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0. INTRODUCTION

Chomsky (1981) proposed the Binding Theory as one of the subsystems of principles of Universal Grammar (UG). This theory consists of the principles governing the distribution of the three categories of nominal expressions, i.e., anaphors, pronominals and R-(eferential) expressions. The proposed form of the Binding Theory and the definition of the concepts in terms of which it is stated are as follows:[1]

(1) Binding Theory

(A) An anaphor is bound in its governing category.
(B) A pronominal is free in its governing category.
(C) An R-expression is free.

(2) Definition of governing category

β is a governing category for α if and only if β is the minimal category containing α, a governor of α and a SUBJECT accessible to α.

(3) Definition of SUBJECT

AGR and the subject of an infinitive, an NP or a small clause are SUBJECTS.

(4) Definition of the notion "accessible"

α is accessible to β if and only if β is in the c-command domain of α and assignment to β of the index of α would not violate (i):

(i) $*[_{\gamma} \ldots \delta \ldots]$ where γ and δ bear the same index.

In the following discussion, we will be mainly concerned with principle (A) of the Binding Theory.

One of the most serious problems with the Binding Theory is its claimed universality. It has long been recognized that there are many languages in which the Binding Theory, as it stands, is not observed. In particular, it has been noted that an element identified as an anaphor in these languages does not obey the locality condition expressed in the Binding Theory (A).

One obvious way to deal with this problem is to explore the nature of parameters to be associated with the Binding Theory. Yang (1983), for example, pursues this possibility to an interesting extent in accounting for variations as to the binding of the elements identified as anaphors and pronominals in various languages including Japanese.[2] Yang's essential claim is that all the observed variations across languages are parametric variations, which can be induced by appropriately setting the values of the proposed parameters. Let us refer to Yang's approach as the "strong parametric approach".

In this paper, we will argue that the strong parametric approach cannot be maintained. We will show that there arise a number of problems with the treatment of the Japanese reflexive zibun under this approach, and will propose an alternative analysis of zibun, the claim of which is that zibun is not an anaphor but an inherently bound pronominal, a pronominal with only the so-called "bound interpretation". In section 1, we will briefly review Yang's approach and his treatment of the Japanese reciprocal and reflexive. In section 2, we will show that the properties of the reflexive zibun cannot be properly accounted for under this approach. In section 3, we will propose an alternative analysis of zibun.

1. PARAMETRIC APPROACH

1.1. Yang's Proposal

In his encyclopedic study of anaphors and pronominals, Yang (1983) argues that "some of the radical variations in anaphor-binding phenomena across languages naturally follow from Chomsky's original binding theory, given a minimal parametrizaton in the binding theory," and proposes the following parametrized version of the Binding Theory (A):

(5) An anaphor is bound in the c-domain of its c-commanding minimal SUBJECT.

(i) SUBJECT is parametrized:

(a) SUBJECT = AGR or subject for unmarked binding (reciprocals, unmarked reflexives)
(b) SUBJECT = AGR only for marked binding (marked reflexives)

(ii) AGR for marked binding is parametrized:

(a) AGR = INFL of a finite clause (for Russian, etc.)
(b) AGR= INFL of an indicative clause (for Icelandic, etc.)
(c) AGR = COMP (for Dutch, etc.)

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(5) has a number of interesting features. Let us briefly review each of these features in turn. First, (5) is an amalgamation of the Binding Theory (A) and the definition of the governing category. In (5), the reference to the notions "governing category" and "governor" is avoided. However, this difference between (5) and (1A) is essentially presentational.[3] Second, the i-within-i condition (4i) defining the accessibility of SUBJECT is excluded from the essential part of the Binding Theory in (5). Yang argues that the presence or absence of this condition in a particular language should be stated as an independent parameter. Thus, English has this condition, but Russian and Norwegian do not. Third, anaphor-binding is divided into two subtypes, i.e., unmarked and marked binding. Accordingly, Reflexives are distinguished as unmarked or marked, while reciprocals are assumed to participate only in unmarked binding. Languages differ depending on which type of reflexive they adopt, e.g., English adopts an unmarked reflexive, Japanese a marked one, and Norwegian and Italian both. Fourth, the notion of "SUBJECT" is parametrized. It is assumed that SUBJECT takes different ranges of values for ummarked and marked binding, i.e., AGR and the subject count as a SUBJECT for unmarked binding, but only AGR counts as a SUBJECT for marked binding, and AGR is further parametrized for the latter. With this background, we will consider the treatment of the Japanese reciprocal and reflexive in this approach.

