic phrases; the base-generation hypothesis posits a null category (pro) coindexed with the base-generated topic, while the movement hypothesis involves the movement of a null operator coindexed with the topic phrase in

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53 Ono (1992:143-145) assumes exactly the same OP movement analysis of topic constructions.
sentence-initial position. I will point out some problems with these two hypotheses and propose the 'real' movement analysis for the topic construction in the next section.

4.2.3 Topicalization as movement

In this section, following Kuroda (1965, 1987), I argue that Topicalization is a movement process like Scrambling. Before going to the movement analysis, we first look at some problems with the existing two analyses of Topicalization.

4.2.3.1 Problems with existing hypotheses

4.2.3.1.1 Problems with the base-generation hypothesis

Though the base-generation hypothesis sees a contrast between (2b) and (2c), repeated here as (12), I do not think that the contrast, if there is one, is syntactic.

(12) a. John-ga [[e_1 ano hon-o katta] hito_{1\text{-}ni]
     John-Nom that book-Acc bought person-with
     aitagatteiru rasii
     want-to-meet seems
     'It seems that John wants to meet the person who bought that book.'

b. *Ano hon-o [John-ga [[e_1 t_2 katta] hito_{1\text{-}ni] aitagatteiru rasii]

c. *Ano hon_{2\text{-}wa [John-ga [[e_1 t_2 katta] hito_{1\text{-}ni] aitagatteiru rasii]

To begin with, I do not see any difference between (12b) and (12c). They are neither completely ungrammatical nor completely grammatical. Both are semantically odd. For example, if the matrix verb *katta 'bought' is replaced by *kaita 'wrote' as in (1b), both the sentences improve as in (13a, b). Observe (13).

(13) a. Ano hon_{2\text{-}o [John-ga [[e_1 t_2 kaita] hito_{1\text{-}ni]
     that book-Acc John-Nom wrote person-Dat

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Want to meet seem

'That book₂, it seems that John wants to meet the person who wrote t₂.'

b. Ano hon₂-wa [John-ga [[e₁ e₂ kaita] hito₁]-ni that book-Top John-Nom wrote person-Dat
want-to-meet seem

'As for that book₂, it seems that John wants to meet the person who wrote (it₂).'

c. Ano baisyunhu₂-o/wa [John-ga [NP[NP[e₁ e₂ assen-sita/ that whore -Acc/Top John-Nom introduced/ katta] otoko₁]-no nameae]-o keisatu-ni morasita] bought man-Gen name-Acc police-to disclosed

'As for that whore₂, John disclosed the name of the man who introduced/bought t₂.'

The perfectly acceptable (13) vis-à-vis somewhat marginal (12b, c) suggests that what affects acceptability is not a syntactic principle such as Subjacency but a semantic congruity between the topic and the rest of the sentences (i.e., the “aboutness” relation, cf., Kuno 1973a, b; also Kuno and Takami 1993, Takami and Kamio 1993). Under normal situations, people want to meet a book’s author rather than the purchaser as in (13a, b). And (13c), in which the scrambled/topicalized phrase crosses two NPs and one matrix clause, is acceptable. The Subjacency condition would incorrectly mark (13c) as unacceptable. (13c) is acceptable because there is a semantic congruity between the scrambled/topicalized phrase and the rest of the sentence.
Second, concerning the possibility of resumptive pronouns in (3) and (4), (3) does not show that the resumptive pronoun cannot appear in scrambled sentence. Let us first look at (3) more carefully. (3) is repeated as (14):

(14) a. Ano yoohuku₂-wa [IP[NP e₁ sore₂-o kiteiru
  that suit-Top it-Acc is wearing
  sinsi₁]-ga suteki da]
  gentleman-Nom handsome is

  'As for that suit₂, the gentleman who is wearing it₂ is handsome.'

b. *Ano yoohuku₂-o [IP[NP e₁ sore₂-o kiteiru]
  that suit-Acc it-Acc is wearing
  sinsi₁]-ga suteki da]
  gentleman-Nom handsome is

  'That suit₂, the gentleman who is wearing it₂ is handsome.'

(14b) does not show that the phrase ano yoohuku-o 'that suit-Acc' is moved long-distance to the matrix clause. Since there is no overt element between that phrase and the resumptive pronoun sore 'it', it can be the case that the ano yoohuku is moved clause-internally, as in (15).

(15) [NP[IP Ano yoohuku₂-o e₁ sore₂-o kiteiru] sinsi₁]-ga suteki da

If (14b) has the structure in (15), there could not be the corresponding resumptive pronoun appearing in place of the gap because resumptive pronouns are allowed only when they are embedded “deeply enough” (Saito 1985:343) (Also, Kuno 1973a:273, Haig 1976:365-366, 1978). (14a) cannot be a local scrambling because a topic phrase with wa cannot appear in a relative clause in Japanese.

Let us next look at (4), repeated as (16). [The grammaticality judgments are mine.]

(16) a. ?Sono boosi₂-wa [IP John-ga [NP e₁ sore₂-o
  that hat-Top John-Nom it-Acc

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kabutteita] hito1] o yoku sitteiru rasii]

wearing-was person-Acc well know seem

‘As for that hat2, it seems that John knows the person who was wearing it2 very well.’

b. ?Sono boosi2-o [IP John-ga [NP e1 sore2-o
that hat-Acc John-Nom it-Acc

kabutteita] hito1] o yoku sitteiru rasii]

wearing-was person-Acc well know seem

‘That hat2, it seems that John knows the person who was wearing it2 very well.’

Though Saito considers (16b) considerably worse than (16a), I do not share the same
intuition. Though (16b) is slightly worse than (16a), it should not be considered
ungrammatical. As Saito himself admits, (16a) itself is not perfect as it is. I think that the
rest of sentences in (16) are not proper characterization of the topic. The sentences in
(14) are semantically odd for the same reason just mentioned. They will improve when an
adverb itumo ‘always’ is placed in the relative clause, as in (17).

(17) a. Sono boosi2-wa [IP John-ga [NP itumo e1 sore2-o
that hat-Top John-Nom always it-Acc

kabutteita hito1] o yoku sitteiru rasii]

wearing-was person-Acc well know seem

‘As for that hat2, it seems that John knows the person who was always wearing it2 very well.’

b. Sono boosi2-o [IP John-ga [NP itumo e1 sore2-o
that hat-Acc John-Nom always it-Acc

kabutteita hito1] o yoku sitteiru rasii]

wearing-was person-Acc well know seem
'That hat\textsubscript{2}, it seems that John knows the person who was always wearing it\textsubscript{2} very well.'

Further, the examples (121) and (122) that I gave in section 3 in Chapter 2 indicate that not only in topic constructions but also in scrambled constructions, a resumptive pronoun can appear when the semantic connection is ensured between the scrambled phrase and the rest of the sentence from which it is moved. (121) and (122) are given here as (18) and (19) respectively.

(18) a. Sono keiki\textsubscript{2}-o [John-wa [CP[NP[CP e\textsubscript{1} sore\textsubscript{2}-o tabeta] that cake-Acc John-Top it-Acc ate hito\textsubscript{1}]-ga minna sinde-simatta to] omotta] person-Nom all die-ended-up that thought

‘That cake\textsubscript{2}, John thought that the persons who ate t\textsubscript{2} have all died.’

b. Sono keiki\textsubscript{2}-o [John-wa [NP[CP[NP[CP e\textsubscript{1} sore\textsubscript{2}-o tabeta] that cake-Acc John-Top it-Acc ate hito\textsubscript{1}]-ga minna sinde-simatta] kissaten]-e itte-mita] person-Nom all die-ended-up coffee shop-to going-tried

‘That cake\textsubscript{2}, John tried going to the coffee shop where the persons who ate t\textsubscript{2} have all died.’

(19) a. Ano hon\textsubscript{2}-o [boku-wa [[[e\textsubscript{1} sore\textsubscript{2}-o kaita] hito\textsubscript{1}]-no that book-Acc I-Top it-Acc wrote person-Gen ningensei]-o utagai-taku-naru] humanity-Acc doubt-want-become

‘That book\textsubscript{2}, I want to doubt the humanity of the person who wrote t\textsubscript{2}.’

b. Saki-no senso\textsubscript{2}-o [Amerika-wa [[[e\textsubscript{1} sore\textsubscript{2}-o sikaketa] last-Gen war-Acc America-Top it-Acc began

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Nihon\textsubscript{1]-ni sekinin-ga aru to] itteiru]
Japan-in blame-Nom exit that saying
‘The last war\textsubscript{2}, America claims a blame on Japan which began t\textsubscript{2}.’

Third, Yoshimura’s addition of Hoji’s data in (5) and (6) in support of the base-generation analysis, again, does not hold as an argument for the non-movement analysis as we see below. We examine first (5), repeated as (20). [The grammaticality judgments are mine.]

(20) a. \[[e\textsubscript{1} Sono mise-de hitome e\textsubscript{2} mita] hito\textsubscript{2}-wa
that store-at one glance saw person-Top
[daremo\textsubscript{1}-ga sukini-natta]
everyone-Nom love-became
‘As for [the person that (he\textsubscript{1}) saw at that store\textsubscript{2}, everyone\textsubscript{1} fell in love with (him\textsubscript{2}).’

b. \[[e\textsubscript{1} Sono mise-de hitome e\textsubscript{2} mita] hito\textsubscript{2}-o
that store-at one glance saw person-Acc
[daremo\textsubscript{1}-ga sukini-natta]
everyone-Nom love-became
‘[The person that (he\textsubscript{1}) saw at that store\textsubscript{2}, everyone\textsubscript{1} fell in love with t\textsubscript{2}.’

Though Yoshimura, following Hoji, considers (20a) unacceptable due to WCO effects, I do not find it as bad as they think it to be. The following sentence, which has the same structure as (20a), is acceptable.

(21) a. \[[e\textsubscript{1} Sono paatii-de e\textsubscript{2} atta] ano zyosei\textsubscript{2}-wa
that party-at saw that lady-Top
[daremo\textsubscript{1}-ga sugu kiniitta]
everyone-Nom soon liked

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'As for [that lady who (he) saw at the party], everyone soon liked (her)

b. [[e Kinoo-no paatii-de e2 syookai-sareta] sono yesterday-Gen party-at introduced-was that zyosei2]-wa [daremo1-ga sugu sukini-natta] lady-Top everyone-Nom soon love-became

'As for [that lady who e1 was introduced to e2 at yesterday’s party], everyone soon liked (her2)'

The e1 in these sentences refers to the quantifier daremo ‘everyone’ and the sentences are grammatical. As we have already shown in Chapter 3, there is no Weak Crossover (WCO) effects with respect to empty pronouns. The grammaticality of (21) indicates that neither reconstruction nor the WCO effects is relevant to topic constructions.

Next, (6a), repeated as (22), again, cannot be supporting evidence for the hypothesis which assumes Subjacency. For one thing, I do not think (22) is ungrammatical, though it is not perfect. [The grammaticality judgments are mine.]

(22)?[[e1 Ginza-de e2 katta] yubiwa2]-o [John1-ga the Ginza-in bought ring-Acc John-Nom
[e3 t2 nusunda] otok03-o sagasite-iru stole man-Acc looking for-is

'[The ring that (he) bought in the Ginza, John is looking for the man who stole t2.]

As mentioned above, (22) improves with the help of the resumptive pronoun in place of the gap, as shown in (23).

(23) [[e1 Ginza-de e2 katta] yubiwa2]-o [John1-ga the Ginza-in bought ring-Acc John-Nom
Further, the sentences in (24), which have the same structure as (22), are grammatical.

(24) [e1 Ginza-de e2 mikaketa] yubiwaj-o [John1-wa [zibun the Ginza-in saw ring-Acc John-Top self yori sakini e3 t2/sore2-o katta] hito3-o sagasiteiru] than before it-Acc bought person-Acc looking for

‘[The ring that (he1) saw in the Ginza]2, John1 is looking for the person who bought t2 before him1.’

The grammaticality of (22)-(24) indicates that movement is not constrained by Subjacency and hence that Topicalization, like Scrambling, may involve movement. That is, we cannot deny the possibility that Topicalization involves the “real” movement of a topic phrase. In fact, Saito (1985:325-329) notes that “the sentence-initial topic may be moved to that position” (p. 329) in sentences like (25).

(25) Ano hon-wa [John-ga t/e katta]
that book-Top John-Nom bought

‘Speaking of that book, John bought (it).’

Unlike (2c), for which only the base-generation is assumed to be possible because of the Subjacency condition, the movement analysis is possible for (25), since the topic in (25) binds an empty site in the matrix clause.
As for that book, it seems that John wants to meet the person who bought it.

Since movement is not subject to the Subjacency condition as argued in Chapter 2, (2c) can be derived by movement.

4.2.3.1.2 Problems with the null operator movement hypothesis

In the previous section, we saw that Subjacency cannot be used to support the base-generation hypothesis for topic constructions. In this section, I show that the null operator (OP) movement cannot be maintained, either.

To start with, the first argument from the quantifier floating in (8c) for the OP movement hypothesis is a weak one. It is argued, rather convincingly, by Kuno (1991:265-268) and Kuno and Takami (1993:160-162) that Pesetsky’s (1982) Path Containment Condition (PCC) has serious theoretical defects with respect to quantifier scope as it is applied to other constructions. For example, Kuno (1991:265) argues that sentences such as (26a) are ambiguous between the reading in which what has wide scope and the one in which everyone has wide scope.

(26) a. What did you talk about with everyone?

  b. LF: [S' [What [S [you [vp everyone [vp talked [ about e [pp with e]]]]]]]]

However, the LF representation in (26b) is not a legitimate one for (26a) because the association lines between the traces and their antecedents cross each other in violation of the PPC. Thus, there is no well-formed LF for the sentence, and it is incorrectly predicted to be unacceptable. So, I do not think that Path Containment Condition is responsible for the ungrammaticality of (8c). Although I do not have a solution to account for it at the
present time, I conjecture that (8c) is bad because of a semantic factor rather than syntactic one.\textsuperscript{54}

The second argument, which involves the parasitic gap pattern in (10), repeated below as (27), does not hold, either.

(27) a. Sono hon\textsubscript{2}-wa [[t\textsubscript{1} e\textsubscript{2} hirotta hito\textsubscript{1}]-ga
\begin{flushright}
that book-Top found person-Nom
\end{flushright}
John datta] OP\textsubscript{2}
John was
‘As for that book\textsubscript{2}, the person who found e\textsubscript{2} was John.’

b. Sono hon\textsubscript{2}-wa [[t\textsubscript{1} e\textsubscript{2} hirotta hito\textsubscript{1}]-ga
\begin{flushright}
that book-Top found person-Nom
\end{flushright}
keisatu-ni t\textsubscript{2} todoketa] OP\textsubscript{2}
police-to reported
‘As for that book\textsubscript{2}, the person who found e\textsubscript{2} reported t\textsubscript{2} to the police.’

For one thing, I have already shown in Chapter 2 (section 2.2.2) and Chapter 3 (sections 3.3 and 3.4) that a parasitic gap does not entail syntactic (overt or covert) movement. That is, the gap e\textsubscript{2} in (27b) does not require the OP movement for it to be licensed.

Further, though Hasegawa (and Yoshimura, too) say that (27a) above is ungrammatical because of a Subjacency violation, this is not right. (27a) is semantically a little odd under normal situations. The rest of the sentence is not an appropriate “characterization” (Kuno 1973a: 240, Takami and Kamio 1993) of the topic. Adding an adverb like ainiku ‘unfortunately’ or replacing the matrix predicate datta ‘was’ by the corresponding negative form zya-nakatta ‘was not’ makes the sentence acceptable, as in (27’).

(27’) a. Sono hon\textsubscript{2}-wa [[t\textsubscript{1} e\textsubscript{2} hirotta hito\textsubscript{1}]-ga

\textsuperscript{54} See Miyagawa (1988, 1989) for a possible solution to the problem in the predication theory of Williams (1980).
that book-Top found person-Nom

ainiku John datta]

unfortunately John was

‘As for that book, unfortunately the person who found e2 was John.’

b. Sono hon2-wa [[t1 e2 hirotta hito1]-ga
that book-Top found person-Nom

ainiku John zya-nakatta]

unfortunately John was-not

‘As for that book, unfortunately, the person who found e2 was not John.’

This is so because we can easily imagine a situation where the speaker has been hoping that the person who found the book s/he lost would not be John, but unfortunately it turned out that the finder of the book was John in (27’a). The situation in (27’b) is just the other way round. In such a situation, the book is properly characterized by the rest of the sentence. As long as a semantically appropriate connection between the topic and the rest of the sentence holds, the sentence is acceptable. To further confirm the point, consider the contrast in the following sentences, which have exactly the same structure as (26a).

(28) a. Sono toohu2-wa [[[t1 e2 tabeta] hito1]-ga
that tofu-Top ate person-Nom
atode geri-o sita]
later diarrhea-Acc did

‘As for the tofu, the persons who ate e2 suffered from diarrhea afterward.’

b. *Sono toohu2-wa [[[t1 e2 tabeta] hito1]-ga
that tofu-Top ate person-Nom
atode sanpo-ni dekaketa]
later walk-to went out

'As for the tofu, the persons who ate e2 took a walk afterward.'

c. *Sono toohu2-wa [[[ e1 t2 tabeta] hito1]-ga
that tofu-Top ate person-Nom
hon-o kaita]
book-Acc wrote

'As for that tofu2, the person who ate e2 wrote a book.'

(29) a. Sono eigaj-wa [[[ e1 t2 mita] hito1]-ga
that movie-Top saw person-Nom
hanzai/namida-o okasita/nagasita]
crime/tear-Acc committed/shed

'As for the movie2, the persons who saw e2 committed a crime/shed tears.'

b. *Sono eigaj-wa [[[ e1 t2 mita] hito1]-ga
that movie-Top saw person-Nom
kissaten-de kohii-o nonda]
coffee shop-at coffee-Acc drank

'As for the movie2, the persons who saw it2 drank coffee at a coffee shop.'

The contrast between the (a) sentences and the other sentences in (28)-(29) is suggestive of the semantic notion such as "aboutness" or "characterization" rather than Subjacency.

Finally, Yoshimura's (1987:224) additional data in (11), repeated as (30), in terms of the subject-object asymmetry does not support the OP movement hypothesis which assumes Subjacency. In fact, there is no such subject-object asymmetry in (30). [The grammaticality judgments are mine.]
(30) a. Sono kodomo1-wa [[[ PRO1 t2 kawaigatteita] \\
that child-Top loved \\
inu2]-ga sinde-simatta] \\
dog-Nom die-ended-up \\
'As for the child1, the dog that (he1) loved died.' \\
b. Sono inu2-wa [[[ PRO1 t2 kawaigatteita] \\
that dog-Top loved \\
kodomo1]-ga sinde-simatta] \\
child-Nom die-ended-up \\
'As for the dog1, the child who loved e1 died.' \\

The point is that (30b) is not as bad as Hasegawa assumes. Adding an adverbial phrase such as kawaisooni 'poorly' improves it, as shown in (31).

(31) Sono inu2-wa kawaisooni [[[ PRO1 t2 kawaigatteita] \\
that dog-Top poorly loved \\
kodomo1]-ga sinde-simatta] \\
child-Nom die-ended-up \\
'As for the poor dog1, the child who loved e1 died.' 

(28a) and (29a) above have the same structure as (30b) and they are perfectly acceptable. Since there is no subject-object asymmetry in topic constructions, both the sentences in (30) can be uniformly analyzed as involving the real movement of the topic phrase rather than the ad hoc assumptions of the movement of the null OP.

4.2.3.2 A movement analysis

In the previous sections I refuted the base-generation and null operator movement analyses of Topicalization. That is, given the conclusion obtained in Chapter 2 to the effect that movement is immune to Subjacency in Japanese, the base-generation hypothesis
loses its strong motivation. Since Subjacency does not constrain movement, a topic phrase can be moved sentence-initially.

I have shown above that Topicalization shares the following properties with Scrambling: (i) it is not constrained by the Subjacency condition, (ii) it allows a resumptive pronoun when the topic is associated with a position deeply embedded in a structure, and (iii) it is constrained by the semantic condition of aboutness. This is summarized as in (32).

