

# Identical NP Deletion, Pronominalization, and Reflexivization

Satoru NAKAI

## INTRODUCTION

When an NP in an NP complement sentence is identical to an NP in the matrix sentence, either of the two NP's is deleted, pronominalized, or reflexivized. But the transformations do not take place freely. There seem to be some constraints on each of the transformations, for in the following examples, only deletion (2) and reflexivization (4) take place, and pronominalization (3) does not take place even though *John* in the matrix sentence and *John* in the embedded sentence are identical.

- (1) *John ga* ((*John ga kanningu o sita*)<sub>S</sub> koto o)<sub>NP</sub> kakusita.  
 'John kept it secret that John had cheated in the exam.'<sup>1</sup>
- (2) *John wa*<sup>2</sup> (( $\phi$  kanningu o sita)<sub>S</sub> koto o)<sub>NP</sub> kakusita.  
 'John kept it secret that  $\phi$  had cheated in the exam.'
- (3) \**John wa* ((*kare ga kanningu o sita*)<sub>S</sub> koto o)<sub>NP</sub> kakusita.<sup>3</sup>

---

1. Japanese examples are literally translated into English.

2. To make the examples 'natural, I may use the topicalizing particle *wa* instead of *ga*.

3. This sentence is quite acceptable if *John* and *kare* are different.

‘John kept it secret that he had cheated in the exam.’

(4) *John wa ((zibun ga kanningu o sita)<sub>S</sub> koto o)<sub>NP</sub> kakusita.*

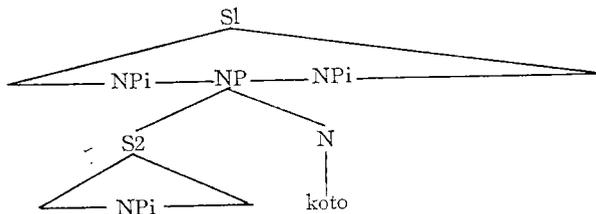
‘John kept it secret that himself had cheated in the exam.’

The purpose of this paper is to clarify the constraints on identical NP deletion, pronominalization, and reflexivization which take place between an NP in the matrix sentence and an NP in the NP complement sentence.

### I PRELIMINARY

Before entering upon the investigation, some preliminaries are necessary. First, the scope of this study must be limited. Among many types of complementation, I have chosen the type of (S+koto)<sub>NP</sub>.<sup>4</sup> Besides, I will limit the scope of the investigation to the cases where only one sentence is embedded in the matrix sentence. Therefore the type of complementation I will discuss in this paper is represented in the following diagram :

Diagram 1



4. I will limit my study to the cases where the (S+koto)<sub>NP</sub> shows the factivity, and I will not discuss such a case as

*oyogu koto wa muzukasii* ‘To swim is difficult.’

where the (S+koto)<sub>NP</sub> does not show any factivity. For the details of the distinction between factivity and non-factivity, see Paul Kiparsky and Carol Kiparsky, “Fact,” *Progress in Linguistics*, eds. Manfred Bierwisch and Karl Erich Heidolph (The Hague: Mouton and Co., 1970), pp. 143-73.

Secondly, since pronominalization is discussed, I will take adequate consideration of the relations "commands" and "precedes" proposed by Langacker in his "On Pronominalization and the Chain of Command."<sup>5</sup> Langacker studies the constraints on English pronominalization and draws the following conclusion:

NP<sub>a</sub> may be used to pronominalize NP<sub>p</sub> unless (1) NP<sub>p</sub> precedes NP<sub>a</sub>; and (2) either (a) NP<sub>p</sub> commands NP<sub>a</sub>, or (b) NP<sub>a</sub> and NP<sub>p</sub> are elements of separate conjoined structures.<sup>6</sup>

In other words, the above constraint tells that NP<sub>a</sub> may be used to pronominalize NP<sub>p</sub>

- (A) when NP<sub>a</sub> commands NP<sub>p</sub> and NP<sub>a</sub> precedes NP<sub>p</sub>,
- (B) when NP<sub>a</sub> commands NP<sub>p</sub> and NP<sub>p</sub> precedes NP<sub>a</sub>, and
- (C) when NP<sub>p</sub> commands NP<sub>a</sub> and NP<sub>a</sub> precedes NP<sub>p</sub>

and that NP<sub>a</sub> may not be used to pronominalize NP<sub>p</sub>

- (D) when NP<sub>p</sub> commands NP<sub>a</sub> and NP<sub>p</sub> precedes NP<sub>a</sub>.

---

5. Ronald W. Langacker, "On Pronominalization and the Chain of Command," *Modern Studies in English: Readings in Transformational Grammar*, eds. David A. Reibel and Sanford A. Schane (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., c1969), pp. 160-86.

The command relation is defined as follows:

a node *A* "commands" another node *B* if (1) neither *A* nor *B* dominates the other; and (2) the *S*-node that most immediately dominates *A* also dominates *B*. (p. 167).

6. *Ibid.*, p. 168. Langacker uses *NP<sub>a</sub>* to indicate the antecedent and *NP<sub>p</sub>* to indicate a noun phrase that reduces to a pronoun. I will use *NP<sub>p</sub>* to indicate a noun phrase that is deleted, reduces to a pronoun, or reduces to a reflexive pronoun. *NP<sub>a</sub>* indicates the antecedent.

(S+koto)<sub>NP</sub> may be the subject or the object<sup>7</sup> of the matrix sentence :

A: (S+koto)<sub>NP</sub>=the subject of the matrix sentence

B: (S+koto)<sub>NP</sub>=the object of the matrix sentence

According to the combination of the identical noun phrases, we have nine cases as seen in Table I:

Table I

NPm \ NPe	Subj	DO	IO
Subj	1	4	7
DO	2	5	8
IO	3	6	9

NPe: Identical NP in the embedded sentence

NPm: Identical NP in the matrix sentence

Subj: Subject

DO: Direct object

IO: Indirect object

Of each of the combinations, deletability, pronominalizability, and reflexivizability are investigated and the results are entered in a table like Table II. As I mentioned above, since the command and precede relations play an important role, whether NPp commands NPa and whether NPp precedes NPa are also investigated.

The investigation proceeds in the following way in the next section. Under the heading such as A-2, or B-7, first, the underlying

---

7. When I say that an NP is a subject, I mean that the NP is followed by the particle *ga*, which is a subjective-case-marker. Likewise, the object NP is the NP followed by *o*, and the indirect object NP is the NP followed by *ni*.

Table II

	D	P	R	Command	Precede	No Trans
F						
B						
NPe						
NPm						

D: Deletion

P: Pronominalization

R: Reflexivization

Command: NP<sub>p</sub> commands NP<sub>a</sub>.

Precede: NP<sub>p</sub> precedes NP<sub>a</sub>.

No Trans: Neither deletion nor pronominalization nor reflexivization takes place.

F: Forward (deletion, pronominalization, or reflexivization)

B: Backward (deletion, pronominalization, or reflexivization)

sentence is shown with a diagram. Then the deletability, pronominalizability, and reflexivizability are examined. The symbols used then are:

D-F: Forward Deletion (The second identical NP is deleted.)

D-B: Backward Deletion (The initial identical NP is deleted.)

P-F: Forward Pronominalization (The second identical NP reduces to a pronoun.)

P-B: Backward Pronominalization (The initial identical NP reduces to a pronoun.)

R-F: Forward Reflexivization (The second identical NP reduces to a reflexive pronoun.)

R-B: Backward Reflexivization (The initial identical NP reduces to a reflexive pronoun.)

NoT: Neither deletion nor pronominalization nor reflexivization occurs.)

The results are entered in the boxes with the following symbols.

As for deletion, pronominalization, and reflexivization,

+ : acceptable and only one interpretation

? : ambiguous. The deleted or pronominalized element refers to more than one person.

- : unacceptable. The intended interpretation cannot be realized.

As for command and precede relations,

+ : NP<sub>p</sub> commands NP<sub>a</sub> or NP<sub>p</sub> precedes NP<sub>a</sub>.