1.2. Treatment of the Japanese Reciprocal and Reflexive

Yang points out that the Japanese reciprocal otagai 'each other' participates in unmarked binding,[4] and the reflexive zibun 'self' in marked binding. He further assumes that Japanese lacks AGR, not an unreasonable assumption.[5] Thus, under his approach, the Specified Subject Condition (SSC) is invoked only in the case of the binding of the reciprocal, and no effect of the Nominative Island Condition (NIC) and of the i-within-i condition is invoked for either, the latter condition being simply irrelevant in Japanese. This seems to be a correct characterization of the basic facts. Observe the following examples:[6]

(6) a. Karera$_i$ -wa otagai$_i$ -o nikun-de i-ru
they Top each other Acc hate-Prog-Pres
'They hate each other.'

b. ?Karera$_i$ -wa [$_S$otagai$_i$ -ga hannin-da] to
they Top each other Nom criminal is COMP

omot-ta
think-Past
'*They thought that each other was a criminal.'

c. karera$_i$ -wa [$_S$[$_{NP}$ otagai$_i$ -no sakuhin]-ga itiban
they Top each other Gen work Nom best

sugure-te i-ru] to omot-ta
exceed-Prog-Pres COMP think-Past
'They thought that each other's works were the best.'

d. *Karera$_i$ -wa [$_S$ Bill-ga otagai$_i$ -o nikun-de
they Top Nom each other Acc hate-Prog

i-ru] to omot-ta
Pres COMP think-Past
'*They thought that Bill hated each other.'

(7) a. John$_i$ -wa zibun$_i$ -o nikun-de i-ru
Top self Acc hate-Prog-Pres
'John hates himself.'

b. John$_i$ -wa [$_S$ zibun$_i$ -ga sono siai -ni kat-u
Top self Nom that game Dat win-Pres

daroo] to omot-ta
will COMP think-Past
'*John thought that himself would win the game.'

c. John$_i$ -wa [$_S$[$_{NP}$ zibun$_i$ -no sakuhin] -ga itiban
Top self Gen work Nom best

sugure-te i-ru] to omot-ta
exceed-Prog-Pres COMP think-Past
'*John thought that himself's work was the best.'

d. John$_i$ -wa [$_S$ Bill-ga zibun$_i$ -o nikun-de i-ru]
Top Nom self Acc hate-Prog-Pres

to omot-ta
COMP think-Past
'*John thought that Bill hated himself.'

(6a) and (7a) are the case of anaphor-binding within a simplex sentence, and there is no problem. In (6b) and (7b), otagai 'each other' and zibun 'self' are in the embedded subject position. In this case, the matrix subject NP can bind them, since AGR does not exist in Japanese, and the c-commanding minimal SUBJECT is a matrix subject.[7] A similar explanation holds for the grammaticality of (6c) and (7c) in which otagai and zibun occur in the determiner position of the subject NP of the embedded clause. (6d) is ungrammatical, since the embedded subject qualifies as the c-commanding minimal SUBJECT for unmarked binding, and otagai is not bound in its domain. On the other hand, this is not true of (7d), since only AGR qualifies as a SUBJECT for the marked reflexive zibun, and (7d) is grammatical. Thus, we correctly get the contrast in grammaticality between (6d) and (7d).