(32) 1. Topicalization and Scrambling are free from Subjacency.
2. [Topic/Scrambled phrase₁ [ ... t₁/Resumptive pronoun₁ ...]]
3. Semantic condition: Topic/Scrambled phrase must have a coherent semantic (i.e., aboutness) relation with the rest of the sentence.

We are then naturally led to conclude that both Scrambling and Topicalization can be analyzed uniformly under movement.

Since what we have discussed above does not necessarily refute the base-generation hypothesis, Topicalization can be formed either by movement or by the base-generation of a topic phrase. However, I assume the movement analysis of topic constructions for the following reasons: (i) there is no evidence to the contrary (given that movement is immune to Subjacency), (ii) the movement analysis can treat both NP Topicalization and PP Topicalization as movement processes (See also section 4.4), (iii) some instances of NP Topicalization obviously do involve movement (4.2.3.2.1), and (iv) quantifier float analysis of Shibatani (1977, 1978) supports the movement analysis (4.2.3.2.3). We will first look at NP Topicalization and PP Topicalization to show that the presence and choice of the particle attached to the topicalized NP points to the movement hypothesis.
4.2.3.2.1 NP Topicalization

With NP Topicalization, subject and object Case markers *ga and *o generally delete before the topic marker *wa, as shown in (33).

(33) a. John(*-ga)-wa sono hon-o katta
   John-Nom-Top that book-Acc bought
   'John bought that book.'

   b. Sono hon(*-o)-wa John-ga katta
      that book-Acc-Top John-Nom bought
      'As for that book, John bought it.'

However, in some cases, especially in a very archaic style of Japanese, the object marker *o in (33b) can be left undetected, as shown in (34).

(34) Sono hon-o-ba John-ga katta
     that book-Acc-Top John-Nom bought
     'As for that book, John bought it.'

The sequence *o-*wa in (33b) undergoes a phonological process, resulting in *o-*ba in (34).

The base-generation hypothesis cannot account for the presence of the object marker. On the other hand, the movement hypothesis can naturally explain its appearance: the object marker is there at D-Structure and is moved along with the object NP to a topic position.

4.2.3.2.2 PP Topicalization

It is generally agreed among Japanese linguists that PP Topicalization involves movement (cf. Kuroda 1965, 1987, Saito 1985) In PP Topicalization, the Case particle or postposition attached to the topicalized NP remains in place, as in (35).

(35) a. Waikiki-de-wa John-ga ano syatu-o katta
     Waikiki-in-Top John-Nom that shirt-Acc bought
     'As for in Waikiki, John bought that shirt there.'
b. Waikiki-ni-wa John-ga itta
   Waikiki-to-Top John-Nom went
   ‘As for to Waikiki, John went there.’

c. Okinawa₁-kara-wa Hawai-ni [(soko₁-kara) kita hito]-ga
   Okinawa-from-Top Hawaii-to there-from came person-Nom
takusan iru
   many exist
   ‘As for from Okinawa, there are many people in Hawaii who came from there.’

The two hypotheses have the following derivations:

The base-generation hypothesis: DS and SS

(36) a. Waikiki-de₁-wa [John-ga ano syatu-o e₁ katta]
   b. Waikiki-ni₁-wa [John-ga e₁ itta]
   c. Okinawa-kara₁-wa [Hawai-ni [e₁ kita hito]-ga takusan iru]

The movement hypothesis:

(37) D-Structure:
   a. John-ga ano syatu-o Waikiki-de katta
   b. John-ga Waikiki-ni itta
   c. Hawai-ni [Okinawa-kara kita hito]-ga takusan iru

(38) S-Structure:
   a. Waikiki-de₁-wa [John-ga ano syatu-o t₁ katta]
   b. Waikiki-ni₁-wa [John-ga t₁ itta]
   c. Okinawa-kara₁-wa [Hawai-ni [t₁ kita hito]-ga takusan iru]

The base-generation hypothesis with (36) has difficulty in accounting for the source of the particle de ‘in’, ni ‘with’, and kara ‘from’ in (35). It also cannot explain why the particular particles de, ni and kara are used as they are, but not other particles in (35). In
contrast, the movement hypothesis can account for these facts without difficulty: the particles *de*, *ni* and *kara* move along with the topic NP from its D-Structure in (37) to the sentence-initial position, giving rise to the S-Structure in (38). Cf. Haig 1993a.

4.2.3.2.3 Quantifier float

A third argument pointing to the movement analysis of topic phrases is concerned with “quantifier float” phenomena in Japanese. These phenomena have been both extensively and intensively discussed in the Japanese literature (Okutsu 1969, Harada 1976, Inoue 1978, Kuno 1978, Shibatani 1977, 1978, Haig 1980, Kitagawa 1980, Miyagawa 1988, 1989, Ono 1992, Downing 1993, among others). It is generally agreed among Japanese linguists that quantifiers can be floated off NPs which they modify and that the NPs they launch from are subject and object NPs (referred to as the Grammatical Relation Hypothesis by authors such as Okutsu, Harada, Kuno)/Nominative *ga*-marked and Accusative *a*-marked NPs (referred to as the Surface-Case Hypothesis by Shibatani).

That is, quantifier float cannot be possible from NPs bearing other grammatical relations or Cases (e.g., dative *ni*-marked, oblique *kara*-marked and instrumental *de*-marked NPs). This is illustrated in (39).56

\[(39)\] a. \[t_1 \text{Gakusei-tati]-ga san-nin_1 hon-o katta}\]

\[
\text{student-pl-Nom 3-CL book-Acc bought}
\]

‘Three students bought a book.’

55 But there are some exceptions to it: quantifiers can float from *ni*-marked NPs, as shown in (42) below. Cf. Inoue 1978.

56 The underlying structure of the sentences in (39) contains *no* as in (i), which I assume to be deleted at PF (or possibly at S-Structure), resulting in the surface structures as in (39).

\[(i)\] [San-nin *no* gakusei]-ga hon-o yonda (D-Structure)

\[(ii)\] [\[t_1-no gakusei]-ga san-nin_1 hon-o yonda (S-Structure/PF)\]

\[\downarrow\]

\[\phi\]
b. John-ga [t₁ anna zassi]-o san-satu₁ katta
   John-Nom that kind of magazine-Acc 3-CL bought
   ‘John bought three magazines of that kind.’

c. *John-ga [t₁ sensei]-ni san-nin₁ tegami-o dasita
   John-Nom teacher-Dat 3-CL letter-Acc sent
   ‘John sent three teachers a letter.’

d. *John-ga [t₁ sensei]-kara san-nin₁ tegami-o moratta
   John-Nom teacher-from 3-CL letter-Acc received
   ‘John received a letter from three teachers.’

e. *Gakusei-tati-ga [t₁ kuruma]-de san-dai₁ kita
   students-pl-Nom car-by means of 3-CL came
   ‘The students came in three cars.’

In (39a, b) a quantifier san-nin is floated off a subject NP and object NP. These examples show that quantifiers can be launched by subject and direct object NPs. On the other hand, the ungrammaticality of (39c-e) indicates that the same quantifier cannot be launched by NPs other than subject and object.

Shibatani (1977, 1978) argues that the phenomenon of quantifier float exemplified in (39) is better accounted for by his Surface-Case Hypothesis rather than by the Grammatical-Relation Hypothesis. He claims that in Japanese, quantifiers can be launched off nominative and accusative NPs, regardless of the grammatical relations they bear; the phenomenon of quantifier float in Japanese must therefore be stated in terms of surface Cases, rather than grammatical relations. To justify his claim, Shibatani gives the following examples, in which a quantifier can float from a nominative NP, as in (40a), while it cannot from a dative NP as in (40b) in spite of the fact that both NPs are subjects. (40) are created, based on Shibatani’s (1977:801, his (37)) examples with some modifications.
(40) a. [Amerika-no t1 roodoosya]-ga subete1 kenkoo-hoken-ga
    America-Gen workers-Nom all health-insurance-Nom
    hituyoo da
    necessary be
    ‘All American’s workers need health insurance.’

b. *[Amerika no t1 roodoosya]-ni subete1 kenkoo-hoken-ga hituyoo da

Shibatani argues that the Grammatical-Relation Hypothesis will (incorrectly) allow quantifier float in both (40a) and (40b), while the Surface-Case Hypothesis can rule out (40b).

Further, quantifiers cannot float from the dative indirect object, as shown in (41), which are from Inoue (1978:172) and Shibatani (1978:352), respectively.

(41) a. *Watakusi-ga kono zisyo-o [t1 syoonen-tati]-ni
    I-Nom this dictionary-Acc boy-pl-Dat
    suu-nin1 purezento-sita
    a few-CL presented
    ‘I presented a few boys with those dictionaries.’

b. *Boku-ga [t1 kodomo]-ni san-nin1 hon-o yatta
    I-Nom child-Dat 3-CL book-Acc gave
    ‘I gave three children books.’

The impossibility of quantifier float in (41) as well as (40b) can be explained by Shibatani’s claim: that it is only ga- and o-marked NPs, but not other Case-marked NPs that can launch quantifiers, regardless of the grammatical relations they bear.

However, there are counter-examples to Shibatani’s claim. In fact, Shibatani (1978:352-353) notes that a quantifier can be launched from dative NPs in instances like (42), which he credits to Inoue (1978:173). In (42b), kinzyo no hito ‘neighbor’ is used in place of misiranu hito ‘stranger’ in the original example.
(42) a. Watakusi-wa (dantaikyaku-o tomeru) [t1 yadoya]-ni
I-Top party traveler-Acc accommodate inn-Dat
ni-san-gen1 atatte-mita
2-3-CL negotiate-tried
‘I tried to negotiate with two or three inns which accept party
travelers.’
b. (Kado-o magatta tokoro-de,) boku-wa
corner-Acc turned place-at I-Top
[t1 kinzyo no hito]-ni ni-san-nin1 dekuwasita
neighbor-Dat two or three-CL came across
‘When I turned the corner, I came across two or three neighbors.’

With this much in mind, let us now consider the topic constructions involving quantifier
float launched off the ni-marked NPs. Consider the topicalized cases of (39a, b) in (43).

(43) a. Gakusei-tati2-wa [[t1 t2] san-nin1 hon-o katta]
student-pl-Top 3-CL book-Acc bought
‘As for the three students, they bought a book.’
b. Anna zassi2-wa [John-ga [t1 t2] san-satu1 katta]
that kind of magazine-Top John-Nom 3-CL bought
‘As for that kind of magazine, John bought three of them.’

The subject NP and object NP are topicalized in (43a, b) respectively. And the quantifiers
are associated with the topic NPs. If Shibatani’s Surface-Case Hypothesis of quantifier
float is right, the grammaticality of (43) can be explained in the movement analysis of
topic constructions: the quantifier floats from the ga- or o-marked NP in the structures
underlying the surface sentences in (43). Here, we are assuming that Case is assigned
before Topicalization and deleted after it. In contrast, the base-generation analysis can say
nothing about the grammaticality of (43). Because in this analysis, there is no ga- or o-
marked NP in the structures underlying (43), it is impossible to tell whether quantifier float is allowed or not.

Next, consider the topicalized versions of (39c-e), given as (43c-e).

(43) c. *[t₁ Sensei-ni]₂-wa [John-ga t₂ san-nin₁ tegami-o dasita]
    teacher-Dat-Top John-Nom 3-CL letter-Acc sent
    ‘As for to teachers₂, John sent a letter to three of them₂.’

d. *[t₁ Sensei-kara]₂-wa [John-ga t₂ san-nin₁ tegami-o moratta]
    teacher-from-Top John-Nom 3-CL letter-Acc received
    ‘As for from teachers₂, John received a letter from three of them₂.’

e. *[t₁ Kuruma-de]₂-wa [gakusei-tati-ga t₂ san-dai₁ kita]
    car-by means of-Top students-pl-Nom 3-CL came
    ‘As for cars₂, the students came in three of them₂.’

The base-generation analysis cannot explain the presence of the Case particles or postpositions such as *ni, kara, and de* appearing immediately before the topic marker *wa* in these sentences. Further, it cannot predict the ungrammaticality of (43c-e). Since the base-generation analysis does not posit a phrase (which undergoes Topicalization) in its original position along with the associated Case particle or postposition, Shibatani’s hypothesis cannot be used to determine floatability of quantifiers. Again, the movement analysis can explain the ungrammaticality of these sentences without difficulty in accordance with Shibatani’s hypothesis: the sentences are already bad before Topicalization because the quantifier floats off the NP that is not marked with *ga* or *o*.

Exactly the same argument goes for the topicalized versions of (40)-(41).

(44) a. *[t₁ Amerika-no roodoosya]₂-wa [e₂ subete₁ kenkoo-hoken-ga hituyoo da]
    ‘As for American’s workers, they all need health insurance.’
b. \([t_1 \text{ Amerika no roodoosya-ni}]_2\)-wa \([e_2 \text{ subete}1 \text{ kenkoo-hoken-ga} \\text{hituyoo da}]

\[(45)\] a. \([t_1 \text{ Syoonen-tati-ni}]_2\)-wa \([\text{ watakusi-ga} \text{ kono zisyo-o} e_2 \text{ suu-nin}_1 \text{ purezent-sita}]\)

‘As for the boys, I presented those dictionaries to a few of them.’

b. \([t_1 \text{ Kodomo-ni}]_2\)-wa \([\text{ boku-ga} e_2 \text{ san-nin}_1 \text{ hon-o yatta}]\)

‘As for the children, I gave books to three of them.’

(44)-(45) are the topic versions of (40)-(41), respectively. The grammaticality of (44a) and the ungrammaticality of (44b) and (45) are expected in the movement analysis of topic constructions coupled with Shibatani’s hypothesis. In (44a), the topicalized NP is marked with the nominative Case-marker \(\text{ga}\) in the pre-scrambled position as in (40a) and the quantifier float is possible from this NP. In contrast, (44b) and (45) are already bad in the pre-scrambled sentences in (40b) and (41) before Topicalization, with the NP (to be topicalized) marked with \(\text{ni}\) (not \(\text{ga}\) or \(\text{o}\)) banned from launching quantifiers thereof.\(^{57}\)

Lastly, whether Shibatani’s claim is right or not, the base-generation hypothesis, as in the case of PP Topicalization in (35), cannot explain the source of the Case-marker \(\text{ni}\) attached to the topic NP in the topic version of (42):

\[(46)\] a. \([t_1 \text{ Yadoya-ni}]_2\)-wa \([\text{ watakusi-ga} \ t_2 \text{ ni-san-gen}_1 \text{ atatte-mita}]\)

\(\text{inn-Dat-Top} \quad \text{I-Nom} \quad 2\text{-3-CL} \quad \text{negotiate-tried}\)

‘As for the inns\(_2\), I tried to negotiate with two or three of them\(_2\).’

b. \([t_1 \text{ Kinzyo-no hito-ni}]_2\)-wa \([\text{ kado-o} \text{ magatta} \text{ tokoro-de,}]\)

\(\text{neighbor-Dat-Top} \quad \text{corner-Acc} \quad \text{ turned} \quad \text{ place-at}\)

\(\text{boku-ga} \ t_2 \text{ ni-san-nin}_1 \text{ dekuwasita}\)

\(^{57}\) The ungrammaticality of (44b) and (45) is not attributable to a violation of the Path Containment Condition (i.e., association lines must not cross each other; Pesetsky 1982) or of the Proper Binding Condition (i.e., traces must be bound; Fiengo 1977, May 1977) because the grammatical (44a) has the same structure as the ungrammatical (44b) and (45).
I-Nom two or three-CL came across

‘As for the neighbors, I came across two or three of them when I turned the corner.’

In these sentences the topic contains the Case-marker *ni*, which appears in the non-topicalized sentences in (42). The movement hypothesis can trace back the source of the Case-marker *ni* to its original position in the pre-scrambled structure (42). In contrast, the base-generation hypothesis can neither provide the source of the Case-marker *ni*, nor can it explain why *ni* in particular (out of many Case-markers) appears there. It cannot also account for why Case-markers appear in the topic phrase in sentences like (46) and not in the sentences like (43).

4.3 Unification of Topicalization and Scrambling

So far we have been discussing Topicalization and Scrambling without considering the landing site of the moved phrase: whether the movement is to an A-position or to an A'-position. Saito (1985) assumes that Scrambling is an IP-adjunction operation and that a topic phrase is base-generated (Kuno 1973a) under IP. This is illustrated in (47).

(47) a. Scrambling:

\[
\begin{array}{c}
\text{[IP Scrambled phrase]} \\
\text{[IP ... e\_1 ... ]}
\end{array}
\]

(where e\_1 is a variable) (Saito 1985:308)

b. Topicalization:

\[
\begin{array}{c}
\text{[IP Topic]} \\
\text{[IP ... e\_1 ... ]}
\end{array}
\]

(where e\_1 is an empty pronoun) (Saito 1985:309)

An adjunction position is not an A (argument)-position in which arguments (subject, object, etc.) appear in D-Structure; rather, it is considered as A' (non-Argument)-position. Accordingly, the operation which moves an element to an A'-position is an A'-movement. Likewise, the position for a topic phrase can also be A'-position.
Recently, Saito (1992), following the analyses by Webelhuth (1989) and Mahajan (1989) though maintaining his essential ideas, claims that local scrambling is uniformly to an A'-position at S-Structure, which is reanalyzed as an A-position at LF, while long-distance scrambling is always to an A'-position at both S-Structure and LF. In this section, I first review the Binding Theory of Chomsky (1981) which is essential to the discussions that follow (4.3.1). After that, I introduce Saito’s (1992) claim that Scrambling is uniformly an A’-movement, which is then reanalyzed as an A-movement at LF by reconstruction effects (4.3.2). Based on Saito’s idea, I propose that both Scrambling and Topicalization are uniformly A-movement at S-Structure in accordance with Principle A of the binding theory (4.3.3). We look at Topicalization in which a topic phrase does not bind an empty site (4.3.4). Finally, I discuss some semantic or functional similarities and differences between Scrambling and Topicalization (4.3.5).

4.3.1 Binding Theory

The Binding Theory (BT) of Chomsky (1981, 1986a, b) regulates the distribution/interpretation of three basic categories in an A-position: (i) anaphors, (ii) pronominals, and (iii) R-expressions (Chomsky 1981:188). Anaphors are of two types: lexical anaphors (such as reciprocals and reflexives) and NP-trace. Pronominals are either overt pronouns such as he, she, it, etc.; or null pronouns (pro in pro-drop languages such as Chinese, Japanese, Korean, etc.). R-expressions consist of ordinary nouns such as John, Mary, etc. and wh-trace (a variable). We assume the following binding principles in (48):58

58 Chomsky (1986b) reformulates binding theory using the notion of Complete Functional Complex for the notion of the governing category. Since the change in the definition of the binding domain compatible with binding theory does not affect the discussion in this thesis, I will use the original formulation as given in (48) in the text.
(48) Binding Theory (Chomsky 1981:188)

A. An anaphor is bound in its governing category.

B. A pronominal is free in its governing category.

C. An R-expression is A-free.

Let me give some relevant definitions.

(49) Binding (Chomsky 1981:184)

$\alpha$ binds $\beta$ if and only if $\alpha$ and $\beta$ are coindexed, $\alpha$ c-commands $\beta$, and $\alpha$ is in an A/A'-position.

(50) Governing category (GC) (Chomsky 1981:188)

$\alpha$ is the governing category for $\beta$ if and only if $\alpha$ is the minimal category containing $\beta$ and a governor of $B$, where $\alpha = NP$ or $S$ (IP).

Now, observe how the binding principles in (48) work in the following cases.

(51) a. John seemed to introduce himself to Mary.

b. *John hoped that Nancy would introduce himself to Mary.

(52) a. John hoped that Mary will like him.

b. *[John introduced him to Mary].

(53) a. Mary hoped that Nancy will like John

b. *[Who does he like e]?

c. *[He loves John].

d. *[Who] did he hope that Nancy will like e?