- : NP<sub>p</sub> does not command NP<sub>a</sub> or NP<sub>p</sub> does not precede NP<sub>a</sub>.

(When the command box and precede box are filled with plus, then pronominalization is not to take place.)

As for "no transformation,"

+ : acceptable

? : acceptable but unnatural

- : unacceptable. strange Japanese.

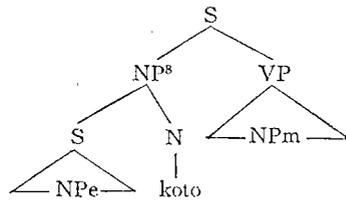
## II DATA

### A

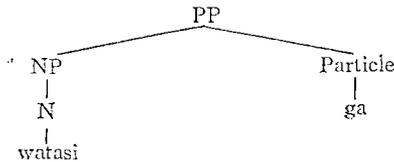
Table A-0

NP <sub>m</sub> \ NP <sub>e</sub>	Subj	DO	IO
Subj	1	4	7
DO	2	5	8
IO	3	6	9

Diagram A-0



8. To be accurate, the node NP is dominated by PP (Postpositional Phrase) as seen below :



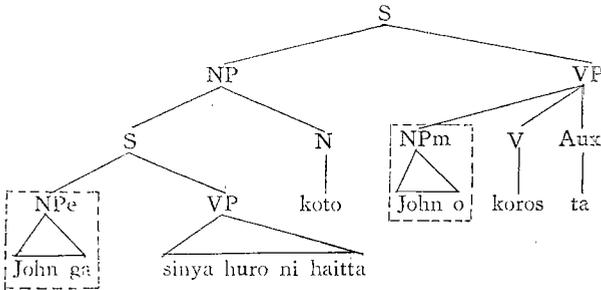
Since the embedded sentence is dominated by the subject NP, NPm cannot be the subject. A-1, A-4, and A-7 are excluded.

A-2: NP<sub>e</sub>=Subject; NP<sub>m</sub>=DO

((*John ga sinya huro ni haitta*)<sub>s</sub> koto ga)<sub>NP</sub> *John o korosita*.

‘That John had taken a bath at midnight killed John.’

Diagram A-2



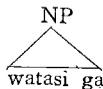
D-F: - *John ga sinya huro ni haitta koto ga*  $\phi$  *korosita*.

D-B: +  $\phi$  *sinya huro ni haitta koto ga John o korosita*.

Table A-2

	D	P	R	Command	Precede	No Trans
F	-	-	-	+	-	-
B	+	-	-	-	+	
NP <sub>e</sub> (Subj)	+	-	-			
NP <sub>m</sub> (DO)	-	-	-			

But for the simplicity's sake, I will draw diagrams like this:



And also for the simplicity's sake, the particle which is to be attached after *koto* is omitted.

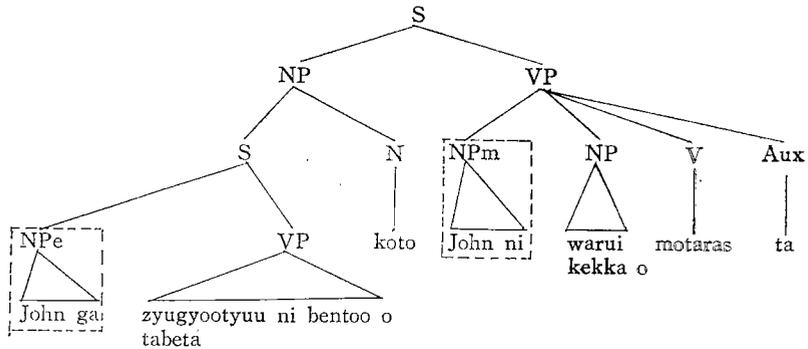
- P-F: — *John ga sinya huro ni haitta koto ga kare o korosita.*  
 P-B: — *kare ga sinya huro ni haitta koto ga John o korosita.*  
 R-F: — *John ga sinya huro ni haitta koto ga zibun o korosita.*  
 R-B: — *zibun ga sinya huro ni haitta koto ga John o korosita.*  
 NoT: — *John ga sinya huro ni haitta koto ga John o korosita.*

A-3: NPe=Subject; NPm=IO

((*John ga zyugyootyuu ni bentoo a tabeta*)<sub>S</sub> koto ga)<sub>NP</sub> *John ni warui kekka o motarasita.*

‘That John had eaten his lunch during the class brought John a bad consequence.’

Diagram A-3



D-F: — *John ga zyugyootyuu ni bentoo o tabeta koto ga  $\phi$  warui kekka o motarasita.*

D-B: +  $\phi$  zyugyootyuu ni bentoo o tabeta koto wa *John ni warui kekka o motarasita.*

P-F: ? *John ga zyugyootyuu ni bentoo o tabeta koto wa kare ni warui kekka o motarasita.*

P-B: — *kare ga zyugyootyuu ni bentoo o tabeta koto wa John ni warui kekka o motarasita.*

R-F: — *John ga zyugyootyuu ni bentoo o tabeta koto wa zibun ni warui kekka o motarasita.*

R-B: — *zibun ga zyugyootyuu ni bentoo o tabeta koto wa John ni warui kekka o motarasita.*

NoT: — *John ga zyugyootyuu ni bentoo o tabeta koto wa John ni warui kekka o motarasita.*

Table A-3

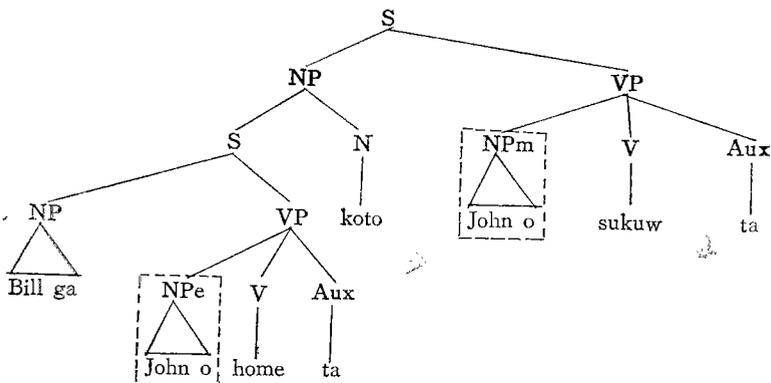
	D	P	R	Command	Precede	No Trans
F	—	?	—	+	—	—
B	+	—	—	—	+	
NPe(Subj)	+	—	—			
NP <sub>m</sub> (IO)	—	?	—			

A-5: NP<sub>e</sub>=DO; NP<sub>m</sub>=DO

((Bill ga *John* o hometa)<sub>s</sub> koto ga)<sub>NP</sub> *John* o sukutta.

‘That Bill had praised John saved John.’

Diagram A-5



D-F: — Bill ga *John* o hometa koto ga  $\phi$  sukutta.

- D-B: - Bill ga  $\phi$  hometa koto ga *John* o sukutta.  
 P-F: ? Bill ga *John* o hometa koto ga *kare* o sukutta.  
 P-B: - Bill ga *kare* o hometa koto ga *John* o sukutta.  
 R-F: - Bill ga *John* o hometa koto ga *zibun* o sukutta.  
 R-B: - Bill ga *zibun* o hometa koto ga *John* o sukutta.  
 NoT: + Bill ga *John* o hometa koto ga *John* o sukutta.