One obvious problem with (5) is that there would be no c-commanding minimal SUBJECT for zibun. This is so, because only AGR qualifies as a SUBJECT for the marked reflexive zibun, and Japanese lacks AGR in Yang's analysis. Thus, (8), for example, is wrongly predicted to be grammatical by (5), unless there is some independent principle prohibiting it:

(8) *Narcissus$_i$ -wa zibun$_j$ -o aisi-ta
Top self Acc love-Past
'*Narcissus$_i$ loved himself$_j$.'

The same problem occurs when a reciprocal is in or contained in the subject position of the matrix clause:

(9) a. *Otagai$_i$ -ga soko ni ki-ta
each other Nom there to come-Past
'*Each other$_i$ came there.'

b. *[$_{NP}$ otatagai$_i$ -no mei] -ga kekkonsi -ta
each other Gen nieces Nom get married-Past
'*Each other$_i$'s nieces got married.'

We could trivially solve this problem by stipulating principle (10):[8]

(10) A root sentence constitutes a domain in which an anaphor is bound.

Let us tentatively assume that this solution is correct in the following discussion for ease of exposition.

So far, it seems that Yang's parametrized version of the Binding Theory (A) makes correct predictions about the distribution of the Japanese reciprocal and reflexive, if (10) is added. However, a closer examination will reveal a number of problems inherent in this approach. In the next section, we will discuss these problems in turn.

2. PROBLEMS WITH THE PARAMETRIC APPROACH

In this section, we will show that the Japanese reflexive zibun has a set of properties which cannot be properly accounted for in Yang's approach. We will also show that the reciprocal otagai systematically lacks these properties and that the two elements are fundamentally different in nature.

2.1. The Subject Antecedent Condition

It has been generally claimed that only the subject NP can be an antecedent of zibun, as shown in (11):

(11) a. Edward$_i$ -wa Thomas$_j$ -ni zibun$_{i,*j}$ -nituite hanasi-ta
Top Dat self about talk-Past
'Edward$_i$ talked to Thomas$_j$ about himself$_{i,j}$.'

b. Cal$_i$ -wa Adam$_j$-o zibun$_{i,*j}$-no ie -de korosi-ta
Top Acc self Gen house in kill-Past
'Cal$_i$ killed Adam$_j$ in his$_{i,j}$ house.'

(11a,b) indicate that such non-subject NPs as Thomas-ni and Adam-o cannot be an antecedent of zibun. Let us refer to this condition as the "Subject Antecedent Condition".[9]

Yang (1983) observes that marked reflexives generally obey the Subject Antecedent Condition, and proposes principle (12) to account for this observation:

(12) An anaphor has either the unmarked domain or the unmarked antecedent.

The notion "unmarked domain" essentially means the minimal S containing an anaphor, and the "unmarked antecedent" the "most prominent NP in the available domain, i.e., the subject".[10] Yang presents the following sentences as evidence for principle (12):[11]

(13) a. They$_i$ knew that each other$_i$'s pictures were on sale.

b. *I told them$_i$ that each other$_i$'s pictures were on sale.

(13) shows that the English reciprocal cannot be bound by a non-subject NP if that NP is outside the minimal S containing the reciprocal.[12]

It seems that principle (12) expresses a correct generalization about the distribution of unmarked anaphors, i.e., reciprocals and unmarked reflexives. Observe that the Japanese reciprocal otagai obeys (12):

(14) a. karera$_i$ -wa [$_{NP}$ Bill to Mary]$_j$ -ni otagai$_{i,?j}$ -no
they Top and to each other Gen

syasin -o mise-ta
pictures Acc show-Past
'They$_i$ showed [Bill and Mary]$_j$ pictures of each other$_{i,j}$.'

b. Karera$_i$ -wa [$_{NP}$ Bill to Mary]$_j$ -ni [$_S$ otagai$_{i,*j}$ -no
they Top and to each other Gen

musume -ga itiban utukusi-i] to it-ta
daughter Nom most beautiful-Pres COMP say-Past
'They$_i$ told [Bill and Mary]$_j$ that each other$_{i,*j}$'s daughters were the most beautiful.'