In (51a), the reflexive himself is bound by the NP-trace $e$ of John in its GC (the embedded IP), and the NP-trace itself is bound by the antecedent John in the GC (the matrix IP), and hence the sentence satisfies Principle A of the binding theory. The reflexive in (51b) is not bound by its antecedent John in its GC, and hence is ungrammatical in violation of Principle A. The pronoun him in (52a) is not bound, i.e., it is free in its GC (the embedded IP) and observes Principle B, while it is bound in its GC.
(the matrix IP) in (52b) in violation of the same principle. John in (53a) has no binder, satisfying Principle C. In contrast, John in (53c) is bound by he, violating Principle C. The wh-trace e₁ in (53b) is bound by who, but the latter is in the matrix Comp (or SpecCP), which is an A'-position. Thus, the wh-trace, though A'-bound, is A-free. In the case of ungrammatical (53d), though e₁ is A-free with respect to who, it is A-bound by he.

4.3.2 Saito (1992)

Saito (1992) contends that three types of positions posited by Webelhuth (1989), summarized in (54) below, exist at S-Structure, and that Scrambling is uniformly movement to a non-operator A'-position, but that only the A-positions and operator (A'-) positions posited by Mahajan (1989) in (55) can exist at LF, where Binding Theory (Chomsky 1981, 1986a, b) applies. That is, since the position created by Scrambling is a non-operator A'-position, it is interpreted at LF as follows: either (a) the non-operator A'-position disappears (i.e., Scrambling is undone), or (b) the position is reanalyzed as an operator position, or (c) the position is reanalyzed as an A-position, as illustrated in (56).

(54) Webelhuth’s hypothesis: There are three positions:
   (a) Non-operator A-position: subject, object, etc.
   (b) Operator A’-position: wh words
   (c) Non-operator A’-position: positions of all scrambled phrases

(55) Mahajan’s hypothesis: There are two positions:
   (a) There are only two types of positions: A and A’.
   (b) Long distance scrambling is always A’ movement.
   (c) Clause-internal scrambling can be either A or A’ movement.
Saito gives (57) as an example of Option (a) for non-operator A'-position.

(57) Zibunzisin-o [Hanako1-ga t1 hihan-sita]

self-Acc Hanako-Nom criticized

'Herself₁ Hanako₁ criticized.' (Saito’s (17), p. 76)

If *zibunzisin* ‘self,’ argues Saito, is in an A-position, (57) should be ruled out by Principle A and Principle C of the Binding Theory: the anaphor is not A-bound and *Hanako* is A-bound by *zibunzisin*. If the reflexive is in an A'-position, no violation of Principle C occurs. However, whether Scrambling is to an A- or A'-position, the R-expression/variable (*Hanako*/*it*), being A-bound by the coindexed *zibunzisin/Hanako*, violates Principle C if the Binding Theory applies at S-Structure, but not at LF.

Therefore, Saito proposes that the Binding Theory applies at LF and that at LF, the scrambled phrase in an A'-position is moved back to its original A-position at D-Structure, whereby Principle A is respected with the anaphor being A-bound (cf. Katada 1990, 199159).

Saito then gives an example that suggests that the landing site for clause-internal scrambling must be reanalyzed as an A position, Option (c) in (56). Consider first (58), in which the anaphor *otagai* ‘each other’ is not bound by its antecedent.

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The examples in (58) violate Principle A because the anaphor *otagai* ‘each other’ has no A-binder. But, when the object *karera-o* ‘they-Acc’ is preposed to sentence-initial position, as in (59), the examples become grammatical: clause-internal scrambling can correct a Principle A violation.

(59) a. Karera_1-o [Masao-ga [otagai_1-no sensei]-ni t_1 syookai-sita]  
   they-Acc Masao-Nom each other-Gen teacher-to introduced  
   ‘Them_1, Masao introduced t_1 to each other’s_1 teachers.’

b. ?Karera_1-o [[otagai_1-no sensei]-ga t_1 hihan-sita]  
   each other-Gen teacher-Nom they-Acc criticized  
   ‘Each other’s_1 teachers criticized t_1.’

The grammaticality of (59) suggests that Scrambling is A movement, whereby the anaphor *otagai* ‘each other’ is A-bound by the scrambled antecedent in an A-position. For the examples like this, Saito claims that since Scrambling at S-Structure is always to A’-position, it should be reanalyzed as A movement at LF (Option (c) in (56)) so that the anaphor satisfies Principle A.

In connection with this, let us look at an example that suggests, according to Saito, that long-distance scrambling does not correct a Principle A violation.

(60) a. *Karera_1-o [Masao-ga [otagai_1-no sensei]-ni  
   they-Acc Masao-Nom each other-Gen teacher-to
Hanako-Nom criticized that said "Them, Masao said to each other's teachers that Hanako criticized them."  

b. *Karera-1-o [[otagai-no sensei]-ga they-Acc each other-Gen teacher-Nom

Hanako-Nom criticized that said "Them, each other's teachers said that Hanako criticized them."

Saito says that the long-distance scrambling here is not to an A-position but can only be to an A’-position: if the scrambled phrase in (60) were in an A-position, the resulting A chain would be ill-formed since “each link of an A chain must be 0-subjacent (i.e., no barrier can intervene between two members of a single A chain.)” (p. 100), as illustrated in (61).

(61) *John-1-0 is believed [CP that [IP it was told t1 [CP that Mary was leaving]].

Since the position of the scrambled phrase cannot remain a non-operator, A’-position at LF, either Option (a) or (b) in (56) must apply. If we first apply Option (a), the resulting LF representation violates Principle A because the anaphor has no binder after Scrambling is undone. Option (b) makes (60) violate Principle A at LF, too. Saito (p. 100) says that since the scrambled phrase will be in an operator position, it does not qualify as a possible antecedent for the lexical anaphor at this level.”

4.3.3 Scrambling and Topicalization as A-movement

4.3.3.1 Scrambling and Principle A violations

We claim that not only local scrambling (59) but also long-distance scrambling (60) is to an A-position. First, the sentences in (60) are not in fact ungrammatical. Replacing karera ‘they’ by referential NPs such as John to Mary ‘John and Mary’ makes them even better, as in (62).
(62) a.  [John to Mary]-o [Masao-ga [otagai-no sensei]-ni
[John and Mary]-Acc Masao-Nom each other-Gen teacher-to
[CP[IP Hanako-ga t₁ hihan-sita] to] itta]
Hanako-Nom criticized that said
‘[John and Mary]-₁, Masao said to each other’s₁ teachers that Hanako
criticized t₁.’

b.  [John to Mary]-o [[otagai₁-no sensei]-ga
[John and Mary]-Acc each other-Gen teacher-Nom
[CP[IP Hanako-ga t₁ hihan-sita] to] itta]
Hanako-Nom criticized that said
‘[John and Mary]-₁, each other’s₁ teachers said that Hanako criticized
t₁.’

The grammaticality of (62) shows that there is no such 0-Subjacency condition on A-chains in Japanese and that the landing site for the scrambled phrase is an A-position, which satisfies Principle A with anaphors. Recall that we have already shown that Subjacency is irrelevant to movement in Chapter 2. Further, consider (63) in support of this claim.

(63) a.  Sensei-ga [John to Mary]-₁-ni [otagai₁-no oya]-o
teacher-Nom [John and Mary]-to each other-Gen parent-Acc
syookai-sita₆₀
introduced
‘The teacher introduced to each other₁’s parents [John and Mary]-₁.’

b.  *Sensei-ga [otagai₁-no oya]-ni [John to Mary]-₁-o
teacher-Nom each other-Gen parent-to [John and Mary]-Acc

---

₆₀ The binding domain of the Japanese anaphors and reciprocals such as *zibun ‘self,’ *zibun-zisin ‘oneself,’ *otagai ‘each other,’ unlike the English anaphors and reciprocals, can extend to the matrix clause (cf. Katada 1991, Manzini and Wexler 1987).
syookai-sita
introduced
'The teacher introduced each other's parents to [John and Mary].'
c. [John to Mary]-o [sensei-ga [otagai1-no oya]-ni
[John and Mary]-Acc teacher-Nom each other-Gen parent-to
t1 syookai-sita]
introduced
'[John and Mary], the teacher introduced t1 to each other's parents.'
d. [John to Mary]-o [boku-wa [NP[CP IP Yamada-san2-ga
[John and Mary]-Acc I-Top Yamada-Mr.-Nom
[otagai1-no oya]-ni t1 hikiawaseta] toyuu] each other-Gen parent-to introduced that
hanasi-o sinzi-nakatta]
story-Acc believe-did not
'[John and Mary], I did not believe the story that Mr. Yamada
introduced t1 to each other's parents.'
e. [John to Mary]-o [boku-wa [NP[IP Yamada-san2-ga
[John and Mary]-Acc I-Top teacher-Nom
[NP[IP e2 [otagai1-no oya]-ni t1 hikiawaseta] each other-Gen parent-to introduced
toki]-ni totta] syasin]-o imade-mo motteiru] time-at took picture-Acc now-even possess
'[John and Mary], I still have a picture which Mr. Yamada took at the
time when he introduced t1 to each other's parents.'

(63a) is good because the anaphor otagai is A-bound, while (63b) is bad in violation of Principle A. This Principle A violation is remedied in (63c-e). (63c) is local scrambling
and (63d) and (63e) are long-distance scrambling, both of which indicate that movement is not constrained by Subjacency.\textsuperscript{61}

If the scrambled position were an A'-position, then the anaphor *otagai* ‘each other’ in (63c-e) would not be A-bound, leading to a Principle A violation. The grammaticality of these sentences leads us to conclude that the scrambled position is an A-position. This, then, suggests that Scrambling is to an A-position at S-Structure.\textsuperscript{62, 63} It is examples like (62) and (63c-e) that make Saito assume that Scrambling (i.e., an A'-movement at S-Structure) is reanalyzed as an A-movement at LF.

\textsuperscript{61} Here one may want to say that scrambling of the anaphor’s antecedent *John to Mary* in (63d, e) is not a long-distance move in a single step but a local successive move in a manner illustrated schematically in (i).

\textsuperscript{62} The Principle A correction in (63) can also be executed by adjoining the anaphor’s antecedent to the local VP, as in the first move in (I) in footnote 61. This is illustrated in (i) for (63c), for example.

\textsuperscript{63} Déprez (1989, sec. 3.2) argues that Japanese Scrambling is “an instance of \textit{A-}movement to the specifier of a functional projection (p. 153). This is, Scrambling involves not adjunction but substitution to e.g., SpecAgr (cf. Pollock 1989, Chomsky 1989, Rizzi 1990, etc.) or SpecIP (given the VP-internal subject hypothesis (Kuroda 1988, Fukui and Speas 1986, Kitagawa 1986, Sportiche 1988, Koopman and Sportiche 1988, among others). We do not concern ourselves with whether the landing site of Scrambling and Topicalization is SpecCP or IP-adjoined position. The question of whether Scrambling and Topicalization involve substitution or adjunction is beyond the scope of this dissertation. We simply recognize that the landing site of a scrambled and topicalized phrase is an A-position, leaving the question to future study. See Fanselow 1990 for the claim that Scrambling in German is A-movement and Müllner and Sternefeld 1991, 1993 for the claim that Scrambling is uniformly A'-movement. See also Webelhuth (1992:205-210), where it is argued that Scrambling exhibits properties of both A- and A'-movement.
However, this seems to be an apparent problem with sentences like (57), repeated below as (64), in terms of anaphor binding:

\[(64) \text{Zibunzisin}_1-o \ [\text{Hanako}_1-ga \ t_1 \ \text{hihan-sita}]\]

\[\text{self-Acc} \quad \text{Hanako-Nom} \quad \text{criticized}\]

‘Herself′, Hanako_1 criticized.’ (Saito’s (17), p. 76)

If the anaphor \textit{zibunzisin} ‘oneself’ is scrambled to an A-position, the R-expression \textit{Hanako} violates Principle C of the binding theory, and hence (64) should be ungrammatical, which it is not. This is a problem with A-movement analysis for Scrambling. Several solutions to this problem come to mind.

Kuno (1987) assumes that binding theory applies before and after Scrambling at S-Structure. According to this analysis, Principle A is observed in (65), the pre-scrambled structure of (64). However, the same principle is then violated in the post-scrambling structure of (65), which is (64), an unwanted result:

\[(65) \text{Hanako}_1-ga \ \text{zibunzisin}_1-o \ \text{hihan-sita}\]

\[\text{Hanako-Nom} \quad \text{self-Acc} \quad \text{criticized}\]

‘Hanako_1 criticized herself.’

To avoid this, it could be posited that once a binding principle is satisfied at some stage of the S-Structure, it need not apply thereafter. This may agree in spirit with something like the “Least Effort” principle of Chomsky (1989) or a more recent notion of “Procrastinate” of Chomsky (1992), as they are extended to binding theory:

\[(66) \text{Procrastinate (as applied to binding theory)}\]

\[\text{Don’t do anything unless otherwise required.}\]

(66) prohibits the binding principle from applying to (64) because it has been already applied to the pre-scrambled structure (65).
Another solution along the same line with the first one is to assume that Scrambling need not take place unless it otherwise is called for by some general principles (i.e., binding principles in the present case). That is, we envisage (67).

(67) Procrastinate (as applied to Move α)

Don’t move anything overtly unless otherwise required.

Given (67), (64) will not be derived from (65) to meet the binding requirement because it has been already satisfied in (65). But, (64) may be derived from (65) for other reasons or necessity: e.g., it may be fronted to receive the emphatic reading on *sibunzisin* ‘oneself’ (i.e., ‘emphatic fronting’ of Haig 1976), though this needs a stipulation that fronting takes place at some level of structure after the binding principles apply.

Still another possibility is to take the position that the kind of Scrambling that results in (64) is not “syntactic” but “stylistic” and this occurs at PF (Phonetic Form) with the assumption that binding theory applies at S-Structure only. Notice that (64), unlike (58), (60), and (63b), need not be derived from (65) by Scrambling, in order to remedy a Principle A violation. I am assuming here that Scrambling divides into two categories: one syntactic and the other stylistic. The syntactic scrambling takes place at S-Structure when there is a need to do so (e.g., to correct any violation of grammatical principle(s)). The stylistic scrambling is the one that is not motivated or driven by grammatical principle(s) but that takes place freely at PF.

If these speculations are on the right track, then we can avoid the problems like (64) and abandon Saito’s idea that Scrambling is an A’-movement at S-Structure, which is then reanalyzed as A-movement at LF. We can maintain our S-Structure A-movement analysis for Scrambling. Since Topicalization is, like Scrambling, a movement process in our analysis, exactly the same can be said about it.

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64 This idea conflicts with Chomsky’s (1992) principle of “Last Resort” (i.e., a principle of “Greed”): “Last Resort is always ‘self-serving’: benefiting other elements is not allowed” (p. 47).
4.3.3.2 Topicalization and Principle A violations

Along the same lines as Scrambling, Topicalization can be analyzed as A-movement with respect to Binding Theory. As in the case of Scrambling, Topicalization can save the prime-marked sentences in (68) from a Principle A violation.

(68) a. Karera₁-wa [Masao-ga [otagai₁-no sensei]-ni they-Top Masao-Nom each other-Gen teacher-to
   t₁ syookai-sita] introduced
   ‘As for them₁, Masao introduced t₁ to each other’s₁ teachers.’

a.’ *Masao-ga [otagai₁-no sensei]-ni karera₁-o syookai-sita Masao-Nom each other-Gen teacher- they-Acc introduced
   ‘Masao introduced them₁ to each other’s₁ teachers.’ (=58a)

b. Karera₁-wa [[otagai₁-no sensei]-ga t₁ hihan-sita] they-Top each other-Gen teacher-Nom criticized
   ‘As for them₁, each other’s₁ teachers criticized t₁.’ (cf. (59b))

b’. *[Otagai₁-no sensei]-ga karera₁-o hihan-sita each other-Gen teacher-Nom they- Acc criticized
   ‘Each other’s₁ teachers criticized them₁.’ (=58b)

c. Karera₁-wa [Masao-ga [otagai₁-no sensei]-ni they-Top Masao-Nom each other-Gen teacher-to
   [CP[IP Hanako-ga t₁ hihan-sita] to] itta] Hanako-Nom criticized that said
   ‘As for them₁, Masao said to each other’s₁ teachers that Hanako criticized t₁.’

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c. *Masao-ga [otagai]-no sensei]-ni [CP[IP Hanako-ga
Masao-Nom each other-Gen teacher-to Hanako-Nom
karera hihan-sita] to] itta
they-Acc criticized that said
‘Masao said to each other’s teachers that Hanako criticized them.’

d. Karera-wa [[otagai]-no sensei]-ga [CP[IP Hanako-ga
each other-Gen teacher-Nom Hanako-Nom
t hihan-sita] to] itta]
criticized that said
‘As for them, each other’s teachers said that Hanako criticized t.’

d’. *[Otagai]-no sensei]-ga [CP[IP Hanako-ga
each other-Gen teacher-Nom Hanako-Nom
karera hihan-sita] to] itta
they-Acc criticized that said
‘Each other’s teachers said that Hanako criticized them.’

e. [John to Mary]-wa [Masao-ga [otagai]-no sensei]-ni
[John and Mary]-Top Masao-Nom each other-Gen teacher-to
[CP[IP Hanako-ga t hihan-sita] to] itta]
Hanako-Nom criticized that said
‘As for [John and Mary], Masao said to each other’s teachers that Hanako criticized t.’

e’. *Masao-ga [otagai]-no sensei]-ni [CP[IP Hanako-ga
Masao-Nom each other-Gen teacher-to Hanako-Nom
[John to Mary]-o hihan-sita] to] itta
[John and Mary]-Acc criticized that said
‘Masao said to each other’s teachers that Hanako criticized [John and
Mary]_1.

f.  [John to Mary]_1-wa  [[otagai_1-no  sensei]-ga
[John and Mary]-Top  each other-Gen  teacher-Nom

[CP[IP  Hanako-ga  t_1  hihan-sita]  to]  itta]

Hanako-Nom  criticized  that  said

'As for [John and Mary]_1, each other’s_1 teachers said that Hanako
criticized t_1.'

f'.  *[Otagai_1-no  sensei]-ga  [CP[IP  Hanako-ga
each other-Gen  teacher-Nom  Hanako-Nom

[John to Mary]_1-o  hihan-sita]  to]  itta
[John and Mary]-Acc  criticized  that  said

'Each other’s_1 teachers said that Hanako criticized [John and Mary]_1.'

If the topic position were an A’-position, then the anaphor *otagai* ‘each other’ would not
be A-bound, leading to a Principle A violation. Since the sentences above are all
grammatical, it must be the case that the topic position is an A-position. This, then,
suggests that topic movement is to an A-position. As with Scrambling, with
Topicalization too, we need not take Saito’s position that binding theory applies to LF
representation after reconstruction.

In connection with this, let us now give a supporting argument for our movement
analysis of topic constructions over the base-generation analysis proposed by Kuno
(1973a) and Saito (1985) in terms of Principle A. If a topic phrase were to be base-
generated in the IP-adjoined position, as illustrated in (47b), which is repeated as (69),

(69) **Topicalization:**

    [[IP  Topic]  [[IP  ... e_1  ...  ]]]

    (where e_1 is an empty pronoun)  (Saito 1985:309)
then the sentences in (68) above would violate Principle A. Because the position of the topic phrase is an A’-position, the coindexed anaphor is not A-bound. For example, in (68a), the anaphor *otagai* ‘each other’ is bound by its antecedent *karera* ‘they’, but the latter is in an A’-position (i.e., IP-adjoined position). That is, the anaphor is not A-bound and violates Principle A. This is shown in (70):

(70) \[\text{[Karera}_1\text{-wa [Masao-ga [otagai}_1\text{-no sensei]-ni e}_1\text{ syookai-sita]}\]

\[
\begin{array}{ccc}
\text{A’-position} & \text{A-position} & \text{(cf. (68a))} \\
\text{A-free} & & \\
\end{array}
\]

Exactly the same applies to the other sentences in (68). Faced with this problem, one may want to extend A-binding of anaphors to A’-binding to get around a Principle A violation. That is, this amount to saying that anaphors can be A or A’-bound. However, this will create another problem with other topicalization cases like (71).