Table A-5

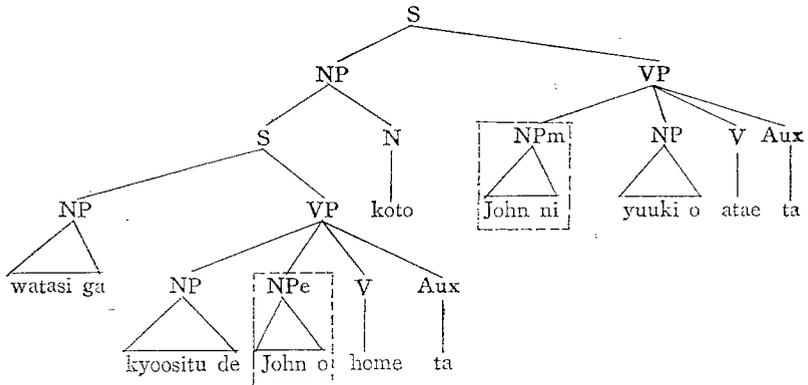
	D	P	R	Command	Precede	No Trans
F	-	?	-	+	-	+
B	-	-	-	-	+	
NPe(DO)	-	-	-			
NPm(DO)	-	?	-			

A-6: NPe=DO; NPm=IO

((watasi ga kyoositu de *John* o hometa)<sub>S</sub> koto ga)<sub>NP</sub> *John* ni yuuki o ataeta.

'That I had praised John in the class gave John courage.'

Diagram A-6



D-F: — watasi ga kyoositu de *John* o hometa koto ga  $\phi$  yuuki<sub>i</sub> o ataeta.

D-B: ? watasi ga kyoositu de  $\phi$  hometa koto ga *John* ni yuuki o ataeta.

P-F: ? watasi ga kyoositu de *John* o hometa koto ga *kare* ni yuuki o ataeta.

P-B: — watasi ga kyoositu de *kare* o hometa koto ga *John* ni yuuki o ataeta.

R-F: — watasi ga kyoositu de *John* o hometa koto ga *zibun* ni yuuki o ataeta.

R-B: — watasi ga kyoositu de *zibun* o hometa koto ga *John* ni yuuki o ataeta.

NoT: + watasi ga kyoositu de *John* o hometa koto ga *John* ni yuuki o ataeta.

Table A-6

	D	P	R	Command	Precede	No Trans
F	—	?	—	+	—	+
B	?	—	—	—	+	
NPe(DO)	?	—	—			
NPm(IO)	—	?	—			

A-8: NPe=IO; NPm=DO

((watasi ga *John* ni kane o ataeta)<sub>s</sub> koto ga)<sub>NP</sub> *John* o sukutta.

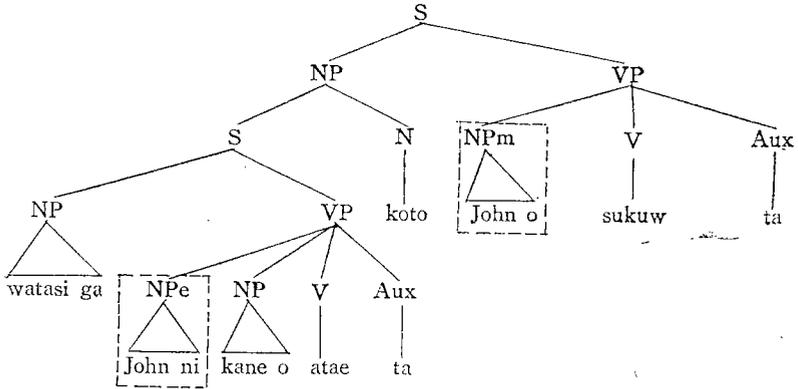
‘That I had given John money saved John.’

D-F: — watasi ga *John* ni kane o ataeta koto ga  $\phi$  sukutta.

D-B: ? watasi ga  $\phi$  kane o ataeta koto ga *John* o sukutta.

P-F: ? watasi ga *John* ni kane o ataeta koto ga *kare* o sukutta.

Diagram A-8



- P-B: - *watasi ga kare ni kane o ataeta koto ga John o sukutta.*
- R-F: - *watasi ga John ni kane o ataeta koto ga zibun o sukutta.*
- R-B: - *watasi ga zibun ni kane o ataeta koto ga John o sukutta.*
- NoT: + *watasi ga John ni kane o ataeta koto ga John o sukutta.*

Table A-8

	D	P	R	Command	Precede	No Trans
F	-	?	-	+	-	+
B	?	-	-	-	+	
NPe(IO)	?	-	-			
NPm(DO)	-	?	-			

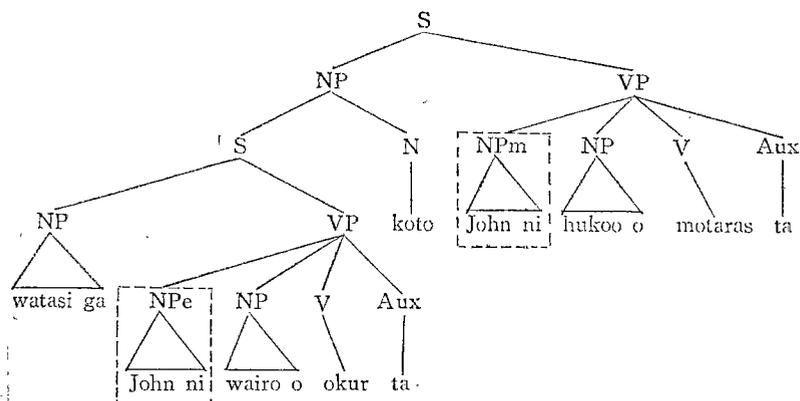
A-9: NPe=IO; NPm=IO

((*watasi ga John ni wairo o okutta*)<sub>S</sub> *koto ga*)<sub>NP</sub> *John ni hukoo o motarasita.*

‘That I had given a bribe to John brought John unfortune.’

D-F: - *watasi ga John ni wairo o okutta koto ga  $\phi$  hukoo o motarasita.*

Diagram A-9



D-B: ? watasi ga  $\phi$  wairo o okutta koto ga *John* ni hukoo o motarasita.

P-F: ? watasi ga *John* ni wairo o okutta koto ga *kare* ni hukoo o motarasita.

P-B: — watasi ga *kare* ni wairo o okutta koto ga *John* ni hukoo o motarasita.

R-F: — watasi ga *John* ni wairo o okutta koto ga *zibun* ni hukoo o motarasita.

R-B: — watasi ga *zibun* ni wairo o okutta koto ga *John* ni hukoo o motarasita.

NoT: + watasi ga *John* ni wairo o okutta koto ga *John* ni hukoo o motarasita.

Table A-9

	D	P	R	Command	Precede	No Trans
F	—	?	—	+	—	+
B	?	—	—	—	+	
NPe(IO)	?	—	—			
NPm(IO)	—	?	—			

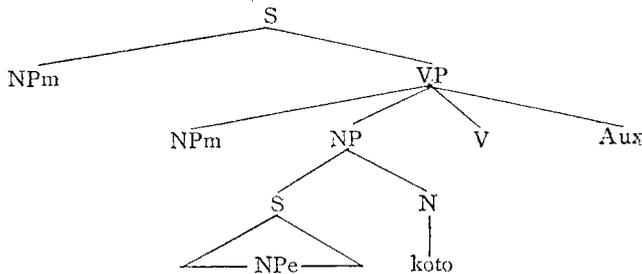
B

Table B-0

NPm \ NPe	Subj	DO	IO
Subj	1	4	7
DO	2	5	8
IO	3	6	9

Since the embedded sentence is dominated by the object NP of the matrix sentence, the NPm cannot be the object. B-2, B-5, and B-8 are excluded.

Diagram B-0



B-1: NPe=Subject; NPm=Subject

*John* ga ((*John* ga kanningu o sita)<sub>s</sub> koto o)<sub>NP</sub> kakusita.

‘John kept it secret that John had cheated in the examination.’

D-F: + *John* wa  $\phi$  kanningu o sita koto o kakusita.

D-B: -  $\phi$  (*John* ga kanningu o sita)<sub>s</sub> koto o kakusita.