Note that otagai can be bound by a non-subject as well as a subject NP in a simplex sentence such as (14a), i.e., in the unmarked domain, while only a subject NP is available as a possible antecedent in (14b) where otagai takes the marked domain.

However, (12) does not capture the nature of the Subject Antecedent Condition, which expresses the absolute unavailability of a non-subject NP as an antecedent of marked reflexives even if the marked reflexives are bound in the unmarked domain. Therefore, in Yang's analysis, the Subject Antecedent Condition must be stipulated as a property of marked reflexives independently of principle (12) which might be a correct generalization about unmarked anaphors. This is obviously an undesirable complication of the grammar.

2.2. Topic NPs as Antecedents

It has been occasionally pointed out that a Topic NP can be an antecedent of zibun.[13] Before going into a discussion, however, it should be noted that two types of topic construction are distinguished in Japanese on the basis of whether there is a gap in the associated clause or not. Observe the following examples:

(15) a. Kanako$_i$ -wa [$_S$ John-ga e_i mituke-ta]
Top Nom find out-Past
'As for Kanako, John found her out.'

b. John$_i$-wa [$_S$ e_i Fiesta-o yon-da]
Top Acc read-Past
'As for John, he read Fiesta.'

(16) a. Hana -wa [$_S$ ayame -ga i-i]
flower Top iris Nom be good-Pres
'As for flowers, irises are the best.'

b. Candacy-wa [$_S$ ani -ga byooki-da]
Top elder brother Nom be ill-Pres
'As for Candacy, her elder brother is ill.'

(15) are topic constructions with a gap in the associated clause, and (16) those without.

In this section, we will consider only the latter type of topic construction, which we refer to as a "gapless topic construction". We will return to the discussion of the first type later in section 3.2.4.2. Now observe the following gapless topic constructions with zibun contained in the subject NP of the associated clause:

(17) a. ?John$_i$-wa [$_S$[$_{NP}$ zibun$_i$-no koibito]-ga sin-de simat-ta]
Top self Gen lover Nom die-Per
'As for John, his lover has died.'

b. Kaoru$_i$-wa [$_S$[$_{NP}$[$_S$ zibun$_i$-ga sukidat-ta] gakusei]-ga
Top self Nom like-Past student Nom

Tokyo-e kaet-te simat-ta
to return-Per
'As for Kaoru, the student she liked had gone to back to Tokyo.'

(17) shows that a topic NP in these topic constructions can be an antecedent of zibun.[14] The point is that the position of a topic NP is not an A-position, since it is not a potential theta-position. This fact poses a serious problem for Yang's approach, for it suggests that the binding of zibun by a topic NP cannot be properly accounted for in terms of any version of the Binding Theory, which is a theory of A-binding, as is originally formulated in Chomsky (1981).

Moreover, as noted in Ueda (1983), a topic NP can be an antecedent of zibun only when zibun is contained in the subject NP of the associated clause. Thus, (18) are ungrammatical, since they contain zibun in the determiner position of the object NP:[15]

(18) a. *Daisuke$_i$-wa [$_S$ Hiraoka-ga [$_{NP}$ zibun$_i$-no mukasi-no
Top Nom self Gen previous

koibito]-o hukoo-ni si-ta]
lover Acc unhappy make-Past
'As for Daisuke, Hiraoka made his ex-lover unhappy.'

b. *Mitiyo$_i$-wa [$_S$ Daisuke -ga yoku [$_{NP}$ zibun$_i$-no
Top Nom often self Gen

ani]-o tazune-te ki-ta]
elder brother Acc visit come-Past
'As for Michiyo, Daisuke often came to visit her elder brother.'

Thus, a further complication must be introduced in the strong parametric approach for the explanation of this observation.