(71) a. *[John$_1$, [himself] blamed e$_1$]]

b. *[John$_1$-wa [zibun(-zin)]$_1$-ga semeta e$_1$]]

\[
\begin{array}{ccc}
\text{John-Top} & \text{self-Nom} & \text{blamed} \\
\text{‘As for John$_1$, self$_1$ blamed e$_1$.’} \\
\end{array}
\]

If A’-binding is allowed for anaphor binding, the anaphors *himself* and *zibun(-zin)* would be bound by their respective antecedent in an A’-position, predicting that the sentences in (71) are grammatical. But, they are not. Thus, A’-binding for anaphors must be abandoned.

Here, one could assume that the topic position in (69) is an A-position rather than an A’-position under the base-generation analysis, which we refer to as the “base-generation in A-position” analysis (BGA) as opposed to Saito’s (1985) analysis, which we refer to as

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65 I assume that the trace e$_1$ left behind by the movement of a topic phrase is an empty (pronominal) anaphor, i.e., an anaphor-trace. I will discuss the motivation for and the consequences of, this assumption in Chapter 5, where we talk about the mechanism of resumptive pronouns in detail.

66 A’-binding would also violate Principle C with respect to the gap associated with the topic, if we assume with Chomsky (1981) that it is a trace (i.e., a variable).
the “base-generation in an A’-position” analysis (BGA’). The BGA can explain all the sentences in (68). For example, in (70) the anaphor *otagai ‘each other’ is A-bound by its antecedent in an A-position, satisfying Principle A of the binding theory. And, it can also account for the following ungrammatical sentence in (72) in two ways: via Principle C violation or Principle B violation.

(72)?*Zibun(-zisin)1-wa [John1-ga e1 semeta]
  self-Top John-Nom blamed

‘Self1, John1 blamed.’

(72) is ungrammatical in violation of Principle C because the R-expression John is A-bound by the antecedent zibun in an A-position. It also violates Principle B because the gap construed as an empty pronoun (pro) is bound by the subject NP John in its governing domain (the matrix clause). Since there is no evidence to the contrary, the BGA is a possible theoretical alternative.

4.3.3.3 A potential problem

In the previous sections we have argued that the position for the topic phrase is an A-position under the movement analysis (which we refer to as “MA”). However, the MA faces a difficulty accounting for sentences such as those in (73) with respect to anaphor binding.

(73) a. *John1-wa [zibun(-zisin)1-ga t1/e1 semeta]
  John-Top self-Nom blamed

‘As for John1, self blamed t/e1.’ (=71b)

b. *John1-o [zibun(-zisin)1-ga t1/e1 semeta]
  John-Acc self-Nom blamed

‘John1, self blamed t1.’
If the position occupied by the topic phrase is an A-position, then (73) would be wrongly predicted to be grammatical, because the reflexive satisfies Principle A.\footnote{The ungrammatical (73b) can be explained by Lee's (1993) analysis of Scrambling as A-movement by the Subject Binding Generalization (SBG): If X in subject position binds Y at D-Structure, then X binds Y at all levels of representation. That is, "[the] binding relation once established between a subject and another argument at D-Structure is indelible through all levels of representation [i.e., S-Structure and LF]" (p. 30). According to the SBG, the binding of John by the anaphor zibun is retained at LF in (73b), and hence (73b) violates Principle A. Though Lee (1993:36) says that the Korean example in (i) corresponding to (73b) is grammatical and hence poses a problem to his analysis, this analysis works for the Japanese sentences like (73b).}

The ungrammaticality of (73a) can be explained by a violation of Principle B by the BGA' or the BGA because the gap (e_j) construed as pro is A-bound by the anaphor zibun(-zisin) in its governing domain, violating Principle B.

The base-generation analysis of Kuno (1973a, b) and Saito (1985) with topic in an-A'-position (the BGA') has a problem with the sentences in (68) though it can account for the sentences like (72)-(73). Our movement analysis (the MA) faces a problem with (73) though it can account for (68) and (72). By contrast, the BGA can distinguish ungrammatical sentences such as (72)-(73) from the grammatical sentences in (68). Thus, the BGA appears superior to both the BGA' and the MA. However, neither of the base-generation analyses (BGA' and BGA) can account for the facts about NP Topicalization (34), PP Topicalization (35), and Quantifier Float (43)-(46) discussed in section 4.2.3.2. But the MA can. See (75).

I do not understand why (72)-(73) are ungrammatical. I leave it as an open problem. But, a few remarks on anaphor binding are in order.

What distinguishes the grammatical sentences in (68) from the ungrammatical ones in (72)-(73) is that the anaphor is a reflexive; it is a subject in a root sentence in the latter, while the anaphor is a reciprocal with a genitive Case marker contained in a subject (a larger NP) in the former.

\(^{67}\) The ungrammatical (73b) can be explained by Lee’s (1993) analysis of Scrambling as A-movement by the Subject Binding Generalization (SBG): If X in subject position binds Y at D-Structure, then X binds Y at all levels of representation. That is, "[the] binding relation once established between a subject and another argument at D-Structure is indelible through all levels of representation [i.e., S-Structure and LF]" (p. 30). According to the SBG, the binding of John by the anaphor zibun is retained at LF in (73b), and hence (73b) violates Principle A. Though Lee (1993:36) says that the Korean example in (i) corresponding to (73b) is grammatical and hence poses a problem to his analysis, this analysis works for the Japanese sentences like (73b).  

(i) ?John₁-ul casin₁-i t₁ miwuchanta. (Lee's (105))
Putting the analysis aside, reflexives cannot stand as a subject in a root clause as in (72)-(73). But, this is not the case for the reciprocals, as in (68a-f) and (74).

(74) Karera₁-wa [otagai₁-ga t₁/e₁ seme(-at)ta]
    they-Top each other-Nom blamed

'As for them₁, each₁ blamed the other.'

The MA can accommodate (74). But, the grammaticality of (74), this time, argues against both the BGA' and the BGA: the gap (e₁) violates Principle B, regardless of whether the topic position is an A- or A'-position. The generalization about anaphor binding is that reciprocals (otagai) can be a subject in a root clause, while reflexives (zibun(-zisin)) cannot unless its referent is established in the preceding discourse contexts. After all, binding of an anaphor in a subject position in a root clause is a problem to either analysis of Scrambling and Topic constructions.⁶⁸

The predictions of the three analyses of topic constructions are summarized in (75).

<table>
<thead>
<tr>
<th></th>
<th>Analysis</th>
<th>BGA' (Saito)</th>
<th>BGA (alternative)</th>
<th>MA (ours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(34)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>(35)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>(43)-(46)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>(68)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>(72)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>(73a)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>(74)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

4.3.4 Topicalization without a gap

In this section, we consider a topic construction which does not have a gap coindexed with a topic phrase. Let us first observe (76), reported in Saito (1985:282), which he credits to Kuno (1973a:250-251):

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⁶⁸ I think that this is related to subject orientation of the reflexive zibun(-zisin): the subject orientation prevents it from appearing in the subject position in a root sentence.
a. Sakana-wa [IP tai-ga oisii]  
fish-Top red snapper-Nom tasty  
'Speaking of fish, red snappers is tasty.'

b. Hana-wa [IP sakura-ga ii]  
flower-Top cherry blossom-Nom good  
'Speaking of flowers, cherry blossoms are the best.'

In the sentences above, there is no gap that corresponds to the topic. Saito (1985:282) states that since the topics *sakana* 'fish' and *hana* 'flowers' do not bind any argument position in (76), "it seems impossible to derive these examples by movement." It was examples like these that made Kuno (1973a, b) and Saito (1985) assume base-generation of the topic as in the structure in (77).69

(77)

I agree with Kuno (1973a, b) and Saito (1985) that the topic sentences such as (76) have the structure like (77) with the topic base-generated in the sentence-initial position.

However, as discussed above, the same base-generation analysis cannot be applied to sentences such as (1a), repeated here as (78), which contains a gap coindexed with the topic:

(78) Sono hon₁-wa [John-ga e₁ kaita]  
that book-Top John-Nom wrote  
'As for the book₁, John wrote e₁.'

---

69 Several analyses of this type of topic construction have been proposed in the literature—Kuroda (1965), Muraki (1974), Nakau (1973), among others. See Kuno (1973a:251-253) for criticism of these proposals.
There, I think, is a significant difference between (76) and (78): (76) cannot be introduced into the discourse out of context, whereas (78) can. That is, the speaker of (78) can directly talk about a particular book out of context and describes about or comments on it. On the other hand, the speaker cannot directly utter the sentences like (76). In order to utter these sentences, there must have been in the preceding discourse contexts some mentions about fish or flowers. For example, (76a) presupposes the following discourse contexts as illustrated in (79).

(79) Speaker A (1):

Kinoo susiya-e Yamada-kun-to itta-n datte nee
yesterday sushi bar-to Yamada-with went-NM I hear right?
…I hear you went to the sushi bar last night, didn’t you?’

Speaker B (1):

Ee, hisasiburi-ni sakana-o tabemasita yo
Yes after a long time fish-Acc ate emphatic particle
‘Yes, it’s a long time since I ate fish last.’

Speaker A (2):

Kimi-wa donna sakana-ga suki?
you-Top what kind of fish-Nom like
“What kind of fish do you like best?”

Speaker B (2):

(Soo desu nee) Yappari (sakana/sasimi-wa) tai-ga
Well after all fish/raw fish-Top red snapper-Nom
ii desu nee
good is indeed
‘(Well,) speaking of fish/raw fish, red snappers are indeed tasty, after all.’
In Speaker B’s second utterance, the topic construction is used. The topic *sakana* ‘fish’ in this utterance refers back to *sakana* in the preceding utterances. Speaker B cannot start with the last utterance. Notice that the topic phrase *sakana/sasimi* need not be mentioned in the last utterance. This is because the phrase is already a topic in the whole discourse. I have never in my life heard the topic sentences like (76) said out of the blue. In the same way, the topic sentence (80), taken from Kuno (1973a:253), can never be uttered without a preceding context.

(80) Buturigaku-wa syuusyoku-ga taihen da
physics-Top employment difficult is
‘Speaking of physics, finding jobs is very difficult.’

(80) must be preceded by an utterance in which some mention relevant or referring to *buturigaku* ‘physics’ must be said. For example, an utterance like (81) can precede (80).

(81) Speaker A:
Saikin-no kurukuru kawaru gozisei-de-wa, dono gakumon-mo
nowadays-Gen rapidly change times-in-Top any learning-too
sorezore mondai-o kacaete taihen da nee
each problem-Acc have terrible is right?
‘In recent times of rapid change, any branch of learning has a hardship of its own, doesn’t it?’

In response to Speaker A in (81), the addressee can utter (80). In (81) *buturigaku* ‘physics’ is not mentioned, but *dono gakumon-mo* ‘any branch of learning’ sets a foregrounding for *buturigaku* in the following utterance in (80). Or, the addressee can continue further on adding utterances like (82) to (80).

(82) Gengogaku-wa sin’nyuu seito-no kakuho-ga yatto
linguistics-Top new students-Gen recruit-Nom barely
For linguistics, we can scarcely recruit new students, and for education, passing the qualifying exam for teachers is difficult.

In this case, three branches of learning, buturigaku ‘physics’, gengogaku ‘linguistics’, and kyooikugaku ‘education’ are being compared.

4.3.5 Summary

Let us here summarize the similarities discussed so far between Scrambling and Topicalization. They are as in (83):

\[(83) \text{Similarities:}\]

Scrambling and Topicalization:

(i) involve movement,

(ii) are free from Subjacency,

(iii) allow resumptive pronouns, and

(iv) are constrained by the semantic notion of aboutness or characterization.

Though we argued earlier that both Scrambling and Topicalization are constrained by the same semantic notion of “aboutness” or “characterization,” there seems to be a difference between the two with respect to the fourth property (iv) listed in (83). Some remarks about this point are in order.

Observe the sentences in (84). (84a, b) are acceptable with both Scrambling and Topicalization because there is a clear aboutness relation between the scrambled or topicalized phrase and the rest of the sentence.

\[(84) a. \text{Sono kikanzyuu}_1\text{-o/wa} \text{ IP keisatu-ga} \text{ NP} \text{ e}_2 \text{ t}_1 \text{ that machine gun-Acc/Top police-Nom} \]

\[(84) b. \text{Kikanzyuu}_1\text{-o/wa} \text{ IP keisatu-ga} \text{ NP} \text{ e}_2 \text{ t}_1 \text{ machine gun-Acc/Top police-Nom} \]
nusunda] yatu2]-o sagasite-iru rasii]
stole guy-Acc looking for-is seems

‘That machine gun1, the police seem to be looking for the guy2 who2 stole t1.’ (cf. (118) in Chapter 2)

b. Sono keiki2-o/wa John-wa [CP[NP[CP e1 t2 tabeta] that cake-Acc/Top John-Top ate
hitoj]-ga minna simatte to omotta
person-Nom all die-ended-up that thought

‘As for/That cake2, John thought that the persons who ate t2 have all
died.’

Now, consider the sentences in (85).

(85) a. Sono kikanzyuu1-??o/*wa [CP keisatu-ga [CP[NP[CP e2 t1 that machine gun-Acc/Top police-Nom
nusunda] yatu2]-ga Nihon-e itta to omotteiru] stole guy-Nom Japan-to went that thinks

‘As for/That machine gun1, the police thinks that the guy2 who2 stole t1 went to Japan.’ (cf. (118) in Chapter 2)

b. Sono keiki2-??o/*wa [John-ga [CP[NP[CP e1 t2 tabeta] that cake-Acc/Top John-Nom ate
hitoj]-ga hon-o kaita to omotteita]
person-Nom book-Acc wrote that thought

‘As for/That cake2, John thought that the person who ate t2 wrote a
book.’

c. Sono keiki2-??o/*wa [John-ga [NP[CP[NP[CP e1 t2 tabeta] that cake-Acc/Top John-Nom ate
person-Nom book-Acc wrote coffee shop-to going-tried
‘As for/That cake2, John tried going to the coffee shop where the person who ate t2 wrote a book.’

In these sentences, as opposed to those in (84), the scrambled/topicalized phrase has no direct semantic relation to the rest of the sentences. In (85a), the machine gun has no direct bearing on the police department’s speculation that the guy who stole it went to Japan; in (85b), the cake has no direct relation to the book writing by the person who ate it and John’s speculation about it; and likewise in (85c), the cake has no semantic connection with the book writing by the persons who ate it and John’s visiting the coffee shop where the book writer ate it. In such situations, however, Topicalization seems to result in relatively lower grammaticality than Scrambling.

Further, consider (86), in which Scrambling and Topicalization diverge in their behavior.

(86) Sono keiki2-o/*wa [John-ga [NP[CP[NP[CP e1 t2 tabeta] that cake-Acc/Top John-Nom ate
hito1]-ga minna sinde-simatta] kissaten]-e itte-mita] person-Nom all die-ended-up coffee shop-to going-tried
‘As for/That cake2, John tried going to the coffee shop where the persons who ate t2 have all died.’

Topicalization here results in ungrammaticality. Though there is, as in the case of (84b) above, a clear semantic relation between the scrambled phrase sono keiki ‘that cake’ and the lower relative clause, there can be seen no such connection between sono keiki and the higher relative clause. By contrast, Scrambling is acceptable here. From (86), the difference between the two can be boiled down to the difference in (87).
(87) Difference\textsuperscript{70}

The topic phrase must be in the aboutness relation to the rest of the entire sentence, while the scrambled phrase must be in such a relation to the clause that immediately contains the phrase/clause from which it has been scrambled.

The exact derivations for Topicalization in terms of the presence of the topic particle \textit{wa} is not clear to me at the present time. But, we suppose the following. A feature like [+TOP] is freely assigned to an NP or PP, and the NP or PP with [+TOP] undergoes a general rule of Move α and moves to sentence-initial position at S-Structure.\textsuperscript{71} Thus, at the last stage of the S-Structure, we have the topic phrases NP [+TOP] and PP [+TOP], and a Case-marker \textit{ga} (for subject) or \textit{o} (for object) left stranded after the movement of the associated NP. Further, at PF the feature [+TOP] attached to the NP and PP is phonetically realized as \textit{wa}, and the stranded Case-markers \textit{ga} and \textit{o} are dephoneticized (i.e., deleted phonetically). This is illustrated in (88).

(88) S-Structure:

(i) Free [TOP] assignment

\[
\begin{array}{c}
\text{[IP }} \\
\text{NP-ga/o } \\
\text{[TOP]}
\end{array}
\]

(ii) Move α:

\[
\begin{array}{c}
\text{[IP }} \\
\text{NP [IP t-ga/o ]} \\
\text{[TOP]}
\end{array}
\]

\textsuperscript{70} Huck and Na (1990, 1992) make a similar observation from a semantic-functional viewpoint about extraction from definite NPs or extraction from phrases extraposed from NP—noting that “the identity of [extracted] referent is calculable from the information given. Such a calculation can be made if a ‘discourse referent’ in the sense of Karttunen (1976) has already been established, if the discourse context implies an identifiable referent, or if the description provided in the sentence introducing the definite NP is sufficient to identify the intended referent” (Huck and Na 1992:325). For details see Huck and Na (1990, 1992).

\textsuperscript{71} Not only NPs and PPs but also verbs and adverbs can undergo Topicalization. We do not include verb and adverb topicalization. See Kuroda (1987) for some examples with verb topicalization.
Phonetic Form (PF):

(i) Phonetic realization of [TOP]

\[ \text{IP NP-wa [IP t-ga/o \]} \]

(ii) Dephonetization of the stranded Case markers

\[ \text{IP NP-wa [IP t-\phi \]} \]

This proposed movement analysis for Topicalization is very similar to that of Kuroda (1965, 1987). However, the one proposed here is different in that Kuroda assumes movement for the topic phrase that does not bind an empty site as in (76). (See Kuroda 1987 and Saito 1985:326-329 for details.)

The NP Topicalization analyses of Kuno (1973a, b) and Saito (1985), Kuroda (1965, 1987), and that proposed here are summarized in (89).

(89) NP Topicalization:

<table>
<thead>
<tr>
<th>Analysis</th>
<th>With an empty site</th>
<th>Without an empty site</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local scrambling</td>
<td>Long scrambling</td>
</tr>
<tr>
<td>K&amp;S</td>
<td>BG/M</td>
<td>BG</td>
</tr>
<tr>
<td>Kuroda</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Izutani</td>
<td>M</td>
<td>BG</td>
</tr>
</tbody>
</table>

(BG and M stand for base-generation and movement respectively.)

4.4 PP Scrambling and Topicalization

In the previous sections we discussed Scrambling and Topicalization of an NP. In this section we discuss the applications of these operations to a postpositional phrase (PP). We argue that exactly the same properties mentioned in (83i-iii) and (87) extend to PP Scrambling and Topicalization.

Saito (1985) claims that PP Topicalization, unlike NP Topicalization, is constrained by Subjacency. Thus, according to Saito’s analysis, both PP Scrambling and PP Topicalization out of islands result in a Subjacency violation, just in the case of NP
Scrambling discussed so far. In contrast, according to our analysis, since movement is immune to Subjacency, neither exhibits island effects.

Let us now look at some relevant sentences involving the two processes. Consider first PP Scrambling out of the relative clause in (90).

(90) a. Chomsky-ni2 [John-ga [NP[e1] e2 atta koto-ga aru]
   Chomsky-with John-Nom met fact-Nom have
   hito1]-ni atte-mi-tai to omotta]
   person-Dat meet-try-want that thought
   ‘Chomsky2, John thought of meeting a person who met t2.’

b. Tyuugoku-kara2 [boku-wa [[NP[e1] e2 Olympic-ni sanka-sita]
   China-from I-Top Olympic-to joined
   sensyu1]-ga oozei kin-medaru-o totta to] omou]
   athlete-Nom many gold medal-Acc won that think
   ‘From China2, I think that many athletes who joined the Olympic Games t2 won the gold medal.’

c. Ano kissaten-de2 [boku-wa [[NP[e1] t2 keiki-o tabeta]
   that coffee shop-at I-Top cake-Acc ate
   hito1]-ga oozei sinda to] omotta]
   person-Nom many died that thought
   ‘At that coffee shop2, I thought that many people who ate a cake t2 died.’