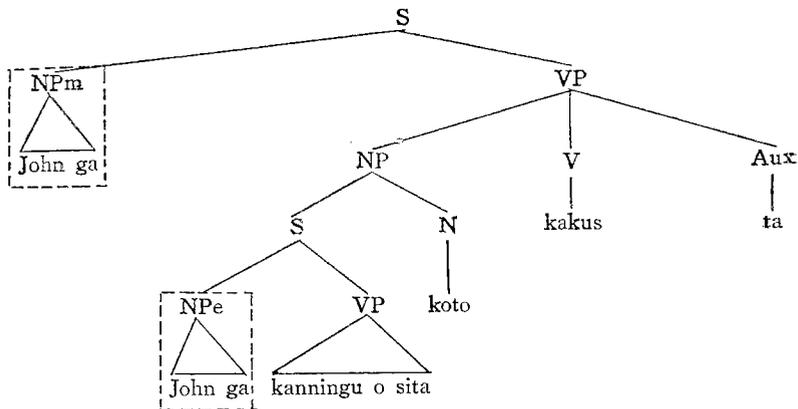
P-F<sub>i</sub>: - *John* wa *kare* ga kanningu o sita koto o kakusita.

P-B: - *kare* wa *John* ga kanningu o sita koto o kakusita.

R-F: + *John* wa *zibun* ga kanningu o sita koto o kakusita.

R-B: - *zibun* wa *John* ga kanningu o sita koto o kakusita.

Diagram B-1



NoT: — *John wa John ga kanningu o sita koto o kakusita.*

Table B-1

	D	P	R	Command	Precede	No Trans
F	+	--	+	-	-	-
B	-	-	-	+	+	
NPe(Subj)	+	-	+			
NPm(Subj)	-	-	-			

B-3: NPe=Subject; NPm=IO

watasi ga *John* ni ((*John* ga gityoo ni erabareta)<sub>S</sub> koto o)<sub>NP</sub> tutaeta.

'I informed John that John had been elected chairman.'

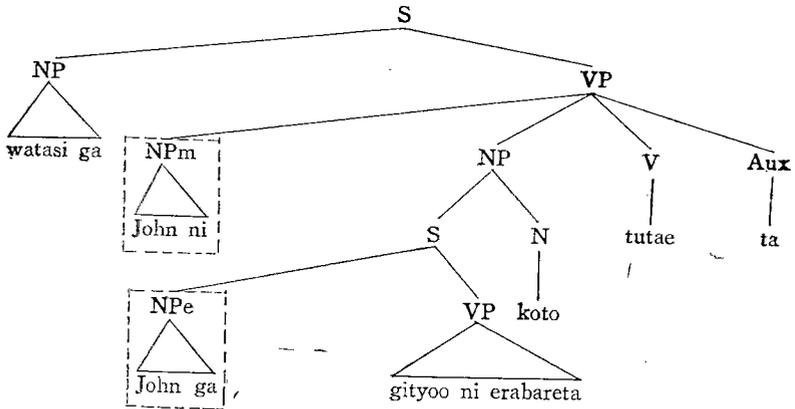
D-F: — watasi wa *John* ni  $\phi$  gityoo ni erabareta koto o tutaeta.

D-B: — watasi wa  $\phi$  *John* ga gityoo ni erabareta koto o tutaeta.

P-F: ? watasi wa *John* ni *kare* ga gityoo ni erabareta koto o tutaeta.

P-B: — watasi wa *kare* ni *John* ga gityoo ni erabareta koto o

Diagram B-3



tutaeta.

R-F: - watasi wa *John ni zibun ga gityoo ni erabareta koto o* tutaeta.

R-B: - watasi wa *zibun ni John ga gityoo ni erabareta koto o* tutaeta.

NoT: + watasi wa *John ni John ga gityoo ni erabareta koto o* tutaeta.

Table B-3

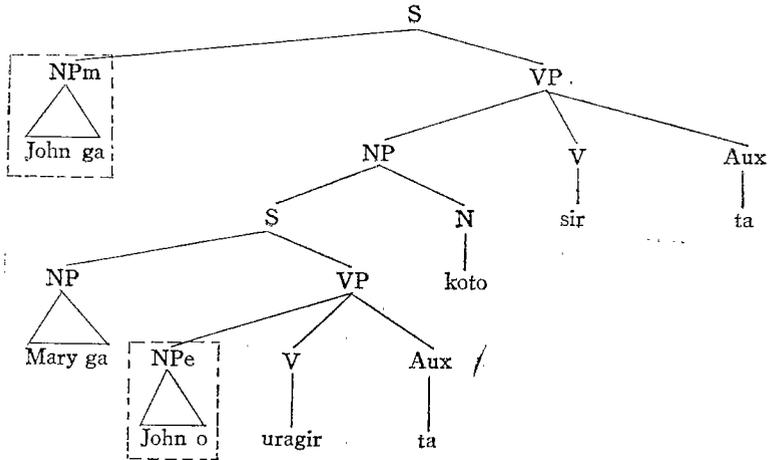
	D	P	R	Command	Precede	No Trans
F	-	?	-	-	-	+
B	-	-	-	+	+	
NPe(Subj)	-	?	-			
NPm(IO)	-	-	-			

B-4: NPe=DO; NPm=Subject

*John ga ((Mary ga John o uragitta)<sub>s</sub> koto o)<sub>NP</sub> sitta.*

'John was informed that Mary had betrayed John.'

Diagram B-4



D-F: - *John wa Mary ga  $\phi$  uragitta koto o sitta.*

D-B: -  *$\phi$  (Mary ga John o uragitta koto o)<sub>NP</sub> sitta.*

P-F: + *John wa Mary ga kare o uragitta koto o sitta.*

P-B: - *kare wa Mary ga John o uragitta koto o sitta.*

R-F: ? *John wa Mary ga zibun o uragitta koto o sitta.*

R-B: - *zibun wa Mary ga John o uragitta koto o sitta.*

NoT: - *John wa Mary ga John o uragitta koto o sitta.*

Table B-4

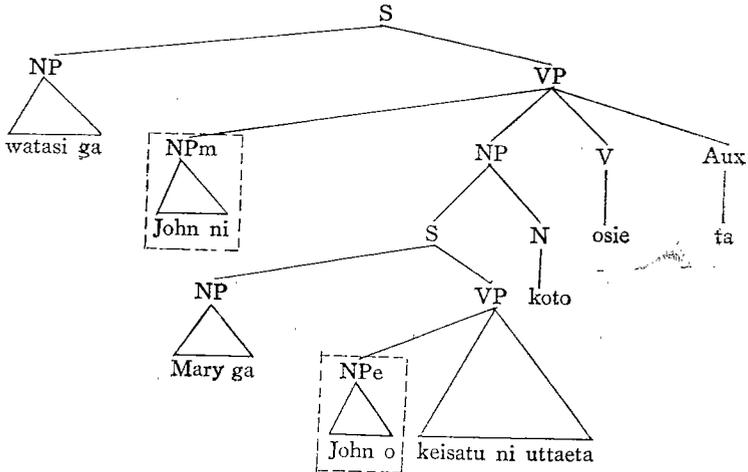
	D	P	R	Command	Precede	No Trans
F	-	+	?	-	-	-
B	-	-	-	+	+	
NPe(DO)	-	+	?			
NPm(Subj)	-	-	-			

B-6: NP<sub>e</sub>=DO; NP<sub>m</sub>=IO

watasi ga *John* ni ((*Mary* ga *John* o keisatu ni uttaeta)<sub>S</sub> koto o)<sub>NP</sub> osieta.

'I informed John that Mary had betrayed John to the police.'

Diagram B-6



D-F: - watasi wa *John* ni *Mary* ga  $\phi$  keisatu ni uttaeta koto o osieta.

D-B: - watasi wa  $\phi$  *Mary* ga *John* o keisatu ni uttaeta koto o osieta.

P-F: + watasi wa *John* ni *Mary* ga *kare* o keisatu ni uttaeta koto o osieta.

P-B: - watasi wa *kare* ni *Mary* ga *John* o keisatu ni uttaeta koto o osieta.

R-F: - watasi wa *John* ni *Mary* ga *zibun* o keisatu ni uttaeta koto o osieta.

R-B: - watasi wa *zibun* ni *Mary* ga *John* o keisatu ni uttaeta koto o osieta.

NoT: ? watasi wa *John* ni *Mary* ga *John* o keisatu ni uttaeta  
koto o osieta.