Finally, it should be noted that the reciprocal otagai cannot be bound by a topic NP, even if it is contained in the subject NP:

(19) a. *Karera$_i$-wa [$_S$ otagai$_i$ -no musume -ga sin-de
they Top each other Gen daughter Nom die-

simat-ta
Per
'*As for them, each other's daughters have died.'

b. *Karera$_i$-wa [$_S$ [$_{NP}$ [$_S$ otagai$_i$ -ga sukidat-ta]
They Top each other Nom like-Past

gakusei] -ga Tokyo e kaet-te simat-ta
student Nom to return-Per
'*As for them, the student each other liked has gone back to Tokyo.'

The contrast between (17) and (19) seems to indicate that there is a fundamental difference between zibun and otagai, and suggest the true anaphor-status of the latter.

2.3. Discourse-Bound Zibun

It has been pointed out in the previous literature that zibun can be bound across discourse.[16] Koster (1982), for example, presents the following instance of discourse-bound zibun:

(20) Speaker A: John$_i$-ga dareka-o okut-ta nodesu-ka?
Nom someone send-Past Dec-Int
'Did John send someone?'

Speaker B: Iie, zibun$_i$-ga kitan-desu
no self Nom come-Dec-For
'No, (lit.) self came.'

As Koster notes, one of the basic characteristics of discourse-bound zibun is that its occurrence is limited to the matrix subject position. Thus, (21B) is ungrammatical, since it has zibun in the object position:

(21) Speaker A: Dare-ga John$_i$-o okut-ta nodesu-ka?
who Nom Acc send-Past Dec-Int
'Who sent John.'

Speaker B: *Bill-ga zibun$_i$-o okut-ta ndesu
Nom self Acc send-Past Dec
'Bill sent (lit.) self.'

(Koster (1982, 5))

Yang makes a similar observation and claims that anaphors, unmarked or marked, can participate in what he calls "peripheral anaphor-binding". However, he does not distinguish the cases of discourse-bound zibun (and other marked reflexives) and of the exceptional occurrence of reciprocals and unmarked reflexives. These two cases seem to differ in that the occurrence of the former is limited to the matrix subject position, as shown above, whereas that of the latter is not subject to such a restriction. Observe the following exceptional occurrence of the English reflexive:

(22) I told myself it was bitter and ironic that my father needed to have a heart attack in order for some contact to be established between myself and Danny.

(Chaim Potak, The Chosen, p. 228)

In (22), the reflexive myself has its antecedent in neither the marked nor the unmarked domains, and does not obey the restriction noted above.

Notice also that the Japanese reciprocal otagai can be bound across discourse,[17] but its occurrence is not limited to the matrix subject position:

(23) [$_{NP}$ John to Mary]$_i$-wa sengetsu wakare-ta
Top last month part-past
'John and Mary parted last month.'

Sikasi, Bill-wa [$_S$ sore-ga [$_{NP}$ otagai$_i$ -no gooi-
but Top it Nom each other Gen agreement

no ue-de-no koto] dat-ta] koto -o sit-te i-ru
Gen based-on thing be-Past COMP Acc know-Prog-Pres
'But, Bill knows that it was done by mutual agreement.'

The contrast between (21B) and (22)-(23) shows that there is another systematic difference between marked and unmarked anaphors. Since this difference does not follow from Yang's parametrized version of the Binding Theory, it is necessary to formulate an additional principle to explain the behavior of the marked reflexive discussed above. This leads to another complication of the grammar.

Summarizing, we have shown in this section that the Japanese reflexive zibun has properties which cannot be properly accounted for by Yang's parametric approach without the introduction of undesirable complications into the grammar. In addition, it is shown that the Japanese reciprocal otagai systematically lacks these properties of zibun, behaving in the same way as the English anaphors, except for the differences induced by the lack of AGR in Japanese. In the next section, we will show that this peculiar array of data on zibun can be naturally accounted for if we assume that zibun is not an anaphor but a pronominal, while otagai is an anaphor.