In the sentences above, the PP has been scrambled sentence-initially. Contrary to Saito’s prediction, all the sentences are acceptable without a Subjacency effect. Further, since the movement is from the deeply embedded clause, the possibility of a resumptive pronoun that corresponds to the NP in the PP is expected. This is borne out as in (91).

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The sentences in (91) are not perfect, but they are not clearly ungrammatical. The topic version of the sentences in (90)-(91) are also acceptable, as shown in (88).

(92) a. Chomsky-ni₂ [John-ga [Np[e₁] kare-ni₂ atta koto-ga Chomsky-with Top John-Nom he-Dat met koto-ga aru] hito₁-ni atte-mi-tai to omotta] fact-Nom have person-Dat meet-try-want that thought

‘As for Chomsky₂, John thought of meeting a person who met e₂/him₂.’


‘From China₂, I think that many athletes who joined the Olympic Games from there₂ won the gold medal.’

c. Ano kissaten-de₂ [boku-wa [[Np[e₁] soko-de₂ keiki-o that coffee shop-at I-Top it-at cake-Acc tabeta] hito₁]-ga oozei sinda to] omotta] ate person-Nom many died that thought

‘At that coffee shop₂, I thought that many people who ate a cake there₂ died.’
sanka-sita] sensyu1]-ga oozei kin-medaru-o totta to] omou] joined athlete-Nom many gold medal-Acc won that think

‘As for from China2, I think that many athletes who joined the Olympic Games from there2 won the gold medal.’

c. Ano kissaten-de2-wa [boku-wa [NP[e1 e2/soko-de2 keiki-o that coffee shop-at-Top I-Top there-at cake-Acc tabeta] hitoj1]-ga oozei sinda to] omotta] ate person-Nom many died that thought

‘As for that coffee shop, I thought that many people who ate a cake (at) there2 died.’

The grammaticality of (92) confirms that PP Topicalization is free from Subjacency and that it allows the presence of the resumptive pronoun. Now, if the scrambled/topicalized phrase lacks a semantically coherent relation with the rest of the sentences from which it has been moved/the entire sentence, then the sentences above become marginal. This is borne out in (93)-(94):

(93) a.?*Chomsky-ni2 [John-ga [NP[e1 e2 atta koto-ga aru]
Chomsky-with John-Nom met fact-Nom have
hito1]-o mituketa rasii]
person-Acc found seem

‘Chomskyy2, it seems that John found a person who met t2.’
(cf. Saito 1985:286, his (11b))

b.?*Tyuugoku-kara2 [boku-wa [[NP[e1 e2 Olympic-ni sanka-sita] China-from I-Top Olympic-to joined
sensyu1]-ga oozei Hawai-de papaiya-o tabeta to] omou] athlete-Nom many Hawaii-in papaya-Acc ate that think

‘From China2, I think that many athletes who joined the Olympic Games

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t2 ate papayas in Hawaii.'

c.?*Ano kissaten-de2 [boku-wa [[NP[e1 t2 keiki-o tabeta] that coffee shop-at I-Top cake-Acc ate
hito1]-ga hon-o kaita to] omotta]
person-Nom book-Acc wrote that thought

'At that coffee shop2, I thought that a person who ate a cake t2 wrote a book'

(94) a.?*Chomsky-ni2-wa [John-ga [[NP[e1 e2 atta koto-ga
Chomsky-with-Top John-Nom met fact-Nom
aru] hito1]-o mituketa rasii] have person-Acc found seem

'As for Chomsky, it seems that John found a person who met with him.'
(cf. Saito 1985:284, his (10b))

b.?*Tyuugoku-kara2-wa [boku-wa [[NP[e1 e2 Olympic-ni sanka-sita] China-from I-Top Olympic-to joined
sensyu1]-ga oozei Hawai-de papaiya-o tabeta to] omou]
athlete-Nom many Hawaii-in papaya-Acc ate that think

'As for from China2, I think that many athletes who joined the Olympic Games t2 ate papayas in Hawaii.'

c.?*Ano kissaten-de2-wa [boku-wa [[NP[e1 t2 keiki-o
that coffee shop-at-Top I-Top cake-Acc tabeta] hito1]-ga hon-o kaita to] omotta]
ate person-Nom book-Acc wrote that thought

'As for (at) the coffee shop, I thought that a person who ate a cake there wrote a book.'
In (93a) and (94a), there is not a close connection between Chomsky and John’s finding a person who met him. In (93b) and (94b), Tyunugoku ‘China’ has no direct bearing on the speaker’s opinion that many athletes from there ate papayas in Hawaii. Likewise in (93c) and (94c), that coffee shop has nothing semantically coherent to do with the speaker’s opinion that a person eating a cake wrote a book.

4.5 Possessor Topicalization and Possessor Scrambling

4.5.1 Possessor Topicalization

Consider the possessor topicalization with "inalienable" and "alienable" possessed NPs in (95) and (96), respectively:

(95) Inalienable subject NP:

a. John-wa kao-ga nagai
   John-Top face-Nom long
   ‘As for John, his face is long.’

Alienable subject NP:

b. John-wa syoosetu-ga yuumeina zassi-ni notta
   John-Top novel-Nom famous magazine-in appeared
   ‘As for John, his novel appeared in a famous magazine.’

(96) Inalienable object NP:

a. ??/Mary-wa John-ga kao-o nagutta
   Mary-Top John-Nom face-to hit
   ‘As for Mary, John hit her in the face.’

Grammaticality judgment vary about topicalization from (in)alienable object NP from person to person. Topicalization of inalienable object NPs is relatively better than topicalization of alienable object NPs, as in (96). Topicalization from the subject NP in (95) (whether it is alienable or not) is impeccably grammatical, in contrast to topicalization from the object NP in (96). I do not know why this is the case at present. O’Grady’s (1993) suggestion from a viewpoint of language acquisition is instructive: since an object NP is more deeply embedded in the structure than a subject NP, object gaps are harder to acquire than subject gaps.
Alienable object NP:

b. *Mary-wa John-ga hon-o suteta
   Mary-Top John-Nom book-Acc threw away
   ‘As for Mary, John threw away her book.’

(95) involves topicalization from an (in)alienable subject NP and (96) from an (in)alienable
and object NP. There is a “possessor-possessed” relationship between topicalized NP and
the associated subject/object NP. The relationship in the (a) and (b) sentences in (95)-(96)
are respectively “inalienable” and “alienable.” We call the type of topicalization in (95)-(96)
Possessor Topicalization.73

Let us look first at (95). As in the case of PP Topicalization, the grammatical function
of the topic NP (the possessor) and the relation of that topic NP to the subject/object NP
(the possessed) in (95) are hard to account for under the base-generation hypothesis. By
contrast, these facts can be explained if movement is assumed from the D-Structure in

(97) a. [John-no kao]-ga nagai
   John-Gen face-Nom long
   ‘John’s son appeared in a famous magazine.’

b. [John-no syoosetu]-ga yuumeina zassi-ni notta
   John-Gen novel-Nom famous magazine-in appeared
   ‘John’s novel appeared in a famous magazine.’

---

73 Topicalization of the possessee is possible only from an inalienable subject NP as shown in (i):

(i)    a. Kao-wa [John t]-ga nagai (Inalienable subject)
       ‘As for the face, John is long.’

        b. *Syoosetu-wa [John t]-ga yuumeina zassi-ni notta (Alienable subject)
           ‘As for the novel, John’s (novel) appeared in a famous magazine.’

        c. *Kao-wa John-ga [Mary t]-o nagutta (Inalienable object)
           ‘As for the face, John hit Mary’s (face).’

        d. *Hon-wa John-ga [Mary t]-o suteta (Alienable object)
           ‘As for the book, John threw away Mary’s (book).’

We do not discuss Possessive Topicalization in the present study.

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We assume that the genitive marker *no* realized at the possessor NP at S-Structure will be left stranded after the subsequent movement of the possessor NP and then get deleted (or “dephoneticized”) in PF. The derivation of (95a) is shown in (98) below. (See section 4.3.5 for details of the topicalization mechanism.)

(98) D-Structure:  [John kao]-ga nagai

S-Structure:  [John-no kao]-ga nagai (← Genitive Case realization)

John-wa [t-no kao]-ga nagai (← Topicalization)

PF:  John-wa [t-Φ kao]-ga nagai (← no deletion)

The same holds true of (96).

4.5.2 Possessor Scrambling

Scrambling of a possessor NP results in total ungrammaticality, as illustrated in (99)-(100).


John-Gen Mary-Nom face-Nom famous that saying-was

‘John’s, Mary was saying that (his) face is long.’

b. *John-no [Mary-ga [[NP t syoosetu]-ga yuumeina

John-Gen Mary-Nom novel-Nom famous

zassi-ni notta to] itteita]

magazine-in appeared Comp saying-was

‘John’s, Mary was saying that (his) novel appeared in a famous magazine.’

(100)a. *Mary-no [John-ga [[NP t kao]-o nagutta] .

Mary-Gen John-Nom face-Acc hit

‘Mary’s, John hit (her) face.’
If both Scrambling and Topicalization involve movement and if movement is free from Subjacency, the total ungrammaticality of (99)-(100) in contrast to the acceptability of (91) is unexpected. I believe that the ungrammaticality of (99)-(100) is not due to a violation of the Subjacency condition. It can instead be accounted for by the Uniformity Condition of Chomsky (1986b:194):

(101) Uniformity Condition:

If \( \alpha \) is an inherent Case-marker, then \( \alpha \) Case-marks NP if and only if [it] \( \theta \)-marks the chain headed by NP.

In (101) the following are assumed: (i) that “Case-marking includes Case-assignment [at D-Structure] and Case-realization [at S-Structure]” and (ii) that “inherent Case must be realized on NP under government by the category that \( \theta \)-marks NP at D-Structure” (ibid.).

In the English example in (102), which is taken from Chomsky (ibid., his (270)),

(102)a. the [destruction [the city]]  (D-Structure)

b. [the city]'s destruction  (S-Structure)

c. the [destruction [of the city]]  (S-Structure)

Genitive Case assigned to the complement (the city) in (a) is realized morphologically in the same position in (c) by the rule of of-insertion, but is realized in the subject position in (b) by POSS-insertion:

(103) POSS insertion:

Insert the possessive element in the context of [NP NP ___ \( \alpha \) ]

(Chomsky 1986b:195)
Notice that both in (102b) and (102c) the Genitive Case is realized structurally in the governing position of the θ-marker: destruction governs both the Spec position of NP and the object position.

Let us now return to (99)-(100). All the sentences are grammatical in the pre-scrambled structure as illustrated in (104)-(105).

(104)a. [Mary-ga [[NP John-no musuko]-ga yuumeina
Mary-Nom John-Gen son-Nom famous
zassi-ni notta to] itteita]
magazine-in appeared Comp saying-was
‘Mary was saying that John’s son appeared in a famous magazine.’
b. [Mary-ga [[NP John-no syoosetu]-ga yuumeina
Mary-Nom John-Gen novel-Nom famous
zassi-ni notta to] itteita]
magazine-in appeared Comp saying-was
‘Mary was saying that John’s novel appeared in a famous magazine.’

(105)a. [John-ga [NP Mary-no kao]-o nagutta]
John-Nom Mary-Gen face-Acc hit
‘John hit Mary’s face.’
b. [John-ga [NP Mary-no hon]-o suteta]
John-Nom Mary-Gen book-Acc threw away
‘John threw away Mary’s book.’

(104)-(105) conform to the Uniformity Condition: Case-marking (i.e., both Case assignment at D-Structure and its Case-realization at S-Structure) is satisfied under the requirement of government in the trivial single-membered chain (NP). We assume here that the Genitive Case marker no is contextually inserted at S-Structure by a rule comparable to the English POSS insertion rule in (103).
In contrast, (99) and (100) violate the Uniformity Condition in (101) because the Genitive Case assigned to the complement is not realized within the governing domain of the head (a possessional θ-role marker) at S-Structure. For example, in (99a), the Genitive Case assigned at D-Structure by the head noun kao ‘face’ (a possessional θ-marker) is realized on the complement NP John at S-Structure, but it is not realized within the governing domain of that head noun, leading to a violation of the Uniformity Condition.

4.6 Scrambling of wh-phrases as syntactic A'-movement

We showed in the previous sections that both Scrambling and Topicalization can be instances of A-movement in Japanese and have the similarities in (83i-iii) and a difference in (87) in common. In recent years, Takahashi (1993) claims that a certain instance of Scrambling with wh-phrases at S-Structure counts as syntactic wh-movement. In this section, we argue against Takahashi’s claim.

4.6.1 Takahashi (1993)

Takahashi (1993) claims that, in Japanese, movement of a wh-phrase to a clause headed by a [+WH] Comp behaves like wh-movement (A'-movement), showing Superiority effects, while movement of a wh-phrase to a [-WH] Comp is Scrambling (A-movement) which can be undone at LF. Takahashi (p. 656) cites sentences such as (106) and (107) to illustrate this:

   John-Nom Mary-Nom what-Acc bought Q knows
   ‘John knows what Mary bought.’

b. Nani [CP Mary-ga t1 katta ka] sitteiru
   (Lit.) What, Mary bought.

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(107)a. John-wa [Cp Mary-ga nani-o tabeta ka] sitteiru no
John-Top Mary-Nom what-Acc ate Q knows Q
‘Does John know what Mary ate?’ or
‘What does John know whether Mary ate?’
b. Nani-o John-wa [Cp Mary-ga tabeta ka] sitteiru no
‘What does John know whether Mary ate?’ (Takahashi’s (4), p. 657)

(106a) is an embedded question bound by the question or scope marker ka ‘Q’. (106b) is derived by scrambling the embedded wh-object to sentence-initial position. Likewise, (107b) is derived from (107a) by Scrambling. According to Takahashi, both sentences in (106) have the same interpretation, one in which the wh-object has embedded scope. Though (107a) is ambiguous between matrix and embedded scope for the wh-object, (107b) is unambiguous with only matrix scope. In order to account for the difference in scope interpretation of wh-phrases arising from Scrambling between those sentences in (106) and (107), Takahashi argues that, while (106) is a case of Scrambling, (107) involves wh-movement (to A’-position), and claims the following stated in (108), with some assumptions in (109)-(110).

(Takahashi’s (10), p. 661)

(109) LF Comp filters (Lasnik and Saito 1984, 1992)

b. A wh-phrase must be in the Spec of a [+WH] Comp.
(Takahashi’s (34), p. 671)

---

The matrix verb is changed from the original one which Takahashi gives. In the original the verb siritagaitteiru ‘want to know’ is used. Since both verbs select for the [+WH] Comp, this change does not affect the discussion that follows.
(106b) has the same interpretation as (106a) in spite of the fact that the wh-object is scrambled sentence-initially. Since the matrix verb sitteiru ‘know’ selects [+WH] Comp, the Specifier position of the Comp (SpecCP) of the embedded clause must contain a wh-phrase in LF to satisfy the Comp filter, (109a) in particular. Since (106b) is grammatical and has the same interpretation as the unscrambled (106a), the scrambled wh-phrase must move back to the original SpecCP at LF (cf. Saito 1989), as illustrated in (111).

(111) S-Structure of (106b):

\[
\text{[CP nani}_1 \begin{array}{c}
\text{John-ga [CP t'}_1 [C' Mary-ga t}_1 \text{ katta [C ka] sitteiru]] \\
\quad [+WH]
\end{array}
\]

LF of (106b): Undoing of Scrambling

\[
\text{[CP [John-ga [CP nani}_1 [C' Mary-ga t}_1 \text{-o katta [C ka] sitteiru]] [+]WH]
\]

On the other hand, in (107), in which the matrix Comp is [+WH] Comp, (107a) is ambiguous with respect to the scope of the wh-phrase nani ‘what’, whereas (107b) is unambiguous with nani having only matrix scope. If Scrambling can be undone at LF as in the case of (106b), the nonambiguity of (107b) is unexpected. But, if the wh-phrase nani in (107b) has undergone wh-movement rather than Scrambling, the claimed nonambiguity (i.e., the unavailability of embedded scope for nani) in (107b) can be explained, because LF undoing is available only for Scrambling.
Another claim Takahashi makes is that Japanese, like English, has Superiority effects. The Superiority effects in English show up in sentences like (112), taken from Takahashi (p. 662, (12)).

(112) a. Who₁ did you persuade t₁ to read what?
   b. ?*What₁ did you persuade who to read t₁?

In the ungrammatical (112b), the hierarchically lower wh-phrase what undergoes movement, while in the grammatical (112a) the higher one does. The descriptive generalization of Superiority effects is given in (113), which is from Takahashi (p. 662, (13)).

(113) Superiority:

[*[CP WH₁ [IP ... WH₂ ... t₁ ...]], where a wh-phrase WH₁ is in the specifier position of a [+WH] Comp and another wh-phrase WH₂ is in situ and asymmetrically c-commands the variable t₁ of WH₁.

Takahashi (pp. 663-668) argues that Superiority effects show up in Japanese, too, as can be seen by the contrast in (114), which is Takahashi's (17) with his judgments (p. 664).

(114) a. John-ga dare-ni [Mary-ga nani-o tabeta to] itta no
   John-Nom who-Dat Mary-Nom what-Acc ate Comp said Q
   'Who did John tell that Mary ate what?'
   b. ??Nani₁-o John-ga dare-ni [Mary-ga t₁ tabeta to] itta no
   '(Lit) What did John tell who that Mary ate?'

Takahashi says that (114b), in which the lower wh-phrase 'nani' what has been preposed over the higher one dare 'who' to the matrix clause initial position, is "marginal" (p. 664). Whatever he means by "marginal," Takahashi equates the grammaticality status of (114b) with the English counterpart (112b) by the generalization of the Superiority condition in (113).
4.6.2 Problems with Takahashi (1993)

Takahashi's claim that the type of movement in (107b) is not Scrambling but syntactic \textit{wh}-movement (i.e., A'-movement), that LF reconstruction effects do not show up in (107b) (i.e., scope nonambiguity for the preposed \textit{wh}-phrase), and that Japanese \textit{wh}-preposing exhibits the Superiority effects, does not seem valid when we consider his judgments of the grammaticality and scope interpretation (of the \textit{wh}-phrases) in sentences (106), (107), and (114). These sentences contain factual problems. For example, contrary to what Takahashi says, \textit{nani} 'what' does not and cannot have matrix scope in either (107a) or (107b).

Further, (114b) is not as bad as he judges, though not perfect. To the extent that this is true (i.e., my claims about the grammaticality judgments of these sentences), his analysis and claims based on them are fallacious. Since whether most native Japanese speakers approve Takahashi's sentences and his scope interpretation for \textit{wh}-phrases as valid or disapprove them as counter-intuitive is an empirical matter, I will try here not to attack his grammaticality judgments (unless otherwise forced to do so, as in e.g., section 4.6.2.1), and will discuss problems arising from his line of argumentation.

4.6.2.1 Question marker \textit{ka}/\textit{no} as a scope marker\textsuperscript{75}

Before showing the problems with Takahashi's analysis, first let me list the points of disagreement. Takahashi considers the question/scope marker \textit{ka} 'Q' (as well as \textit{no}) to be a [+WH] Comp (or a lexical realization of [+WH] Comp, cf. Lasnik and Saito 1992:5).

\textsuperscript{75} Though it is believed in the literature (e.g., Lasnik and Saito 1984, in a series of Saito's work (1985, 1987, 1989, 1992), Haji 1985, 1987, Yoshimura 1986, among others, and authors following these) that \textit{no} as well as \textit{ka} is a question marker, I do not take this view in consideration of the fact that \textit{no} is a reduced form of \textit{no desu ka 'no-be-Q.' I consider \textit{no} as a nominalizer, as argued in Hirano and Izutani 1994a, and hence, \textit{ka} is the only question marker in Japanese. See also footnote 1.
However, ka is [+Q, +WH] when the clause headed by it contains a wh-phrase(s), but [+Q, -WH] otherwise. This is clear from (115):

(115) a. John-wa ano hon-o katta ka
    John-Nom that book-Acc bought Q
    ‘Did John buy that book?’

b. John-wa nani-o katta ka
John-Nom that book-Acc Q

‘What did John buy?’