Table B-6

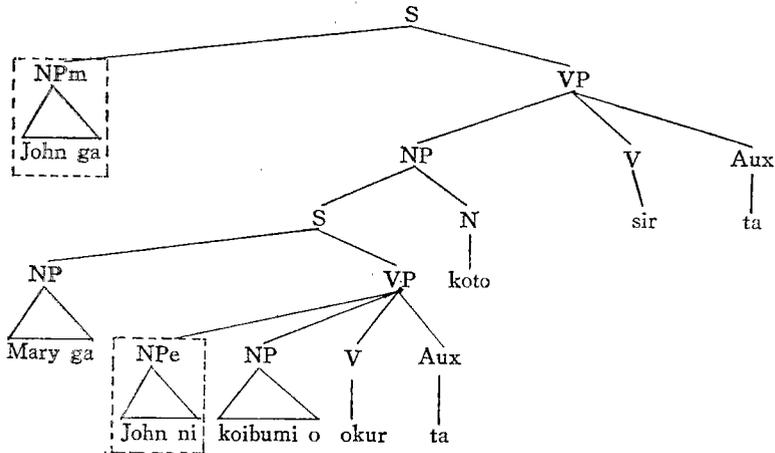
	D	P	R	Command	Precede	No Trans
F	-	+	-	-	-	?
B	-	-	-	+	+	
NPe(IO)	-	+	-			
NPm(IO)	-	-	-			

## B-7: NPe=IO; NPm=Subject

*John* ga ((*Mary* ga *John* ni koibumi o okutta)<sup>s</sup> koto o)<sub>NP</sub> sitta.

'John was informed that Mary had sent a love letter to John.'

Diagram B-7



D-F: - *John* wa *Mary* ga  $\phi$  koibumi o okutta koto o sitta.

D-B: -  $\phi$  (*Mary* ga *John* ni koibumi o okutta koto o)<sub>NP</sub> sitta.

P-F: ? *John* wa *Mary* ga *kare* ni koibumi o okutta koto o sitta.

- P-B: - *kare wa Mary ga John ni koibumi o okutta koto o sitta.*
- R-F: ? *John wa Mary ga zibun ni koibumi o okutta koto o sitta.*
- R-B: - *zibun wa Mary ga John ni koibumi o okutta koto o sitta.*
- NoT: - *John wa Mary ga John ni koibumi o okutta koto o sitta.*

Table B-7

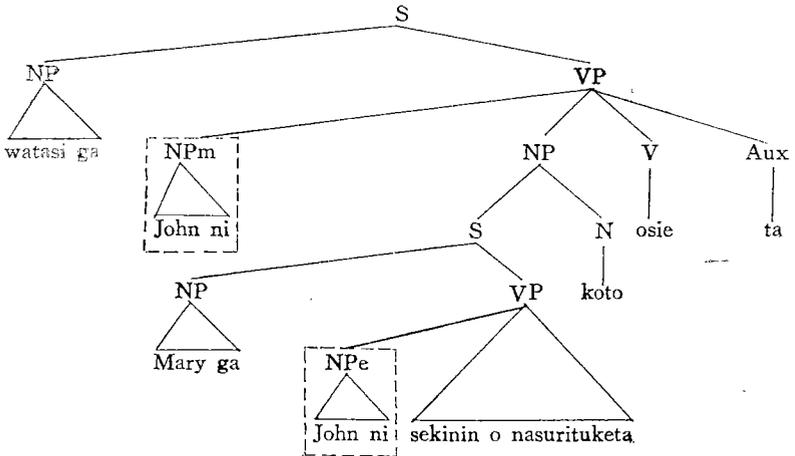
	D	P	R	Command	Precede	No Trans
F	-	?	?	-	-	-
B	-	-	-	+	+	
NPe(IO)	-	?	?			
NPm(Subj)	-	-	-			

B-9: NPe=IO; NPm=IO

watasi ga *John ni* ((*Mary ga John ni sekinin o nasurituketa*)<sub>s</sub> koto o)<sub>NP</sub> osieta.

'I informed John that Mary had shifted the responsibility on to John.'

Diagram B-9



D-F: — watasi wa *John* ni Mary ga  $\phi$  sekinin o nasurituketa koto o osieta.

D-B: — watasi wa  $\phi$  Mary ga *John* ni sekinin o nasurituketa koto o osieta.

P-F: ? watasi wa *John* ni Mary ga *kare* ni sekinin o nasurituketa koto o osieta.

P-B: — watasi wa *kare* ni Mary ga *John* ni sekinin o nasurituketa koto o osieta.

R-F: — watasi wa *John* ni Mary ga *zibun* ni sekinin o nasurituketa koto o osieta.

R-B: — watasi wa *zibun* ni Mary ga *John* ni sekinin o nasurituketa koto o osieta.

NoT: ? watasi wa *John* ni Mary ga *John* ni sekinin o nasurituketa koto o osieta.

Table B-9

	D	P	R	Command	Precede	No Trans
F	—	?	—	—	—	?
B	—	—	—	+	+	
NPe(IO)	—	?	—			
NPm(IO)	—	—	—			

### III CONSTRAINTS

In this section I will deal with the constraints on identical NP deletion, pronominalization, and reflexivization.

#### *Constraints on Identical NP Deletion*

The most apparent constraint on identical NP deletion is the follow-

ing one:

No NP in the matrix sentence can be deleted in terms of the identical NP in the embedded sentence. (=NPp must not command NPa.)

As far as the data in Section II are concerned, there is no exception to this constraint.

Another constraint that has been found is:

The NP to be deleted must be the subject of the embedded sentence.

A-2, A-3 and B-1 support this constraint.

(5) +  $\phi$  sinya huro ni haitta koto ga *John* o korosita. (A-2: D-B)

'That  $\phi$  had taken a bath at midnight killed John.'

(6) +  $\phi$  zyugyootyuu ni bentoo o tabeta koto wa *John* ni warui kekka o motarasita. (A-3: D-B)

'That  $\phi$  had eaten his lunch during the class brought John a bad consequence.'

(7) + *John* wa  $\phi$  kanningu o sita koto o kakusita. (B-1: D-F)

'John kept it secret that  $\phi$  had cheated in the examination.'

A-6, A-8, and A-9 seem to give counterexamples to the constraint.

(8) ? watasi ga kyoositu de  $\phi$  hometa koto ga *John* ni yuuki o ataeta. (A-6: D-B)

'That I had praised  $\phi$  in the class gave John courage.'

(9) ? watasi ga  $\phi$  kane o ataeta koto ga *John* o sukutta. (A-8: D-B)

'That I had given money to  $\phi$  saved John.'

(10) ? watasi ga  $\phi$  wairo o okutta koto ga *John* ni hukoo o motara-

sita. (A-9: D-B)

‘That I had given a bribe to  $\phi$  brought John unfortune.’

But the deletion in A-6, A-8, and A-9 is quite different from the deletion in A-2, A-3, and B-1 in the respect of recoverability. In B-1 the deleted element is easily recovered. Everyone that has heard or read the above sentence at once knows that it is John who cheated in the examination. But in A-9, though the transformed sentence is quite acceptable, no one can tell whom I gave a bribe to. This difference of recoverability is easily explained in terms of the constraint. Since there is the constraint that the NP to be deleted must be the subject of the embedded sentence, the deleted NP in A-2, A-3, and B-1, which are the subject of the embedded sentence, can be recovered. The deletion in A-6, A-8 and A-9 are not identical NP deletion but ellipsis, which occurs when the speaker and the hearer know who they are talking about.

A similar phenomenon is also seen in English. See the following examples.

(11) John wanted (John go home)<sub>NP</sub>

(12) John wanted to go home.

(13) John wanted (John kill John)<sub>NP</sub>

(14) John wanted to kill himself.

(15) \*John wanted to kill  $\phi$ .

The subject of the embedded sentence can be deleted but the object cannot be deleted.

Note also that in the relative clause formation in Japanese, the NP followed by the particle *ga* or *o* which indicates the subject or object

respectively is deleted without causing any unacceptable example but that when the NP followed by other particles than *ga* and *o* is deleted, the relative transformation sometimes causes unacceptable examples:

(16) sono syoonen wa sensei to eiga o mita.