3. An Alternative Analysis

3.1. Theoretical Background

3.1.1. Categories of Nominal Expressions

Chomsky (1982) classifies the categories of nominal expressions in terms of the two features with binary values, i.e., [±anaphor] and [±pronominal] as follows:

(24) a. [+anaphor, -pronominal]
b. [-anaphor, +pronominal]
c. [+anaphor, +pronominal]
d. [-anaphor, -pronominal]

This classification holds of both overt and empty categories, although our attention here will be mainly focused on the discussion of overt categories. (24a), (24b), and (24d) have their overt examples in language, i.e., overt anaphors such as himself and each other, pronominals such as he and she, and R-expressions such as Norwood and Thomas, respectively. There is a principled reason for the absence of the overt category with the feature complex (24c): This category is predicted to be ungoverned by the Binding Theory (A) and (B), just as its empty counterpart PRO, and will therefore lead to the violation of the Case Filter under the assumption that Case is assigned under government.

Now let us turn to the discussion of the category (24b) pronominal. It is well known that there are two possible interpretations of a pronominal: i) it can be interpreted as a variable semantically bound by a quantifier; ii) it can also be interpreted as being coreferential with a referential NP in linguistic context or as directly referring to an object in the perceptual domain.[18] The essential claim of the present analysis is that this difference in interpretation should be expressed categorially in the system of nominal expressions. Thus, we propose to minimally modify (24) by adding another feature indicating whether the categories with [+pronominal] can be interpreted as bound (semantic) variables or not. Let us tentatively assume the relevant feature to be [±bound]. Under this modification, the system will have the following potential categories in full:

(24') a. [+anaphor, -pronominal]
b. [-anaphor, +pronominal, +bound]
c. [-anaphor, +pronominal, -bound]
d. [+anaphor, +pronominal, +bound]
e. [+anaphor, +pronominal, -bound]
f. [-anaphor, -pronominal]

Putting aside the categories (24'd) and (24'e), which seem apparently absent in the case of overt categories, let us consider how English and Japanese pronominals can be characterized under the present assumption.

3.1.2. English and Japanese Pronominals

English has only one type of overt pronominal and no empty counterpart of it. An overt pronominal, for example he, can be interpreted as a bound variable, as in (25):

(25) a. Everyone$_i$ believes that he$_i$ will pass the exam next week.

b. Who$_i$ do you think t_i left his$_i$ new car in New Haven?

It can also be interpreted as being coreferential with a referential NP, as shown in (25'):

(25') a. Eric$_i$ believes that he$_i$ will pass the exam next week.

b. Do you think John$_i$ left his$_i$ new car in New Haven?

In Japanese, the situation is more complicated. First, an overt pronominal, for example kare 'he', cannot be interpreted as a bound variable, as shown in the Japanese counterpart of (25):

(26) a. *daremo$_i$ -ga [kare$_i$-wa raishuu no siken-ni
everyone Nom he Top next week Gen exam to

gookakusu-ru] to sinzi-te i-ru
pass-Pres Comp believe-Prog-Pres
'Everyone believes that he will pass the exam next week.'

b. *Kim-wa [dare$_i$-ga kare$_i$-no kuruma-o New Haven ni
you Top who Nom he Gen car Acc in

oiteki-ta] to omot-te i-ru no ?
leave Past Comp think-Prog-Pres Int
'Who do you think left his car in New Haven?'

It can only be interpreted as being coreferential with a referential NP. Observe the following examples:

(26') a. Eric$_i$-wa [kare$_i$-ga raishuu no siken-ni gookakusu-ru]

to sinzi-te i-ru.

b. kimi-wa [John$_i$-ga kare$_i$-no kuruma-o New Haven ni

oiteki-ta] to omot-te iru no ?

Second, recall that we argue that zibun, which was previously assumed to be an instance of anaphor, is a pronominal with the feature [+bound].[19] Observe that it can be bound by a quantifier:

(26'') a. daremo$_i$ -ga [zibun$_i$-wa raishuu no siken-ni
everyone Nom self Top next week Gen exam to

gookakusu-ru] to sinzi-te i-ru
pass-Pres Comp believe-Prog-Pres
'Everyone believes that he will pass the exam next week.'

b. Kim-wa [dare$_i$-ga zibun$_i$-no kuruma-o New Haven ni
you Top who Nom self Gen car Acc in

oiteki-ta] to omot-te i-ru no ?
leave Past Comp think-Prog-Pres Int
'Who do you think left his car in New Haven?'