Ka is [+Q, -WH] Comp in (115a) because the sentence does not contain a wh-phrase, while it is [+Q, +WH] in (115b) because it does. If ka were uniquely [+Q, +WH] as Takahashi seems to think (p. 657, p. 660), however, (115a) would violate the LF Comp filter (109a) for lack of a wh-phrase in SpecCP. I prefer to posit ka as [+Q] with the feature [WH] unspecified. Its value would be dependent on/determined by the (non-) appearance of wh-phrases in a clause.

Second, Takahashi (p. 657) seems to assume that a verb like sitteiru ‘know’ as in (106) and (107) selects a [+WH] Comp. However, this is not quite right. The verb can take a clause without wh-phrases, as shown in (116):

(116) John-wa [CP Mary-ga hon-o katta ka] sitteiru
    John-Top Mary-Nom book-Acc bought Q know
    ‘John knows if/whether Mary bought a book.’

The verb does not always select for a [+WH] Comp; it can select for [-WH] Comp, too.

Third, Takahashi seems to be claiming incorrectly that ka in sentences such as (106) and (107) is “ambiguous between a scope marker and a complementizer [(i.e., kadooka)] that corresponds to whether in English” (p. 657, footnote 3). The fact is that ka in sentences like (116) without wh-phrases is a reduced or short form of kadooka ‘whether,’ but not ka in (106) and (107). That is, (116) is interchangeable/synonymous with (117):

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(117) John-wa [CP Mary-ga hon-o katta kadooka] sitteiru
John-Top Mary-Nom nook-Acc bought whether know

‘John knows whether Mary bought a book.’

*Kadooka*, which Takahashi considers as another form of *ka*, as shown in his gloss in (107) above, cannot in fact occur together with a *wh*-phrase, as illustrated in (118):

(118)*John-wa [CP Mary-ga nani-o katta kadooka] sitteiru ka
John-Top Mary-Nom what-Acc bought whether know Q

‘What does John know whether Mary bought $t_1$?’

(118) is totally nonsensical to me, with *nani* incapable of having either embedded or matrix scope (Watanabe 1991, 1992).

Fourth, though Takahashi thinks that in (107) (and (118) too, for that matter), *nani* ‘what’ can have matrix scope with *ka* interpreted as *kadooka* ‘whether,’ this is not correct. It cannot have matrix scope; it has embedded scope only.76

4.6.2.2 LF Comp filters

Though Takahashi (1993) states that (107a) has two readings (i.e., matrix and embedded scope for the *wh*-phrase), the putative LF representation for the matrix interpretation is in violation of the LF filter in (109a):

(119) Putative LF representation of (107a) with matrix scope:

[CP nani] [John-ga [CP $t_1$ [C’ Mary-ga $t_1$ -o katta [C ka]]] sitteiru] ka

[+WH] [+WH]

The matrix Comp satisfies (109a) with *nani* ‘what’ in its SpecCP. But, the embedded SpecCP contains the trace of *nani* but not the *wh*-phrase. Since the traces of *wh*-phrases

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76 All the native speakers of Japanese (ten people) I consulted have only embedded scope for *nani* ‘what’ in (118) (cf. Watanabe 1991, 1992). Tonoike (1992, September 1&8, at a Brown Bag Seminar at the University of Hawaii at Manoa) denies the existence of matrix scope for *nani*. Nishigauchi (1990:19, 31) also denies matrix scope, saying that “*kadooka* may not occur in an interrogative clause that contains a *wh*-expressions” (p. 19). But, Lasnik and Saito (1990) assume matrix scope.
do not contain the [+WH] feature (cf. Lasnik and Saito 1992:9-10), the embedded Comp violates (109a), and hence, (107a) cannot have matrix scope interpretation for *nani*. In the same manner, (107b), which Takahashi claims has matrix scope reading, cannot be interpreted as such. Since Takahashi assumes that the *wh*-preposing in (107b) is not Scrambling but *wh*-movement for which LF undoing is unavailable, (107b) has exactly the same LF representation in (119) as (107a) has, with the result that the *wh*-phrase in (107b) cannot have matrix scope. In short, what Takahashi assumes (i.e., (108)-(110)) is actually contrary to what he intends to claim.

4.6.2.3 Superiority effects

Takahashi (1993) marks (114b) as ungrammatical because of the Superiority effect. However, sentences like (120) are grammatical even though they involve the same sort of movement as (114b): the lower *wh*-phrases are syntactically ‘A’-moved, crossing the higher *wh*-phrase. Takahashi (p. 663) cites (120) from Nishigauchi (1990:7).

(120) a. Dare-ga *nani-o* tabeta no
    who-Nom what-Acc ate Q
    ‘Who ate what?’

    b. Nani-o dare-ga tabeta no
    ‘(Lit.) What, who ate?’

In (120b), as in the case of (114b), the lower *wh*-phrase undergoes preposing across the higher *wh*-phrase and the Superiority effect should be expected, ruling it out as ungrammatical. But (120b) is grammatical. To explain this, Takahashi says that in (120b), the preposed *wh*-phrase *nani* ‘what’ undergoes A-movement rather than A’-movement, given Mahajan’s (1990) assumption that local Scrambling can be A-movement and the VP-internal subject hypothesis of Kuroda (1988). That is, he assumes the following:
Local Scrambling to SpecIP (with the VP internal subject hypothesis) is A-movement. Given (121), the landing site of the preposed wh-phrase in (120b) is not SpecCP but SpecIP, as depicted in (122).

(122) [CP[IP Nani1-o [t' [VP dare-ga t1 tabeta]] no] ____________]

In contrast, the wh-phrase in (114b) moves to an A'-position, as shown in (123).

(123) [CP Nani1-o [C'[IP John-ga dare-ni [CP Mary-ga t1 tabeta to] itta]] no] ____________]

Viewed in this light, the examples in (120b) may not be real counter-examples to the Superiority effects hypothesis.

However, Takahashi's explanation about the presence of the Superiority effects in Japanese faces empirical problems. First of all, consider (124a), which is cited in his footnote 9 (p. 667) as a counter-example by his reviewer.

(124) a. Nani1-o John-ga [dare-ga t1 tabeta to] itta no

‘(Lit.) What did John say that who ate?’

b. [CP Nani1-o [IP John-ga [[IP t'1 [VP dare-ga t1 tabeta]] to] itta] no] ____________]

(124b) represents the derivation of (124a). (124), unlike (114b), does not exhibit the Superiority effects. Takahashi says that this is consistent with his claim, because “the wh-phrase [nani] can first undergo local A-scrambling over the embedded wh-subject [dare] and then A’-move to the matrix clause, an option which is impossible in [(114b)]” (p. 667). Though Takahashi considers the A-scrambling taking place in (124a) to be impossible for (114b), this is not correct. As in the case of (120b) whose S-Structure form is shown in (122), the lower wh-phrase nani ‘what’ in (114b) can move to SpecIP of
the matrix clause and stay there. Or, it can further move from there to the SpecCP (A'-
movement). This is illustrated in (125):

(125) Alternative S-Structure derivations of (114b):

(i) \[
[\text{CP}[\text{C'}[\text{IP Nani}_1-o[\text{VP John-ga dare-ni}\text{[CP Mary-ga t}_1 \text{tabeta to}]\text{itta}] no]]
\]
(\text{cf. (122)})

(ii) \[
[\text{CP Nani}_1-0[\text{C'}[\text{IP t}_1'][\text{VP John-ga dare-ni}\text{[CP Mary-ga t}_1 \text{tabeta to}]\text{itta}] no]]
\]
(\text{cf. (124)})

Notice that the wh-phrase \textit{dare} ‘who’ in the matrix clause does not block the movement of \textit{nani} in (125) because it is not in the matrix SpecCP at the time of movement at S-
Structure. So, nothing prevents \textit{nani} from undergoing movement through the matrix
SpecIP, an option Takahashi does admit in accounting for the seeming absence of the
Superiority effects in (120b) (see (122)). Therefore, whatever the grammatical status of
sentences like (114b), Takahashi’s analysis with the VP-internal subject hypothesis
predicts (114b) to be as acceptable as the impeccable (120b) and (124), circumventing
Superiority effects.

Still another problem arises from this account of exemption from Superiority effects.
Consider the following sentence:

(126) Nani$_1$-o dare-ga [t$_1$ [Mary-ga t$_1$ katta]] to itta ka

\textit{What-Acc who-Nom Mary-Nom bought} Comp said Q

‘Who said Mary bought what?’

(126) is grammatical although the wh-phrase \textit{nani} ‘what’ is preposed to the matrix clause
headed by [+WH] Comp crossing over the subject NP \textit{dare} ‘who,’ as in the case of (124).
We cannot attribute lack of a Superiority effect to the application of A-movement to the
SpecIP in the embedded clause because \textit{nani} crosses the matrix subject \textit{dare} ‘who’ and
moves to the matrix SpecCP in this case. Also, consider (127):
(127) a. ?Nani₁-o [kimi-wa [dare-ga t₁ katta ka] sitteiru ka]
   What-Acc you-Top who-Nom bought Q know Q
   ‘Do you know who bought what?’

b. ?Nani₁-o [kimi-wa [Mary-ga t₁ katta ka] dare-ni
   what-Acc you-Top Mary-Nom bought Q who-Dat
   kiita ka]
   asked Q
   ‘Who did you ask what Mary bought?’

Notice that in (127) the wh-phrase nani is moved to the matrix clause headed by ka but
not to [-WH] Comp. The Superiority effect should be expected of the sentences in (127).
Since they are grammatical or nearly so, we can conclude that Superiority has nothing to
do with movement of wh-phrases.

A third problem is concerned with sentences in (128) below and Takahashi’s
exemptions of Superiority. He claims two exemptions from Superiority for the sentences
in (128c, d). Observe the sentences in (128). (128a, b) are his (19) (pp. 664-665); (128c)
is from his footnote 7 (p. 666); and (128d) is from his (25) (p. 668). The grammaticality
judgments are Takahashi’s.

(128) a. John-ga [Bill-ga dare-ni [Mary-ga nani-o
   John-Nom Bill-Nom who-Dat Mary-Nom what-Acc
   tabeta to] itta to] omotteiru no
   ate Comp said Comp think Q
   ‘John thinks that Bill told who that Mary ate what?’

b. ?? Nani₁-o John-ga [Bill-ga dare-ni [Mary-ga t₁
   what-Acc John-Nom Bill-Nom who-Dat Mary-Nom
   tabeta to] itta to] omotteiru no
   ate Comp said Comp think Q

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'What\textsubscript{1}, John thinks that Bill told who that Mary ate t\textsubscript{1}?'

c. Nani\textsubscript{1-o} [John-ga [dare\textsubscript{2-ni} Bill-ga t\textsubscript{2} [Mary-ga t\textsubscript{1} what-Acc John-Nom who-Dat Mary-Nom tabeta to] itta to] omotteiru] no
ate Comp said Comp think Q

'What\textsubscript{1}, John thinks that who\textsubscript{2}, Bill told t\textsubscript{2} who that Mary ate t\textsubscript{1}?'

d. John-ga [nani\textsubscript{1-o} Bill-ga dare-ni [Mary-ga t\textsubscript{1} what-Acc Bill-Nom who-Dat Mary-Nom tabeta to] itta to] omotteiru no
ate Comp said Comp think Q

'John thinks that what\textsubscript{1}, Bill told who that Mary ate t\textsubscript{1}?'

(128b) is derived from (128a) by scrambling nani 'what' to the sentence-initial position crossing the higher wh-phrase dare 'who.' (128b) is marked ungrammatical due to the Superiority effect. Both (128c) and (128d) involve the same sort of movement: the lower nani crosses the higher dare and the Superiority effect should be expected of them.

However, according to Takahashi, both the sentences are grammatical without it. In order to explain the grammaticality of these sentences, Takahashi makes two kinds of exemptions from the Superiority effect.

Let us first look at the exemption made for (128d). In order to account for (128d), he gives the following exemption:

(129) Movement of a wh-phrase to the clause headed by [-WH] Comp

(i.e., to) does not yield a Superiority effect (p. 668).

In (128d), nani is moved to the initial position of the intermediate clause headed by to, a [-WH] Comp. Given (129), (128d) is marked grammatical. Takahashi argues that the grammaticality of (128d) gives additional support for the generalization in (108). This
amounts to saying that movement of a wh-phrase to the clause headed by a complementizer to is considered an A-movement even if it crosses the higher wh-phrase.

Keeping this in mind, let us next look at his other exemption of Superiority; a case of (128c). Takahashi considers (128c) grammatical as well, where dare 'who' is preposed to the initial position of the intermediate clause. To accommodate this, he gives the exemption in (130):

(130) A wh-phrase moved to an A'-position, rather than in situ, is exempt from Superiority (p. 666, footnote 7).

He assumes that the position dare-ni moves into in (128c) is SpecCP, as illustrated in (131a). However, just as in the case of (124), the position occupied by dare-ni can be SpecIP, as in (131b):

(a) Nani₁-o [John-ga [CP dare₂-ni [IP Bill-ga t₂ [Mary-ga t₁ tabeta to] itta] to] omotteiru no]
(b) Nani₁-o [John-ga [CP[IP dare₂-ni [VP Bill-ga t₂ [Mary-ga t₁ tabeta to] itta]] to] omotteiru no]

Given the VP-internal subject hypothesis, the analysis shown in (131b) cannot be denied. Further, given the exemption in (129), the movement of dare in (128c), whether it is to SpecCP or SpecIP, will be exempted from Superiority. This means that the exemption in (130) is not needed to explain (128c).

Let us now return to (128b). According to Takahashi, (128b) is ungrammatical because the movement of nani to the initial position of the matrix clause is an A'-movement and hence is ruled out by the Superiority effect. But, it can be an A-movement through SpecIPs successive-cyclically, as shown in (132):

(132) Nani₁-o [John-ga [CP[IP t'₁ [VP Bill-ga dare₂-ni [CP[IP t'₁ [VP Mary-ga t₁ tabeta]] to] itta]] to] omotteiru no]
Then, the claimed Superiority effects in (128b) can be avoided exactly in the same way in (120b) and (124). Thus, (128b) is predicted to be grammatical, contrary to his judgment. Once again, the assumptions in (108), (110), and (121) Takahashi makes conflict with his grammaticality judgments. In fact, I see (128b) better than (128c, d) in acceptability. I also consider (114b) acceptable. Though not as perfect as (114a), it is much better than (128c, d). These judgments are directly contrary to Takahashi’s.

We have argued that Takahashi’s claim concerning Superiority has nothing to do with overt movement of wh-phrases, and that his exemptions of Superiority are not consistent and cannot explain the judgments of the sentences he gives.

4.7 Conclusion

In this chapter, I have examined the analysis of topic constructions in Japanese for the consequences of the discussion on movement in Chapter 2. In sections 2.1 and 2.2 I introduced the non-movement analyses of the topic constructions by Kuno (1973a) and Saito (1985), and Yoshimura (1987), and in section 2.3, I first pointed out some problems with each of the existing analyses, and then proposed a movement analysis based on the conclusion arrived at in Chapter 2, namely that Scrambling is free from Subjacency. I then gave several pieces of evidence to show that Topicalization involve movement.

The main concern of section 3 was to unify Scrambling and Topicalization. To derive this, I appeal to the fact that both Scrambling and Topicalization can remedy a Principle A violation of Binding Theory. I first sketched the binding theory briefly in section 3.1. Based on Saito’s (1992) idea given in section 3.2 that Scrambling can be undone at LF, I argued in section 3.3 that both Scrambling and Topicalization are a movement to an A-position at S-Structure, and thus a Principle A violation can be remedied by the moved phrase in an A-position. In section 3.4, I looked at the topic construction without a gap. I agree with Kuno and Saito on this construction for the non-movement analysis.
In section 4, Scrambling and Topicalization of a PP were investigated. I demonstrated that PP Scrambling and Topicalization behave the same way as NP Scrambling and Topicalization: they involve (i) A-movement, (ii) can leave resumptive pronouns, and (iii) observe the aboutness constraint.

In section 5, I investigated Topicalization and Scrambling of possessor constructions. It was found that topicalization of possessor NPs from object results in a relatively lower degree of acceptability than from subject. It was also found that scrambling of possessor NPs always results in ungrammaticality. And, I suggested that the ungrammaticality with possessor scrambling would follow from the Uniformity Condition of Chomsky (1986b).

Finally, in section 6, I introduced a recent analysis of Scrambling of wh-phrases as a syntactic A'-movement by Takahashi (1993). I sketched his arguments in section 6.1, and refuted his analysis, pointing out some serious problems with it in section 6.2.
5.1 Introduction

In Chapter 4, I claimed that both Scrambling and Topicalization can allow for the presence of a resumptive pronoun that corresponds to the moved phrase in number, person, and gender, as illustrated in (1) and (2).

(1) a. Ano hon2-o [boku-wa [[[e1 sore2-o kaita] hito1]-no that book-Acc I-Top it-Acc wrote person-Gen ningensei]-o utagai-taku-naru] humanity-Acc doubt-want-become

‘That book2, I want to doubt the human nature of the person who wrote it2.’

b. Saki-no senso2-o [Amerika-wa [[[e1 sore2-o sikaketa] last-Gen war-Acc America-Top it-Acc began Nihon1]-ni sekinin-ga aru to] itteiru] Japan-in blame-Nom exit that saying

‘The last war2, America puts a blame on Japan which began it2.’

c. Ano huzin1-ga [IP daremo [NP[IP[NP[IP77 kanozyo1-ga that woman-Nom anyone she-Nom e2 kiteiru] yoohuku2]-ga yogoreteiru] koto]-ni kizukanakatta] wearing suit-Nom dirty fact-at aware-not-was

‘That woman, no one was aware of the fact that the suit she1 is wearing is dirty.’

77 I have used IP rather than CP for the relative clause, though this choice does not affect the following discussions. There are some speculations that the complex noun phrase contains an IP rather than CP—e.g., Kuno and Takami 1993, Hirano and Izutani 1994a.
d. Sono roozin\textsubscript{1}-ga [Mary-ga \textbf{kare}\textsubscript{1}-ga sinda noni] that old man-Nom Mary-Nom he-Nom died thought [daremo kanasimanakatta] to itteita] nobody saddened-not-was that saying-was ‘That old man\textsubscript{1}, Mary was saying that no one was saddened although he\textsubscript{1} died.’

(2) a. Ano hon\textsubscript{2}-wa [ boku-wa [[e\textsubscript{1} sore\textsubscript{2}-o kaita] hito\textsubscript{1}-no that book-Top I-Top it-Acc wrote person-Gen ningensei\textsubscript{-o} utagai-taku-naru] humanity-Acc doubt-want-become ‘As for that book\textsubscript{2}, I want to doubt the human nature of the person who wrote it\textsubscript{2}.’

b. Saki-no sensoo\textsubscript{2}-wa [Amerika-ga [[[e\textsubscript{1} sore\textsubscript{2}-o sikaketa] last-Gen war-Top America-Nom it-Acc began Nihon\textsubscript{1}-ni sekinin-ga aru to] itteiru] Japan-in blame-Nom exit that saying ‘As for the last war\textsubscript{2}, America claims a blame on Japan which began it\textsubscript{2}.’

c. Ano huzin\textsubscript{1}-wa [IP daremo [NP[IP[IP kanozyo\textsubscript{1}-ga e\textsubscript{2} that woman-Top anyone she-Nom kiteiru] yoohuku\textsubscript{2}-ga yogoreteiru] koto]-ni kizukanakatta] wearing suit-Nom dirty fact-at aware-not-was ‘As for that woman, no one was aware of the fact that the suit she\textsubscript{1} is wearing is dirty.’

d. Sono roozin\textsubscript{1}-wa [Mary-ga \textbf{kare}\textsubscript{1}-ga sinda noni] the old man-Top Mary-Nom he-Nom died thought
[daremo kanasimanakatta] to itteita]
nobody saddened-not-was that saying-was
‘As for the old man$_1$, Mary was saying that no one was saddened
although he$_1$ died.’

However, the presence of the resumptive pronoun results in relatively low acceptability in
cases like (3a, b), while it is acceptable in some other situations as in (3c) and (1)-(2)
above.