‘The boy saw a movie with his teacher.’

(17) sensei to eiga o mita syoonen

‘the boy who saw a movie with his teacher’

(18) sono syoonen ga sensei to mita eiga

‘the movie which the boy saw with his teacher’

(19) \*sono syoonen ga eiga o mita sensei

‘the teacher with whom the boy saw a movie’

It seems that “subject” or “object” plays a crucial role in the transformational grammar.

The restriction that the NP to be deleted should be the subject of the embedded sentence is peculiar to the NP complement. There is no restriction of this kind in the VP complement. In the VP complement any NP can and must be deleted if it is identical to an NP in the matrix sentence. For instance, in the following example, the identical NP *watasi*, which is the object of the embedded sentence must be obligatorily deleted.<sup>9</sup>

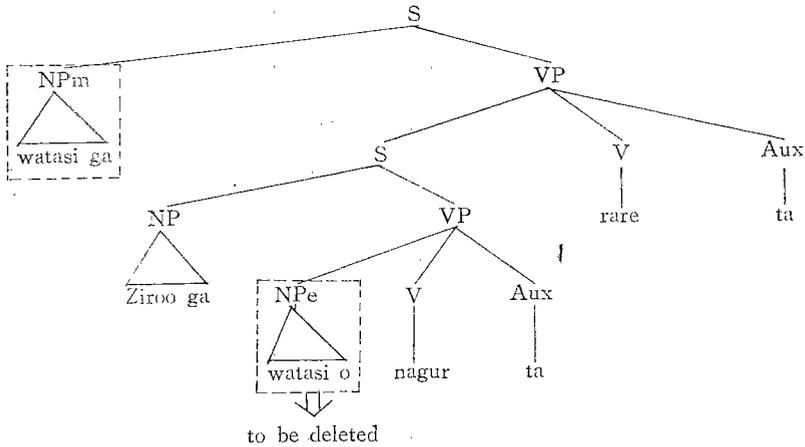
(20) *watasi wa Ziroo ni nagurareta.*

‘I was hit by Jiro.’

---

9. As for the analysis of the VP complement construction, I tentatively follow Teruhiro Ishiguro, “A Study of Japanese Verb Phrase Embedding Constructions,” *Doshisha Literature*, No. 25 (1969), 65-99.

Diagram 2



B-3 needs explanation because in B-3, the embedded subject NP cannot be deleted:

(21) — *watasi wa John<sub>i</sub> ni  $\phi$ <sub>i</sub> gityoo ni erabareta koto o tutaeta.*

(B-3 : D-F)

'I informed John that  $\phi$  had been elected chairman.'

The natural interpretation of (21) is that it is *watasi* 'I' that was elected chairman. The deleted element is regarded as identical to the subject NP *watasi* 'I' and not to the indirect object NP *John*. Note here that Rosenbaum's Principle of Minimal Distance<sup>10</sup> is not effective. The subject NP *watasi* is more distant from the embedded NP than the IO NP *John*.

10. Peter S. Rosenbaum, "A Principle Governing Deletion in English Sentential Complementation," *Readings in English Transformational Grammar*, eds. Roderick A. Jacobs and Peter S. Rosenbaum (Waltham, Massachusetts: Ginn and Company, c1970), pp. 20-29.

How should we solve this problem? Should we build up a hypothesis that the identical NP in the matrix sentence should be the subject? This hypothesis seems to be right, because we have the following example, where the deleted element is considered to be identical to the subject NP *John*:

(22) *John<sub>i</sub> wa sensei ni  $\phi_i$  kanningu o sita koto o kakusita.*

'John kept it secret from his teacher that  $\phi$  had cheated in the examination.'

But in the following example, the indirect object NP is used to delete the identical NP in the embedded sentence:

(23) *Mary wa John<sub>i</sub> ni ( $\phi_i$  Tokyo de hataraku koto o) susumeta.*

'Mary suggested John that  $\phi$  should work in Tokyo.'

The deleted element is regarded as identical to *John*. The hypothesis is wrong.

At present I cannot give a satisfactory explanation to this phenomenon. It seems to me that when *koto* is a factive-clause-marker, the identical NP in the matrix sentence must be the subject and when *koto* is a non-factive-clause-marker, the identical NP can be the subject, IO, or DO. But this is not a definite answer.<sup>11</sup>

---

11. The deletability has much to do with the kinds of the verbs of the complement and the matrix sentence. For example, replace *susumeta* by *teiansita* 'proposed' in (23), and we have an ambiguous sentence:

*Mary wa John ni  $\phi$  Tokyo de hataraku koto o teiansita.*

The deleted element may refer to John or both John and Mary.

This gives us an interesting problem. If the deleted element is *John to Mary* (John and Mary), both the subject and IO are the antecedent. I will not discuss this problem here. Jackendoff attempts to solve the problem in terms

Now let us summarize the restrictions on identical NP deletion in the NP complement. (1) No NP in the matrix sentence can be deleted. That is, NP<sub>p</sub> must not command NP<sub>a</sub>. (2) The NP to be deleted in the embedded sentence must be the subject of the embedded sentence. No other NP can be deleted in terms of identical NP deletion transformation. If an NP other than the subject NP is deleted, it is in terms of ellipsis. (3) When (S+koto)<sub>NP</sub> is a factive clause, the identical NP in the matrix sentence must be the subject. When (S+koto)<sub>NP</sub> is not a factive clause, any NP in the matrix sentence can be used to delete the identical NP in the embedded sentence. ((3) is a dubious hypothesis. It requires further investigation.)

#### *Constraints on Pronominalization*

The constraints on the pronominalization in Japanese are the same as those in English. Langacker's constraint on English pronominalization that "NP<sub>a</sub> may be used to pronominalize NP<sub>p</sub> unless (1) NP<sub>p</sub> precedes NP<sub>a</sub> and (2) NP<sub>p</sub> commands NP<sub>a</sub>"<sup>12</sup> can be applied to Japanese pronominalization. For example, no backward pronominalization is possible in B examples, where NP<sub>p</sub> both precedes and commands NP<sub>a</sub>:

(24) — *kare wa John ga kanningu o sita koto o kakusita.* (B-1: P-B)

‘He kept it secret that John had cheated in the examination.’

(25) — *watasi wa kare ni John ga gityoo ni erabareta koto o tutaeta.*

---

of the interpretive theory. See Ray S. Jackendoff, *Semantic Interpretation in Generative Grammar* (Cambridge, Massachusetts: The MIT Press, c1972), pp. 178-228.

12. Ronald W. Langacker, "On Pronominalization and the Chain of Command," p. 168.

(B-3: P-B)

‘I informed him that John had been elected chairman.’

(26) — *kare wa Mary ga John o uragitta koto o sitta.* (B-4: P-B)

‘He was informed that Mary had betrayed John.’

In (24), (25), and (26), *kare* and *John* cannot be the same person. There is a possibility that Langacker’s constraint on pronominalization may be universal.

Theoretically, both forward and backward pronominalizations are possible when NP<sub>p</sub> precedes NP<sub>a</sub> and NP<sub>p</sub> does not command NP<sub>a</sub> or when NP<sub>p</sub> does not precede NP<sub>a</sub> and NP<sub>p</sub> commands NP<sub>a</sub>. Actually, however, no backward pronominalization is possible in the data in Section II. For example, in A examples, no backward pronominalization is possible although Langacker’s constraint is not applicable:

(27) ? *watasi ga kyoositu de John o hometa koto ga kare ni yuuki o ataeta.* (A-6: P-F)

‘That I had praised John in the class gave him courage.’

(28) — *watasi ga kyoositu de kare o hometa koto ga John ni yuuki o ataeta.* (A-6: P-B)

‘That I had praised him in the class gave John courage.’

On this point Japanese differs from English.