Third, Japanese has an empty pronominal, which we represent as Ø. The empty pronominal has virtually the same property as the English overt pronominal.[20] It can be interpreted as a bound variable:

(27) a. daremo$_i$ -ga [Ø$_i$ sono hon -o yon-da] to
everyone Nom that book Acc read-Past Comp

it-ta
say-Past
'Everyone said that he read that book.'

b. dare$_i$-ga [Kanako-ga Ø$_i$ home-ta] node
who Nom Nom praise-Past because

yorokon-da no ?
pleased-Past Int
'Who was happy because Kanako praised him?'

It can also be interpreted as being coreferential with another NP, as shown in (27'):

(27') a. John$_i$ -ga [Ø$_i$ sono hon -o yon-da] to
Nom that book Acc read-Past Comp

it-ta
say-Past
'John said that he read that book.'

b. Mark$_i$-ga [Kanako-ga Ø$_i$ home-ta] node
Nom Nom praise-Past because

yorokon-da no ?
pleased-Past Int
'Was Mark happy because Kanako praised him?'

Thus, we have the following pronominal systems in English and Japanese:

(28)

	ENGLISH		JAPANESE	
	Overt	Empty	Overt	Empty
+Bound	he_1	none	zibun	$\emptyset_1$
-Bound	he_2		kare	$\emptyset_2$

We tentatively assume that English has two types of overt pronominal, just as Japanese, but they happen to have the same phonetic form. The same holds of Japanese empty pronominals. In the next two sections, we will show that there are two cases where a [+bound] pronominal may or must occur, i.e., the case of having a quantified NP as its antecedent, and that of being in the predicate in the sense of predication and coindexed with its subject.

3.1.3. Quantified NPs as Antecedents

It is well known that both in English and Japanese, a pronominal is subject to an additional condition when it has a qunatified NP as its antecedent, i.e., when it is interpreted as a bound variable, as shown in the following examples:

(29) a. *His_i mother loves $everyone_i$.

b. *Who_i do you think that his_i friend spoke to t_i ?

c. His_i mother loves $John_i$.

d. Do you think that his_i friend spoke to $Harrison_i$?

(30) a. *Mario-wa [Kanako-ga $\emptyset_i$ yon-da] node
Top Nom read-Past as

$nani_i$-o yon-da no ?
what Acc read-Past Int
'What did Mario read as Kanako read it.'

b. Mario-wa [Kanako-ga $\emptyset_i$ yon-da] node
Top Nom read-Past as

sono hon -o yon-da no ?
that book Acc read-Past Int
'Did Mario read that book as Kanako read it?'

The contrast between (29a,b) and (30a) on the one hand and (29c,d) and (30b) on the other indicates the presence of the additional condition on the interpretation of a pronominal as a bound variable. We will show in this section that given the minimally modified system

of pronominals in English and Japanese (28), it is possible to provide a unified account for the above and other related observations.

There are various proposals to formulate the condition mentioned above. Following Saito (1985), and Reinhart (1976), we assume the following formulation of this condition, which is stated in terms of the notion "antecedent of":

(31) A variable cannot be the antecedent of a pronominal that it does not c-command.

(31) accounts for the ungrammaticality of (29a,b) and (30a), since a variable or the position of a quantifier, which is occupied by a variable at LF, does not c-command a pronominal in these examples.

Saito (1985) notes further that (31) does not hold of the case where a referential NP is moved to A'-position by Move α. Observe the following examples:

(32) $[_S$ John$_i$-o $[_S$ kare$_i$-no hahaoya-ga $[_{VP}$ t_i aisi-te i-ru]]]
Acc he Gen mother Nom love-Prog-Pres
'His mother loves John.'