(3) a.*Sono hon$_1$-o/wa [John-ga kinoo sore$_1$-o suteta]
the book-Acc/Top John-Nom yesterday it-Acc disposed
‘The book$_1$, John threw it$_1$ away yesterday.’

b.*Mary$_1$-ga/wa [IP[NP[IP John-ga e$_1$ nagutta] toki]
Mary-Nom/Top John-Nom hit when
kanozyo$_1$-ga naita]
she-Nom cried
‘Mary$_1$, she$_1$ cried when John hit (her$_1$).’

c. Mary$_1$-wa [IP[NP[IP John-ga kanozyo$_1$-o nagutta] toki]
Mary-Top John-Nom she-Acc hit when
e$_1$ naita]
cried

Further, an anaphor *zibun* ‘self’ can appear as a resumptive pronoun in some contexts
like (4).

(4) John$_1$-wa [[NP[sensyuu kare/zibun$_1$-ga sita] koto]-ga
John-Top last week he/self-Nom did thing-Nom
sinkokuna zitai-o maneita]
serious situation-Acc caused
‘As for John$_1$, what self$_1$ did last week caused a serious situation.’
In this chapter, I will investigate what kinds of resumptive pronouns can and must appear (5.2.1) in Scrambling and Topicalization. I consider semantic conditions in 5.2.2. Section 5.3 discusses the appearance of the resumptive pronoun "zibun ‘self’ in terms of semantic notions ‘awareness’ of Kuno (1973a, b) and ‘empathy’ of Kuno and Kaburaki (1977) and Kuno (1978). A brief summary concludes the chapter.

5.2 Mechanism of resumptive pronoun strategy

5.2.1 Forms of resumptive pronouns

We said in section 2.3 of Chapter 4 that the form of a resumptive pronoun is determined by the scrambled/topicalized NP. That is, the resumptive pronoun agrees in number, person, gender, and animacy with the scrambled/topicalized NP. If the moved phrase is third person, singular, male, human, kare ‘he’ appears as the resumptive pronoun, and if it is third person, singular, female, human, then kanozyo ‘she’ results, and if it is third person, singular, neutral (for gender), human, then sono hito ‘that person’ is realized. And, if the moved phrase is singular, non-human, then sore ‘it’ is used. All these cases are already provided in the sentences (1)-(3). In certain situations, the anaphor zibun ‘self’ can be used as in (4) above.

In what follows, we consider how these resumptive pronouns take the various phonetic forms they do in Scrambling and Topicalization patterns. Since both Scrambling and Topicalization are by hypothesis instances of the same movement, we limit our discussion to Topicalization.

We assume that Topicalization as a movement leaves behind a trace with a set of \( \phi \) features such as \([\pm N(umber), \pm P(erson), \pm G(ender), \pm H(uman)]\), the value (i.e., +/-) of which agrees with that of the moved phrase.\(^{78}\) This explains the phonetic forms of the

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\(^{78}\) It is assumed (e.g., in Chomsky 1981 and Cinque 1990) that the trace left by movement leaves the \( \phi \) features of the moved phrase, as illustrated in (i).

(i) Which boy/boys do you think is/are apt for this task? (Cinque 1990:191)
resumptive pronouns in (1)-(3). Next, let us consider the case of the resumptive pronoun *zibun* 'self' in (4). Since Topicalization is A-movement, the trace left behind is an anaphoric trace. We assume here that since the anaphor *zibun* is unmarked for agreement features such as [N, P, G] (that is, [?N, ?P, ?G, +H], cf. Katada 1990:291), the anaphoric trace is phonetically realized as *zibun* at PF as a default case of the resumptive pronoun. However, there are cases in which *zibun* cannot be used as a resumptive pronoun, in which case the usual resumptive pronoun that agrees in the relevant features with the moved phrase is chosen. We will discuss these points in section 5.3. The properties of resumptive pronouns we discussed above are summarized in (5):


b. Resumptive pronouns are a PF phonetic realization of the anaphoric trace left by movement at S-Structure.

c. Resumptive pronouns are of two types: full agreement type and default type:

(i) The full agreement type is one that agrees with the moved phrase in the [N, P, G, H] features.

(ii) The default type is *zibun* 'self' with the feature matrix

The derivations for (4) would be something like the following:

(6) D-Structure:

[[NP[sen*syu*u John]-ga sita] koto]-ga sinkokuna zitai-o maneita]

S-Structure:

(i) Free [TOP] assignment

[[NP[sen*syu*u John]-ga sita] koto]-ga sinkokuna zitai-o maneita]

[TOP]
5.2.2 Semantic conditions on the presence of resumptive pronouns

In this section, we are concerned with the licensing condition on the appearance of resumptive pronouns in the Scrambling and Topic constructions. We argue below that what regulates the appearance of resumptive pronouns is not a syntactic but a semantic factor. That is, a resumptive pronoun appears when the gap associated with the moved phrase (by Scrambling and Topicalization) cannot be uniquely identified in a sentence because of semantic ambiguity.

5.2.2.1 Syntactic licensing condition

The syntactic condition concerns the situations under which resumptive pronouns are licensed to appear. There is a general agreement among Japanese linguists (e.g., Kuno 1973a, b, Saito 1985) that “an overt resumptive pronoun is allowed only when it is embedded deeply enough” (Saito 1985:343). But, how deep is “deep enough”? It seems from the examples (1)-(4) that resumptive pronouns can appear when the moved phrase...
and its trace are separated from each other by more than two bounding nodes (e.g., NP, CP/IP). This is clear from the sentences in (1)-(2). In these sentences, Scrambling and Topicalization involve a complex NP with a relative clause: the movement crosses two bounding nodes. In contrast, in the ungrammatical (3a, b), the movement takes place from the matrix clause, crossing one bounding node, IP. Hence, the resumptive pronoun is not allowed in (3a, b). (3c) is acceptable because the moved phrase is separated from its trace by the two bounding nodes (a complex NP headed by *toki* ‘time/when’). That is, the trace is 2-Subjacent to the moved phrase. We have the following syntactic licensing condition on the possibility of resumptive pronouns:

(7) Syntactic licensing condition:
Resumptive pronouns are allowed when the trace left by Topicalization (and Scrambling) is separated by two or more bounding nodes.

5.2.2.2 Semantic licensing condition

The licensing condition in (7) can explain the examples so far seen above. But, it seems a bit too strict. Resumptive pronouns can appear in PPs even when they are not separated 2-Subjacent away from the antecedent, as shown in (8).80

(8) a. Ano gakkō₁-wa [CP *soko₁*-kara hitori-mo nyuugaku dekinakatta]

    that school-Top there-from one person-even enter
could-not

    ‘As for that school₁, not a single person from there₁ could enter.’

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79 We do not count the matrix IP as a bounding node because the position of the moved phrase is adjoined to IP.
80 I owe the observation here and the examples in (8) to John Haig. See also Kuno 1980a:130-131 and Inoue 1976:172-173.
b. Ano bookuugoo-1-wa [CP soko-1-made oozei-no
that anti-air raid shelter-Top there-as far as many-Gen
hito-ga hinan-sita]
people-Nom sheltered

‘As for that anti-air raid shelter, many people escaped as far as there.’

Here in (8), the topic phrase crosses one bounding node, the matrix clause. Thus, the syntactic condition in (7) is not accurate: resumptive pronouns can appear even when the moved phrase and its trace are away from each other by one bounding node.

We believe that the key factor determining the possibility of resumptive pronouns are not syntactic but semantic. Sentence (8a) without the resumptive pronoun is ambiguous between the two readings, as illustrated in (9):

(9) Ano gakkoo-1-wa [CP hitori-mo nyuugaku dekinakatta]
that school-Top one person-even enter could-not

(i) That school, not a single person from there could not enter.’
(ii) That school, not a single person could not enter into there.’

(9) is ambiguous between the two readings shown in (i) and (ii): on the former reading, no one from that school could enter (into higher school or college) and on the latter no one could enter into that school. The underlying structures that result in the same surface topic sentence in (9) for each interpretation are shown in (10):

(10) a. [CP Ano gakkoo-1-kara hitori-mo nyuugaku dekinakatta]
that school-from one person-even enter could-not

‘Not a single person from that school could enter (into college).’

b. [CP Ano gakkoo-1-ni hitori-mo nyuugaku dekinakatta]
that school-into one person-even enter could-not
‘Not a single person could enter into that school.’

The postpositional particles *kara* ‘from’ and *ni* ‘into’ would be dephoneticized in PF after the topicalization of the phrase *ano gakkoo* ‘that school’ and the two sentences in (10) with different interpretations result in the same surface form as shown in (9). Thus, it is impossible to trace back the extraction site of the topic phrase. In order to disambiguate the interpretations associated with (9), the resumptive pronoun can appear as in (8a). With the appearance of the resumptive pronoun, (8a) has only the interpretation of (10a). When the interpretation in (ii) (i.e., (10b)) is intended in (9), the resumptive pronoun appears as shown in (11).

\[
(11) \text{Ano gakkoo}-\text{wa [CP soko}-\text{ni hitori-mo nyuugaku dekinakatta]}
\]

\[
\text{could-not}
\]

‘Not a single person could not enter into that school.’

I make the following claim about the occurrence of resumptive pronouns:

(12) **Semantic licensing condition:**

Resumptive pronouns can function to disambiguate the meaning of a sentence.\(^{81}\)

In the same manner, the appearance of resumptive pronouns contributes to disambiguate the meaning of sentences like (13).

\[
(13) \text{Mary-wa [IP[NP][IP[NP][IP sensyuu e e atta]}
\]

\[
\text{Mary-Top last week met}
\]

\[
\text{otoko]-ga ani dearu] koto]-ga akirakani natta]}
\]

\[
\text{man-Nom brother be fact-Nom clearly became}
\]

---

\(^{81}\) The presence condition may follow from the “Least Effort” principle of Chomsky (1989). That is, we can say that resumptive pronouns need not be present (i.e., realized phonetically at PF) unless otherwise required.
(i) ‘As for Mary₂, the fact that the man₁ who met e₂ (=her₂) turned out to be her brother.’

(ii) ‘As for Mary₁, the fact that the man₂ who e₁ (=she₁) met turned out to be her brother.’

In (13), either of the gaps in the relative clause can be construed with Mary, as shown in the English glosses. That is, the antecedent of these gaps cannot be uniquely determined. In cases like this, the resumptive pronoun appears to disambiguate the sentence, as in (14).

(14) a. Mary₂-wa [IP[NP[IP[NP[IP sensyuu e₁ kanozyo₂-ni atta] Mary-Top last week her-with met otoko₂]-ga ani dearu] koto]-ga akirakani natta] man-Nom brother be fact-Nom clearly became ‘As for Mary₂, the fact that the man₁ who met her₂ turned out to be her brother.’

b. Mary₁-wa [IP[NP[IP[NP[IP sensyuu kanozyo₁-ga e₂ atta] Mary-Top last week her-Nom met otoko₂]-ga ani dearu] koto]-ga akirakani natta] man-Nom brother be fact-Nom clearly became ‘As for Mary₁, the fact that the man₂ who she₁ met turned out to be her brother.’

(13) is ambiguous between the two readings— one where the gap is interpreted as the object of the verb atta ‘met’ as shown in (14a), and the other where it is interpreted as the subject of the verb as in (14b). In order to make clear the intended reading, the resumptive pronoun kanozyo can appear. The resumptive pronouns in (14) play a role in helping make clear the grammatical functions of the topicalized phrase (either subject or object in this case) in the pre-topicalized or pre-scrambled structure. That is, the
resumptive pronoun appears in place of the gap when the identification of its antecedent is hard to obtain in a given sentence.

Resumptive pronouns appear in PP topicalization too. Consider (15).

(15) a. Nihon-de-wa [[[kyonen seisan-sareta] kuruma]-ga amari
John-in-Top last year produced-was car-Nom very
takusan urenakatta]
many sell-did-not
(i) ‘As for in Japan₁, cars which were manufactured there₁ did not sell very well.’
(ii) ‘As for in Japan₁, many cars which were manufactured did not sell very well there₁.’

b. Nihon-de-wa [[[kyonen haien-ni natta] hito]-ga
John-in-Top last year pneumonia-to became person-Nom
takusan sinda]
many died
(i) ‘As for in Japan₁, many people who got pneumonia there₁ died.’
(ii) ‘As for in Japan, many people who got pneumonia died there₁.’

The sentences in (15a) and (15b) are ambiguous between the two readings as indicated. In order to make clear the intended meaning for (15a) and (15b), the resumptive pronoun appear, as in (16) and (17), respectively.

(16) a. Nihon-de-wa [[[kyonen soko-de seisan-sareta] kuruma]-ga
John-in-Top last year there-in produced-was car-Nom
amari takusan urenakatta]
very many sell-did-not
(i) ‘As for in Japan₁, cars which were manufactured there₁ did not sell very well.’
b. Nihon-de-wa [[[kyonen seisan-sareta] kuruma]-ga amari
John-in-Top last year produced-was car-Nom very
takusan soko-de urenakatta]
many there-in sold-not
(ii) ‘As for in Japan, many cars which were manufactured did not sell
very well there.’

(17) a. Nihon-de-wa [[[kyonen soko-de haien-ni natta]
John-in-Top last year there-in pneumonia-to became
hito]-ga takusan sinda]
person-Nom many died
(i) ‘As for in Japan, many people who got pneumonia there died.’

b. Nihon-de-wa [[[kyonen haien-ni natta] hito]-ga
John-in-Top last year pneumonia-to became person-Nom
soko-de takusan sinda]
there-in many died
(ii) ‘As for in Japan, many people who got pneumonia died there.’

The resumptive pronoun *soko* ‘there’ marks the extraction site to disambiguate the
otherwise ambiguous sentence. Notice that whereas the distance between the topic phrase
and its extraction site is more than 2-Subjacent away in the (a) sentences, it is just
1-Subjacent away. The factor that decides the presence of a resumptive pronoun is not
syntactic but semantic.

5.3 Resumptive pronoun *zibun*

In 5.2.1, we saw that the resumptive pronoun *zibun* ‘self’ can appear as a default case
in sentences like (4), repeated as (18).
(18) John-wa [NP sensingu kare/zibun2-ga sita] koto]-ga
John-Top last week he/self-Nom did thing-Nom
sinkokuna zitai-o maneita]
serious situation-Ace caused
‘As for John, what he1/self1 did last week caused a serious situation.’

Zibun can also appear in place of kanozyo ‘she’ in (14), as depicted in (19).

(19) a. Mary-wa [IP[NP[NP[NP sensingu e2 zibun1-ni atta]
Mary-Top last week self-with met
otoko2]-ga ani dearu] koto]-ga akirakani natta]
man-Nom brother be fact-Nom clearly became
‘As for Mary1, the fact that the man who met self1 turned out to be her brother.’

b. Mary2-wa [IP[NP[NP[NP sensingu zibun2-ga e1 atta]
Mary-Top last week self-Nom met
otoko1]-ga ani dearu] koto]-ga akirakani natta]
man-Nom brother be fact-Nom clearly became
‘As for Mary2, the fact that the man who self2 met turned out to be her brother.’

However, zibun is not be allowed in sentences such as (1c, d) and (2c, d), as shown in
(20a, b) respectively:

(20) a. ?*Ano huzin1-ga/wa [IP daremo [NP[NP[NP zibun1-ga e2
that woman-Nom/Top anyone self-Nom
kiteiru] yoohuku2]-ga yogoreteiru] koto]-ni kizukanakatta]
wearing suit-Nom dirty fact-at aware-not-was
‘(As for) that woman, no one was aware of the fact that the suit self1 is
wearing is dirty.’
b. *Sono roozin1-ga/wa [Mary-ga [zibun1-ga sinda
that old man-Nom/Top Mary-Nom self-Nom died
noni] [daremo kanasima-nakatta] to itteita]
though nobody saddened-not that saying-was
‘(As for) that old man1, Mary was saying that no one was saddened
although self1 died.’

(20) c. *Sono roozin1-ga/wa [Mary-ga [zibun1-ga sinde-mo]
that old man-Nom/Top Mary-Nom self-Nom die-though
[daremo kanasima-nai-daroo] to itteita]
nobody saddened-not-would that saying-was
‘(As for) that old man1, Mary was saying that no one would be
saddened even if self1 died.’

In this section, I will seek to account for the contrast between (18)-(19) and (20) in
terms of semantic “awareness” and “Death” conditions proposed by Kuno (1973a, b) and

5.3.1 Empathy

Kuno and Kaburaki (1977, henceforth K&K) and Kuno (1978, 1987) introduce for the
first time in the syntactic literature (as far as I know) the discoursal concept of “empathy”
into the syntactic realm and claim that many of the syntactic phenomena that involve
pronominal coreference (including reflexives) “can be explained by the general principles
[as given in (21)-(25)] that control the linguistic manifestations of the speaker’s “empathy”
(K&K:628), showing that the use of the reflexive pronoun zibun is closely related to or
determined by the speaker’s empathy (viewpoint).
(21) Empathy:

Empathy is the speaker’s identification, with varying degrees, with a person who participates in the event that he describes in a sentence. (K&K:628)

Empathy is controlled by the general principles and conditions such as the following:

(22) Ban on conflicting empathy foci:

A single sentence cannot contain logical conflicts in empathy relationships.  
(K&K:632)

(23) Speech-act empathy hierarchy:

It is not possible for the speaker to empathize more with someone else than with himself.  (K&K:631)

(24) Surface structure empathy hierarchy:

It is easiest for the speaker to empathize with the referent of the subject; it is next easiest for him to empathize with the referent of the object; ... It is next to impossible for the speaker to empathize with the referent of the by-passive agentive:

Subject \geq Object \geq ... \geq By-passive Agentive

(K&K:647-648, Kuno 1978:169)

(25) Empathy condition on the reflexive pronoun zibun:

It is easier for the speaker to empathize with the referent of a reflexive pronoun zibun than with other persons that appear in the same clause as zibun.  (K&K:636, Kuno 1978:206)

(26) Awareness condition on zibun:

The referent of zibun in the main clause must be aware of the action or state represented by the clause in which the reflexive zibun appears.

(27) Death condition on *zibun*:

The speaker cannot identify himself with/take the perspective of a dead person. (K&K:638-639, Kuno 1978:219)

Consider the following sentences, which are taken from K&K (p. 634, their (30)):

(28) a. Taroo₁-wa [Hanako-ga *zibun₁*-ni kasite-kureta] okane-o tukatte-simatta
    Taro-Top Hanako-Nom self-Dat lending-gave money-Acc spending-ended-up
    ‘Taro₁ has spent all the money that Hanako had lent to self₁.’

b. *Taroo-wa [Hanako-ga *zibun₁*-ni kasite-yatta] okane-o tukatte-simatta

The above two sentences differ only with respect to the giving verbs, *kureta* and *yatta*. It is considered that the former is Subject-centered and the latter is Dative-centered (K&K:630). The contrast in (28) can be accounted for by assuming the condition in (25). The empathy relationships holding in the embedded clauses with respect to *zibun* and the giving verb in the above two sentences are as in (29):

(29) (28a): *zibun*: Taroo > Hanako

    *kureta*: Taroo > Hanako

(28b) *zibun*: Taroo > Hanako

    *yatta*: Hanako > Taroo

(28b) involves a conflict in the speaker’s empathy foci, and hence is ruled out by (22).

Similarly, observe the sentence in (30), again from K&K (p. 636, their (32)):

(30) Taroo₁-wa [Hanako-ga *zibun₁*-ni kasite-*kureta*] okane-o boku-ni watasita
    Taro-Top Hanako-Nom self-Dat lending-gave money-Acc me-Dat handed

    ‘Taro₁ handed to me the money that Hanako had lent to self₁.’
The empathy relationships holding in the embedded and main clauses of (30) are shown in (31):

(31) Embedded clause: Taroo > Hanako
    Main clause: Speaker > Taroo

The empathy relationship obtained in (31) from the main clause is due to the Speech-act empathy hierarchy in (23). Therefore, the empathy relation among the speaker, Taro, and Hanako in the entire sentence in (30) is: Speaker > Taro > Hanako, and this does not involve an irreconcilable conflict in empathy foci in (22)—hence the acceptability of the sentence.