Of course, somewhat similar phenomenon is seen in English pronominalization, and Langacker explains it in terms of “primacy relations.” Langacker says that when NP<sub>a</sub> commands and precedes NP<sub>p</sub>, the most natural and grammatical results can be obtained but that when NP<sub>a</sub> either only commands or only precedes NP<sub>p</sub>, grammatical but somewhat unnatural sentences are obtained. In the following examples,

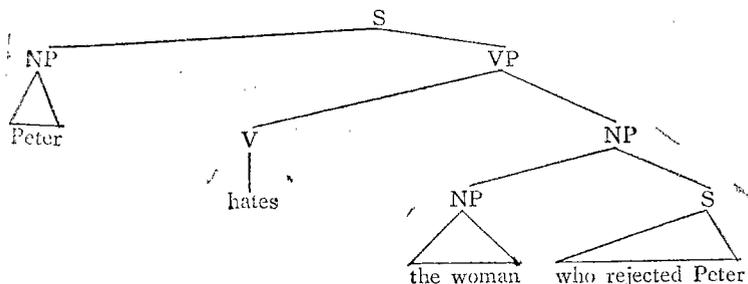
(61) is typical, and (62) and (63) are possible but not typical :

- (61) *Peter* hates the woman who rejected *him*.
- (62) The woman who rejected *Peter* is hated by *him*.
- (63) The woman who rejected *him* is hated by *Peter*.<sup>13</sup>

The tree structures of (61), (62), and (63) are as follows :

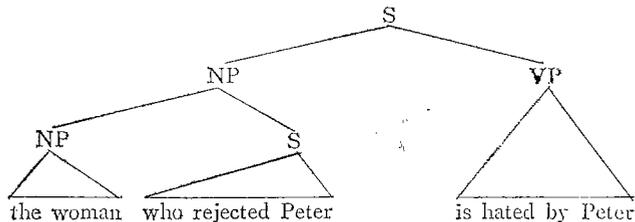
(The underlying structure of (61))

Diagram 3



(The underlying structure of (62) and (63))

Diagram 4



The third generalization on the pronominalization in Japanese is that when there are more than two NP's in the matrix sentence, the pronominalization causes ambiguity. The pronominalized element may

13. Ronald W. Langacker, "On Pronominalization and the Chain of Command," pp. 168-74.

refer to either of the two NP's in the matrix sentence.

(29) *Bill wa John ni (kare ga gityoo ni erabareta koto o) osieta.*

'*Bill informed John that he had been elected chairman.*'

In (29), *kare* may refer to either *Bill* or *John*. Notice that in English translation of (29), *he* may refer to either *Bill* or *John*.

To sum up, Langacker's constraint on English pronominalization that NP<sub>a</sub> may be used to pronominalize NP<sub>p</sub> unless (1) NP<sub>p</sub> precedes NP<sub>a</sub> and (2) NP<sub>p</sub> commands NP<sub>a</sub> can be applied to Japanese pronominalization, and in addition to this constraint Japanese has another constraint that no backward pronominalization is possible.

#### *Constraints on Reflexivization*<sup>14</sup>

Reflexivization in Japanese is under different constraints from those on English reflexivization. First, consider the well-known restriction that NP<sub>a</sub> and NP<sub>p</sub> should be the constituents of the same simplex sentence. Lees and Klima give the following rule:

$$X-Nom-Y-Nom'-Z \rightarrow X-Nom-Y-Nom'+Self-Z$$

where *Nom*=*Nom'*=a nominal, and where *Nom* and *Nom'* are within the same simplex sentence.<sup>15</sup>

This rule permits (30) but not (31) nor (32) because in (31) and (32) *John* and *himself* are not in the same simplex sentence:

14. Minoru Nakau draws similar conclusions in his *Sentential Complementation in Japanese* (Tokyo: Kaitakusha Co., Ltd., c1973), pp. 212-24 and pp. 242-44.

15. R. B. Lees and Edward S. Klima, "Rules for English Pronominalization," *Modern Studies in English: Readings in Transformational Grammar*, eds. David A. Reibel and Sanford A. Schane (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., c1969), p. 152.

- (30) *John shaved himself.*  
 (31) \**John forced Mary to shoot himself.*  
 (32) \**John saw the girl who hated himself.*<sup>16</sup>

Since the reflexivization in A examples is not possible, the above restriction seems to be effective in Japanese, too. In A examples, NP<sub>a</sub> and NP<sub>p</sub> are not in the same simplex sentence. But on close examination on B-examples, we find that the two NP's do not have to be the constituents of the same simplex sentence. For example, the forward reflexivization in B-1 is possible when NP<sub>a</sub> is in the matrix sentence and NP<sub>p</sub> is in the embedded sentence:

- (33) + *John wa (zibun ga kangu o sita)<sub>s</sub> koto o kakusita.* (B-1:  
 R-F)

'John kept it secret that himself had cheated in the exam.'

Reflexivization in Japanese takes place between two S's which are vertically adjacent.

The tables in Section II reveal that reflexivization in Japanese takes place when NP<sub>a</sub> both commands and precedes NP<sub>p</sub> (B-1, B-4, and B-7). Inoue observes this fact and states that "in Japanese reflexivization, the antecedent must precede the NP to be reflexivized and it must also command the NP to be reflexivized."<sup>17</sup>

However, the above restriction is insufficient. B-3, B-6, and B-9

16. (30), (31), and (32) are borrowed from Ray S. Jackendoff, *Semantic Interpretation in Generative Grammar* (Cambridge, Massachusetts: The MIT Press, c1972), pp. 131-32.

17. Kazuko Inoue, "Henkei Bumpoo to Nippongo No. 9 (Transformational Grammar and Japanese)," *Eigo Kyooiku* (The English Teachers' Magazine), XXI (1972), No. 3, 78. The English translation is mine.

meet the conditions but reflexivization does not take place. For convenience, let me repeat the examples here :

- (34) — *watasi wa John ni zibun ga gityoo ni erabareta koto o tutaeta.* (B-3: R-F)

‘I informed John that himself had been elected chairman.’

- (35) — *watasi wa John ni Mary ga zibun o keisatu ni uttaeta koto o osieta.* (B-6: R-F)

‘I informed John that Mary had betrayed himself to the police.’

- (36) — *watasi wa John ni Mary ga zibun ni sekinin o nasurituketa koto o osieta.* (B-9: R-F)

‘I informed John that Mary had shifted the responsibility on to himself.’

The natural interpretations are :

*zibun*=*watasi* in (34)

*zibun*=*watasi* or *Mary* in (35) and (36)

*Zibun* cannot be interpreted to be identical to *John*. From this fact, we find that there is another constraint on Japanese reflexivization. *In Japanese reflexivization the antecedent must be the subject.*

The antecedent may be the subject of the matrix sentence or it may be the subject of the same simplex sentence as the reflexivized NP belongs to. If the antecedent is the subject of the matrix sentence, *zibun* refers to *watasi* in B-3, B-6, and B-9. If the antecedent is the subject of the embedded sentence, then NP<sub>a</sub> and NP<sub>p</sub> are the constituents of the same simplex sentence and *zibun* refers to *Mary* in B-6 and B-9. This is the reason why in B-6 and B-9 *zibun* re-

fers to both *watasi* and *Mary*.

An interesting conclusion can be drawn when we contrast Japanese and English reflexivizations. As (34), (35), and (36) show, any NP can be reduced to reflexive pronoun in Japanese, whereas in English the subject NP cannot be reflexivized:

(37) *John<sub>i</sub>* said that *he<sub>i</sub>* would shoot *himself<sub>i</sub>*.

(38) \**John<sub>i</sub>* said that *himself<sub>i</sub>* would shoot *John<sub>i</sub>*.

To sum up, Japanese reflexivization takes place when the antecedent both precedes and commands the NP to be reflexivized and the antecedent is the subject of the matrix sentence or the subject of the embedded sentence.