The awareness and death conditions explain the contrast in the sentences such as (32) and (33)-(34), respectively. (32) are from K&K (pp. 634-635, their (36)):

(32) a. Taroo₁-wa *kare*₁-o nikundeiru onna-to kekkon-site-simatta
    Taro-Top him-Acc hating-is woman-with marrying-ended-up
    ‘Taro₁ married a woman who hated him₁.’

b. Taroo₁-wa *zibun*₁-o nikundeiru onna-to kekkon-site-simatta
    Taro-Top self-Acc hating-is woman-with marrying-ended-up
    ‘Taro₁ married a woman who hated self₁.’

The above two sentences differ only with respect to *kare* ‘him’ and *zibun* ‘self.’ The interpretation of (32b) involves Taro’s knowledge that his wife hated him, while (32a) does not suggest such an implication.

Consider next (33)-(34). (33) are taken from Kuno (1973a:310), and (34) from K&K (p. 639, their (38)): 259
(33) a. John₁-wa kazoku ya sinseki-tati-ni [zibunj₁-ga sinu
John-Top family and relatives-to self-Nom die
mae-ni] denwa-o kaketa
before phone-Acc called

‘John₁ called up his family and relatives before self₁ died.’

b. *John₁-wa [zibunj₁-ga sinda toki] issen-mo
John-Top self-Nom died when a penny-even
motteinakatta

‘John₁, when self₁ died, didn’t have a penny.’

(34) a. Taroo₁-wa zibunj-no byootai-o anziru hitotati-ni atatakaku
Taro-Top self-Gen sickness-Acc worry people-by warmly
care-for-was

‘Taro₁ was warmly looked after by those who were worried about
self₁’s condition.’

b. *Taroo₁-wa zibunj-no si-o kanasimu hitotati-ni-yotte
Taro-Top self-Gen death-Acc pine-for people-by
buried-was

‘Taro₁ was buried reverently by those who were saddened by self₁’s
death.’

In (33a) and (34a) the referent/antecedent of zibun could have been aware that he was to
die, while this is not the case in (33b) and (34b): John/Taro could not have been aware of
his death. The awareness condition in (26) distinguishes the contrast in (33)-(34). Or, put
it differently, the unacceptability of (33b) follows from the death condition in (27). That
is, it is impossible for the speaker to empathize himself with a dead person by the use of *zibun* in a clause that refers to a time concurrent or subsequent to his death. The unacceptability of (34b) also follows from the death condition.

With this much in mind, let us now examine how the awareness condition in (26) and the death condition in (27), and the empathy principle in (21) with accompanying conditions in (22)-(25) work for the sentences in (18)-(20). We first examine (20), and then (18)-(19) in what follows.

The awareness condition on *zibun* in (26) can apply to the cases in (20). In (20a) *ano huzin* (the antecedent of *zibun*) as well as the other people around her has not been aware that the suit she is wearing is dirty. In (20b), the dead person cannot be aware that Mary said that no one grieved when he died. (20b) can also be explained by the death condition on *zibun* in (27) in a like manner: the speaker cannot identify himself with a dead person, the referent of *zibun*. With regards to (20c), repeated below, the death condition would not apply because the referent of *zibun*, *sono roozin* ‘that old man’ is not dead. But, the awareness condition would rule it out: the referent of *zibun* may not be aware of what Mary said would happen if he died.

(20) c. *Sono roozin₁-ga/wa [Mary-ga [zibun₁-ga sinde-mo]
that old man-Nom/Top Mary-Nom self-Nom die-though
[daremo kansima-naï-daroo] to itteita
nobody sadden-not-daroo that saying-was
‘(As for) that old man₁, Mary was saying that no one would be saddened even if self₁ died.’

The sentences in (20) could be also accounted for by (21). The empathy relation that holds in the main clause of (20) is shown below:
The empathy relation in (20):

Speaker > Daremo/Mary  (by (23) and (24))
Speaker > Ano huzin/Sono roozin  (by (25))

As is clear from (35), the speaker is identifying himself with both daremo/Mary and ano huzin/sono roozin ‘that old man’ in (20). This is impossible from the statement implicit in (21): the speaker can place himself closer to one particular person but not two persons at the same time. Sentences such as (36) below, which are minimally similar to those in (20b, c), can be explained in the same way as (20) by the awareness condition in (26), the death condition in (27) and the speaker’s empathy relation in (21):

(36)*Sono roozin-ga/wa [[zibun-ga sinda noni]
that old man-Nom/Top self-Nom died though
[daremo kanasima-nakatta]]
no one saddened-not

‘(As for) that old man1, no one was saddened although self1 died.’

The predictions (21), (26), (27) make for the sentences in (20) and (36) are summarized as in (37).

(37) Ex  Awareness (26)  Death (27)  Empathy (21)
(20a)  Yes  ---  Yes
(20b)  Yes  Yes  Yes
(20c)  Yes  ---  Yes
(36)  Yes  Yes  Yes

We now examine the sentences in (18)-(19). Though the empathy principle in (21) with the conditions on zibun in (22)-(25), the awareness condition in (26), and the death condition in (27) can explain the sentences in (20) and (36) in a rather convincing way, the awareness condition in (26) makes a wrong prediction in (18)-(19).

First, the awareness condition, as it applies to the sentences in (19), would predict them to be unacceptable because the referent of zibun, Mary, ought not to have been aware of
the state represented by the subordinate clause containing *zibun*. Contrary to this prediction, they are acceptable.

As regards (18), the referent of *zibun* could be either aware or not aware of the action or state represented by the clause in which *zibun* appears. If the former is the case, the awareness condition in (26) would mark (18) as acceptable, and if the latter were the case, then the same condition would incorrectly rule it out as unacceptable.

In fact, Kuno (1978:204) notes that there are counter-examples such as those in (38) to the awareness condition:

(38) a. Taroo1-wa [[Hanako-ga zibun1-o aisiteiru] kotoj-o
   Taro-Top Hanako-Nom self-Acc loves fact-Acc
   siranakatta
   knew-not
   ‘Taroo1 did not know that Hanako loves self1.’

b. Taroo1-wa [[Hanako-ga zibun1-o matteiru] kotoj-o
   Taro-Top Hanako-Nom self-Acc waiting-is fact-Acc
   wasurete-simatteita
   forget-ended-up
   ‘Taroo1 had forgotten that Hanako was waiting for self1.’

The above sentences are acceptable though they violate the awareness condition in (26) because the referent of *zibun*, Taroo, is unaware of the state represented by the embedded clause containing *zibun*: Hanako’s love of him in (38a) and her waiting for him in (38b).

Second, the awareness condition cannot account for the unacceptability of (39)-(40).

(39)*Sono roozin1-ga/wa [[zibun1-ga damas-areta noni]
   that old man-Nom/Top self-Nom deceived-was though
   [daremo kanasima-nakatta]]
   no one saddened-not
'As for that old man, no one was saddened though self was deceived.'

(40)*Ano huzin1-ga/wa [IP John-ga [NP[IP[NP[IP zibun1-ga [e2 kiteiru] yoohuku2]-ga takai] koto]-ni kizuiteita] wearing suit-Nom expensive fact-at aware-was

'(As for) that woman, John was aware of the fact that the suit self is wearing is expensive.'

Here in both (39) and (40), the referent of zibun could have been aware of the action or state represented by the embedded clause and would not violate the condition. Thus, the awareness condition can say nothing about the unacceptability of these sentences. But the unacceptability of these sentences can be explained by (21) with the empathy relation in the main clause. That is, the speaker cannot identify himself with two different persons at the same time. The death condition in (27) is not applicable to (18)-(19) and (38)-(40). The empathy considerations in (21)-(25) can accommodate the sentences in (18)-(19) and (38)-(40). The empathy relations involved in these sentences are as follows:

(18) Speaker > John

(19) Embedded clause: Mary > otoko
Main clause: Speaker > Mary
Entire sentence: Speaker > Mary > otoko

(38) Embedded clause: Taroo > Hanako
Main clause: Speaker > Taroo
Entire clause: Speaker > Taroo > Hanako

(39) Main clause: Speaker > sono roozin
Speaker > daremo
(by (23) and (25))
(by (24))

(40) Main clause: Speaker > ano huzin
Speaker > John
(by (23) and (25))
(by (24))
The empathy relations Speaker > Taroo in (18), Speaker > Mary > otoko in (19), Speaker > Taroo > Hanako in (38) all do not involve an irreconcilable conflict in empathy foci, and these sentences are correctly predicted to be acceptable. On the other hand, the speaker's empathy relations in (39)-(40) involve two perspectives, which is banned by (21)—hence the unacceptability of these sentences.

The predictions of the three conditions (26), (27), and (21) are summarized in (41):

<table>
<thead>
<tr>
<th></th>
<th>Ex</th>
<th>Awareness (26)</th>
<th>Death (27)</th>
<th>Empathy (21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(18)</td>
<td>No/---</td>
<td>---</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>(19)</td>
<td>No</td>
<td>---</td>
<td>Yes</td>
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<tr>
<td>(20a)</td>
<td>Yes</td>
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<td>(20b)</td>
<td>Yes</td>
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<tr>
<td>(20c)</td>
<td>Yes</td>
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<td>Yes</td>
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<td>(36)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>(38)</td>
<td>No</td>
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<td>(39)</td>
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<td>Yes</td>
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<td>(40)</td>
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<td>Yes</td>
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</tbody>
</table>

Since the awareness condition in (26) makes an incorrect prediction about the sentences in (18)-(19) and (38), let us abandon it, keeping (27) and (21). The death condition in (27) and the empathy relation principle in (21) coupled with the conditions in (22)-(25) interact with each other to explain the sentences seen so far above.

5.4 Conclusion

I showed in 5.2.1 that resumptive pronouns agree in ɸ features with a scrambled phrase and that they are of two types: the full agreement type and the default type (zibun), and that they are phonetically realized at PF. In 5.2.2, we argued that the occurrence of resumptive pronouns is controlled by a semantic condition like (12), rather than by a syntactic condition like (7). Finally, in 5.3, we showed that the possibility and impossibility of the resumptive pronoun zibun 'self' follows from the discoursal concept of empathy of Kuno and Kaburaki (1977) and Kuno (1978, 1987).
Chapter 6

Summary and conclusion

I have shown in this dissertation that a syntactic condition on movement in Japanese (i.e., the Subjacency condition), as assumed in the current GB-based literature, stems from a mistaken understanding of important linguistic facts about movement. I have demonstrated that not only overt movement (i.e., Scrambling) but also null operator (OP) movement is not constrained by Subjacency. Extending analyses of Topicalization put forward by such authors as Kuno (1973a, b), Kuno and Takami (1993), and Takami and Kamio (1993) to movement, I have followed Haig (1993a, b) in proposing a non-syntactic, semantic-based condition on movement in general (including Topicalization): What actually constrains movement in Japanese is a semantic condition like "aboutness." That is, the moved phrase must have a coherent relation with the rest of a sentence from which it has been extracted.

More specifically, in Chapter 2, I have examined the claim made by Saito (1985), Yoshimura (1986), Saito and Hoji (1983), and Kikuchi (1987) that movement in Japanese is constrained by the Subjacency condition, and refuted that claim by showing that movement in Japanese is in fact free from Subjacency, regardless of whether it is overt or covert or whether it takes place at S-Structure or at LF. What actually constrains movement in Japanese is a semantic condition on "aboutness." I proposed the following:

1. Movement in Japanese, overt or covert, is immune from Subjacency.
2. Aboutness condition on movement

The topic phrase must be in the aboutness relation to the rest of the entire sentence, while the scrambled phrase must be in such a relation to the clause that immediately contains a phrase/clause from which it has been scrambled.
I also demonstrated that the *ka dooka* 'whether' clause containing a *wh*-phrase results in ungrammaticality, not because of the Subjacency condition as Watanabe (1991, 1992) argues, but because of a semantic anomaly as Xu (1990a) argues.

Last, I refuted Nishigauchi's (1985, 1990) analysis, which adopts a pied-piping mechanism for the claim that *wh*-movement at LF is subject to Subjacency. In subsequent chapters, I discussed consequences of the inapplicability of the Subjacency constraint to movement in Japanese.

In Chapter 3, I showed that a parasitic gap (PG), an empty category appearing in the WCO constructions, is not a variable, but *pro*, a null pronoun. First I argued that the PG is not a variable licensed by S-Structure scrambling (as assumed in Saito and Hoji 1983, Hoji 1985, Saito 1985) by showing that it does not exhibit WCO effects. Next, I refuted the analyses of Saito (1992) and Nakamura (1991) and showed that the PG is not a bound pronoun licensed by the coindexed scrambled phrase at S-Structure (Saito 1992) or at LF (Nakamura 1991) since the PG does not exhibit WCO effects in either case. I also pointed out some problems with Saito's and Nakamura's analyses. In contrast, I demonstrated that like full pronouns, PGs can take split and non-c-commanding phrases as their antecedents, and hence they are instances of *pro*. Finally, I proposed the discoursal or functional licensing conditions on *pro* in (3) to account for the distribution of *pro* in both matrix and embedded clauses in various types of constructions:

(3) Pro licensing (Final version)

(a) Discourse condition:

*Pro* can be licensed when it is discourse-linked.

(b) Functional condition:

*Pro* can be licensed when there is a semantic congruity between the clause containing *pro* and the clause containing *pro*'s antecedent.
In Chapter 4, I examined the analysis of topic constructions in Japanese in light of the discussion on movement in Chapter 2. In sections 2.1 and 2.2, I pointed out some problems with the existing (non-movement) analyses of topic constructions by Kuno (1973a) and Saito (1985), and Yoshimura (1986). I then proposed a movement analysis based on the conclusion (arrived at in Chapter 2) that Scrambling is free from Subjacency. For the movement analysis of topic constructions, I presented three pieces of evidence from (i) NP topicalization, (ii) PP topicalization, and (iii) Quantifier float.

The main concern of section 3 was to unify both Topicalization and Scrambling as a movement operation, i.e., movement of a phrase to sentence-initial position. To establish this, I appealed to the fact that both Scrambling and Topicalization can remedy a Principle A violation of Binding Theory. I first sketched the binding theory briefly in section 3.1. Then, based on Saito’s (1992) idea given in section 3.2 that Scrambling can be undone at LF, I proposed in section 3.3 that a sentence-initial position for both Scrambling and Topicalization is an A-position at S-Structure. Thus, a Principle A violation can be remedied by the moved phrase in A-position. In section 3.4, I briefly looked at the topic construction without a gap. I agree with Kuno and Saito that this construction requires a non-movement analysis.

In section 4, Scrambling and Topicalization of a PP were investigated. I showed that PP Scrambling and PP Topicalization behave the same as NP Scrambling and NP Topicalization in that they (i) involve A-movement, (ii) are free from Subjacency, (iii) can leave resumptive pronouns, and (iv) are subject to the semantic “aboutness” constraint. This is summarized in (4):

(4) Scrambling and Topicalization:

(i) involve A-movement,
(ii) are free from Subjacency,
(iii) allow resumptive pronouns, and
(iv) are constrained by the semantic notion of "aboutness."

In section 5, I investigated Possessor Topicalization and Possessor Scrambling. It was observed there that topicalization of a possessor NP from object position results in relatively lower acceptability than from subject position and that scrambling of a possessor NP from both subject and object position give rise to total unacceptability. I left open the question of a subject-object asymmetry in Possessor Topicalization for future study. For the impossibility of Possessor Scrambling, I suggested an account based on the Uniformity Condition of Chomsky (1986b).

Finally, in section 6, I examined and refuted Takahashi's (1993) analysis of Scrambling as syntactic wh-movement, pointing out some serious problems with it.

Chapter 5 investigated resumptive pronouns. In 5.2.1 I noted that resumptive pronouns agree in φ features with a scrambled phrase, that they are of two types--a full agreement type and a default type (zibun)--and that they are phonetically realized at PF. In 5.2.2, I argued that the appearance of resumptive pronouns is regulated by the semantic condition in (6) rather than the syntactic condition in (5):

(5) Syntactic licensing condition:
Resumptive pronouns are allowed when the trace left by Topicalization (and Scrambling) is separated by two or more bounding nodes.

(6) Semantic licensing condition:
Resumptive pronouns can appear to help disambiguate the meaning of a sentence.

Finally, in 5.3, I showed that the possibility and impossibility of the resumptive pronoun zibun 'self' follows from the discoursal concept of "empathy" proposed by Kuno and Kaburaki (1977) and Kuno (1978).

I have left unanswered several interesting questions, which deserve particular attention and further study and scrutiny.
The first of these concerns a gap associated with a relative head NP in the relative clause constructions. We argued that not only overt movement (Scrambling) but also covert movement (null operator movement) is immune to Subjacency and that all the gaps left by these movements are instances of pro, not variables—except for the gap associated with a relative head NP in relative clause constructions. This latter sort of gap can be a variable, given that operator movement is involved in relative clause formation and that this movement is immune to Subjacency. Or, it could be simply a gap which is deleted under identity with the head NP (cf. Kuno 1973a), in which case it is arguably pro. Neither argument for the status of the gap under discussion is conclusive. At this time, we do not know what the exact content of the gap in relative clauses really is.

The second question to be answered is related to the first question: it concerns the status of null operators (OP). I did not commit myself to OP movement in this dissertation. But, if OP movement were indeed involved with respect to the gap associated with the head NP in relative clause constructions, what would be the status of the OP? Is it a pro (cf. Contreras 1993) or a variable?

The third question is concerned with the existence of OP movement. Since null operator movement (at S-Structure or LF) is invisible and the Subjacency condition does not constrain movement, there is no evidence for or against the assumption that there is movement. In Chapter 3 we pointed out the fact that the gaps that are sometimes taken to be left behind by null operator movement in Parasitic Gap (PG) constructions exhibit some properties peculiar to pronouns and that they are not variables created by movement but pro. I suggested there that OP movement should not be posited in Japanese grammar without more adequate justification. Further studies are definitely needed to determine whether there is indeed OP movement or not.

The fourth question concerns extraction facts involving the adjunct naze ‘why’ in Japanese. It has been argued in the literature that in sentences involving the adjunct naze

Contrary to this widely-held view, extraction of *naze* ‘why’ out of a complex NP is in fact possible in some cases, as noted by Hirano and Izutani (1994c). The relevant examples are shown in (7) and (8):

(7) $\left[\text{NP}\right.$ Hanako-ga anna otoko-ni doko-de doo naze Hanako-Nom such man-by where-at how why damas-areru] koto]-ni natte simatta no ka, dare-mo be-deceived fact-to becoming ended-up Q anybody wakaranai understand-not

‘(Lit.) Nobody understands how Hanako ended up being deceived by such a man where why.’ (Kuno and Takami 1993:124).

(8) Sore-wa $\left[\text{NP}\right.$ gakusei-tati-ga naze yom-anakerebanaranai] sore-Top student-pl-Nom why read-must hon] desu ka book be Q

‘Why is it a book that students must read?’

Examples like (7)-(8) have not been addressed in the literature to date as far as I know. *Naze* appearing in the lower clause can have scope in the higher clause containing *ka* ‘Q’ in the above sentences. If this is the case, then they constitute a problem for any GB-based theory which assumes movement of *wh*-phrases at either S-Structure or LF: it calls
into question one of the basic assumptions of the GB-based theory—the very existence of abstract movement of OP and wh-phrases both at S-Structure and LF.\textsuperscript{82}

Whether there is movement or not, a syntactic theory must explain why in some instances \textit{naze} extraction out of islands is allowed and in some other instances it is not.

A fifth and final open question has to do with why topicalization out of object possessor NPs results in lower acceptability than topicalization out of subject possessor NPs (see chapter 4, section 5).

In this dissertation, I believe, I have succeeded in establishing that, in contrast to English, movement phenomena (i.e., Scrambling and Topicalization) in Japanese are constrained not so much by a syntactic notion of Subjacency as by a semantic notion of aboutness.

\textsuperscript{82} For an ECP account of \textit{naze} extraction, see Lasnik and Saito 1984, 1992, Fukui 1988, and Izutani 1990/93. See Kuno and Takami 1993 for a structural account. See also Hirano and Izutani 1994d for the criticism of Kuno and Takami's 1993 account, and Hirano and Izutani 1994c and Izutani 1995, forthcoming for a semantic account of \textit{wh}-extraction in Japanese.
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