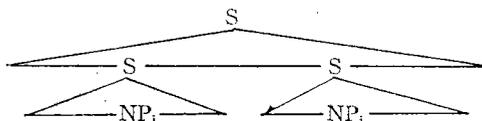
#### IV SOME RESIDUAL PROBLEMS

Now let me repeat Langacker's constraint which is paraphrased on page 19. NP<sub>a</sub> may be used to pronominalize NP<sub>p</sub>

- (A) when NP<sub>a</sub> commands NP<sub>p</sub> and NP<sub>a</sub> precedes NP<sub>p</sub>,
- (B) when NP<sub>a</sub> commands NP<sub>p</sub> and NP<sub>p</sub> precedes NP<sub>a</sub>,
- (C) when NP<sub>p</sub> commands NP<sub>a</sub> and NP<sub>a</sub> precedes NP<sub>p</sub>.<sup>18</sup>

NP<sub>a</sub> may not be used to pronominalize NP<sub>p</sub> when NP<sub>p</sub> both com-

18. Theoretically, NP<sub>a</sub> may be used to pronominalize NP<sub>p</sub> when NP<sub>p</sub> does not command NP<sub>a</sub> and NP<sub>p</sub> does not precede NP<sub>a</sub>. The following diagram illustrates the environment:



But this is irrelevant in this paper.

mands and precedes NP<sub>a</sub>.

Then let us consider when identical NP deletion, pronominalization, and reflexivization take place, by using (A), (B), and (C).

Pronominalization: (A) and (C). No restriction.

Deletion: (A) and (B). NP<sub>p</sub> must be the subject of the embedded sentence.

Reflexivization: (A). NP<sub>a</sub> must be the subject of the matrix sentence.

Several interesting facts are observed from this scheme.

Since identical NP deletion is under Langacker's constraint on pronominalization, it is possible to hypothesize that *identical NP deletion in the NP complement sentence is nothing but pronominalization in Japanese*. And this hypothesis further suggests that deletion serves as *φ-pronominalization* in Japanese.

Theoretically, when NP<sub>a</sub> commands and precedes NP<sub>p</sub>, that is (A), it is possible that all of the three transformations take place. To see whether this is possible, I have drawn Tables III and IV.

In (iv), both deletion and reflexivization take place. But there is only one example in box (iv). That is B-1. See Diagram B-1. As NP<sub>a</sub> (=NP<sub>m</sub>) both commands and precedes NP<sub>p</sub> (=NP<sub>e</sub>) and NP<sub>a</sub> is the subject, the reflexivization may take place. As NP<sub>a</sub> (=NP<sub>m</sub>) commands NP<sub>p</sub> (=NP<sub>e</sub>) and NP<sub>p</sub> is the subject of the embedded sentence, the deletion may take place, too.

In (i), that is, in B-4 and B-7, both pronominalization and reflexivization take place. See Diagrams B-4 and B-7. Since NP<sub>a</sub> (=NP<sub>m</sub>) commands and precedes NP<sub>p</sub> (=NP<sub>e</sub>), pronominalization may take

place. Besides, NP<sub>a</sub> (=NP<sub>m</sub>) is the subject of the martrix sentence, so the reflexivization takes place, too.

Table IV tells that all of the three transformations do not take place at a time. In (iv), only deletion and reflexivization take place.

The last problem I want to discuss is provided by B-1. See the following examples, first :

Table III

P	D	R	NoT	Forward	Backward
+	+	+	+		
			-		
		-	+		
			-		
	-	+	+		
			-	B-4, B-7 (i)	
		-	+	A-5, A-6, A-8, A-9 B-3, B-6, B-9 (ii)	
			-	A-3 (iii)	
-	+	+	+		
			-	B-1 (iv)	
		-	+		
			-		A-2, A-3 (v)
	-	+	+		
			-		
		-	+		A-5, A-6, A-8, A-9 B-3, B-6, B-9 (vi)
			-	A-2 (vii)	B-1, B-4, B-7 (viii)

Notes: As for R and P; + and ? = +

As for D, ? = -

Table IV

	i	ii	iii	iv	v	vi	vii	viii
P	+	+	+	-	-	-	-	-
D	-	-	-	+	+	-	-	-
R	+	-	-	+	-	-	-	-
NoT	-	+	-	-	-	+	-	-

(39) John wa *zibun* ga kanningu o sita koto o kakusita. (B-1: R-F)

(40) *zibun* wa John ga kanningu o sita koto o kakusita. (B-1: R-B)

(39) can be translated as (41) or (42), and (40) can be translated as (43):

(41) *John<sub>i</sub>* kept it secret that *he<sub>i</sub>* had cheated in the exam.'

(42) *John* kept it secret that *I* had cheated in the exam.'

(43) *I* kept it secret that *John* had cheated in the exam.'

As (42) and (43) show, *zibun* can refer to *I*. But there is no antecedent *watasi* in the examples. How should we treat this problem?

There are two solutions for the problem. One is to regard *zibun* as a first person pronoun. The other is to use the Performative Analysis.<sup>19</sup> If (39) and (40) are embedded in another sentence which is *watasi wa ... to iu* (I SAY ...), then the derivation of *zibun* is explained in terms of reflexivization transformation. The underlying structure is as follows:

(44) *watasi* ga (John ga (*watasi* ga kanningu o sita)<sub>s</sub> koto o kakusita)<sub>s</sub>

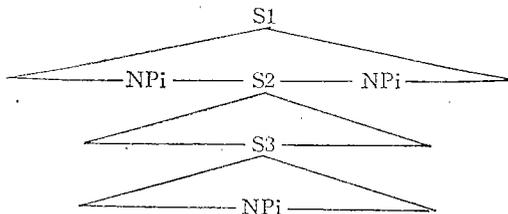
19. Cf. John R. Ross, "On Declarative Sentences," *Readings in English Transformational Grammar*, eds. Roderick A. Jacobs and Peter S. Rosenbaum (Waltham, Massachusetts: Ginn and Company, c1970), pp. 222-72.

to *iu*.

‘I SAY that John kept it secret that I had cheated in the exam.’

This is a tentative solution because I have not yet studied the reflexivization which takes place between S1 and S3 (in the following diagram).

Diagram 5



### REFERENCES

- Bierwisch, Manfred and Karl Erich Heidolph (eds.). *Progress in Linguistics*. The Hague: Mouton and Co., 1970.
- Inoue, Kazuko. "Henkei Bumpoo to Nippongo No. 9 (Transformational Grammar and Japanese)," *Eigo Kyooiku* (The English Teachers' Magazine), XXI (1972), No. 3.
- Ishiguro, Teruhiro. "A Study of Japanese Verb Phrase Embedding Constructions," *Doshisha Literature*, No. 25 (1969).
- Jackendoff, Ray S. *Semantic Interpretation in Generative Grammar*. Cambridge, Massachusetts: The MIT Press, c1972.
- Jacobs, Roderick A. and Peter S. Rosenbaum (eds.). *Readings in English Transformational Grammar*. Waltham, Massachusetts: Ginn and Company, c1970.
- Kiparsky, Paul and Carol Kiparsky. "Fact," *Progress in Linguistics*. Edited by Manfred Bierwisch and Karl Erich Heidolph. The Hague: Mouton and Co., 1970.
- Langacker, Ronald W. "On Pronominalization and the Chain of Command," *Modern Studies in English: Readings in Transformational Grammar*. Edited by David A. Reibel and Sanford A. Schane. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., c1969.
- Lees, R. B. and Edward S. Klima. "Rules for English Pronominalization,"

*Modern Studies in English: Readings in Transformational Grammar.* Edited by David A. Reibel and Sanford A. Schane. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., c1969.

Nakau, Minoru. *Sentential Complementation in Japanese.* Tokyo: Kaitakusha Co., Ltd., c1973.

Reibel, David A. and Sanford A. Schane (eds.). *Modern Studies in English: Readings in Transformational Grammar.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., c1969.

Rosenbaum, Peter S. "A Principle Governing Deletion in English Sentential Complementation," *Readings in English Transformational Grammar.* Edited by Roderick A. Jacobs and Peter S. Rosenbaum. Waltham, Massachusetts: Ginn and Company, c1970.

Ross, John Robert. "On Declarative Sentences," *Readings in English Transformational Grammar.* Edited by Roderick A. Jacobs and Peter S. Rosenbaum. Waltham, Massachusetts: Ginn and Company, c1970.