(33) John$_i$, his$_i$ mother loves t_i .

(32) is the case of scrambling in Japanese, and (33) that of topicalization in English. Saito assumes that both cases involve Move α, which moves a referential NP to A'-position, thus leaving a variable behind. The variables in (32) and (33) do not c-command a pronominal, and (31) predicts that they are ungrammatical on a par with the cases discussed above. This prediction is apparently false, as shown in (32) and (33). To account for this fact, Saito proposes principle (34), allowing a pronominal to take an NP in A'-position as its direct antecedent only when the NP is referential:

(34) An NP with the feature [+pronominal] cannot have a quantified NP in A'-position as its direct antecedent.

(Saito (1985, 97))

Given (34), the pronominals can take the referential NPs in A'-position as their antecedents in (32) and (33), thus not violating (31). On the other hand, this is impossible in the case of (29) and (30a), since the NPs in A'-position at S-structure or at LF are quantificational, not referential.

(34) is sufficient for English, but it must be strengthened for Japanese, since a Japanese overt pronominal, for example kare 'he', may not take a quantified NP its antecedent even indirectly through the mediation of a c-commanding variable, i.e., never be interpreted as a bound variable, as shown in (26). Saito simply stipulates another principle (35) for Japanese:

(35) In Japanese, an overt NP with the feature [+pronominal] cannot have a quantified NP in A'-position as its antecedent (direct or indirect).

(Saito (Ibid, 101))

This analysis is not quite satisfying, the English and Japanese data being given discrete explanations.

We can give a unified account for the above facts from English and Japanese under the present system of pronominals. We need only the following two universal assumptions to account for them. First, we retain (31) as a principle of UG, i.e., the [+bound] pronominal must be interpreted in accordance with (31). Second, we assume that the coreference interpretation of the [-bound] pronominal is free: This category of pronominal can be coreferential with any "referential" NP in linguistic discourse, or may even refer to any object in the perceptual domain. Note that the antecedent NP must be a referential NP by definition when the coreference relation is established between a pronominal and its antecedent.[21] Given these two assumptions, all the above facts simply follow under the present system of pronominals.

3.1.4. Predication

Williams (1977) argued that, in order to account for the phenomenon of sloppy identity of pronominals observed in the case of VP Deletion as illustrated by the two readings of (29), it is necessary to assume a rule which converts pronominals in VPs into bound variables:

(36) Mary loves his mother and Joan does, too.

1. Mary loves Mary's mother and Joan loves Mary's mother. (non-sloppy reading)
2. Mary loves Mary's mother and Joan loves Joan's mother. (sloppy reading)

Later Williams (1980) introduced a general rule of predication, which subsumes the analysis of Williams (1977) as a special case. Let us assume on the basis of Williams' analysis that the domain of a predicate in the sense of predication is another context where pronominals can be interpreted as variables bound by the subject of the predicate.

There is a piece of evidence for this assumption from Japanese. The sloppy identity of pronominals obtains in Japanese in a case comparable to VP Deletion in English. What is interesting in Japanese is that Japanese has a [-bound] pronominal, such as kare 'he' and kanojo 'she', which cannot be interpreted as bound variables. This

leads to a prediction that sloppy identity of pronominals is found only in the case containing [+bound] pronominals, i.e., an empty pronominal $\emptyset_1$ or zibun, and this prediction is borne out, as shown in the following examples:

(37) a. John-wa kare-no kuruma -ni not-ta
Top he Gen car in ride-Past
'John got in his car.

Bill-mo soo si-ta
also so do-Past
'Bill did so, too.'

b. John-ga [$_S$ {zibun / $\emptyset$}-ga kat-te i-ru] inu-o
Nom {self / he} Nom keep-Prog-Pres dog Acc
nagu-ru to Bill-mo soo si-ta
hit-Pres when also so do-Past
'When John hit the dog he kept, Bill did so, too.'

Sloppy identity obtains only in (37b), where the interpretation that Bill hit Bill's dog is possible in addition to the interpretation that Bill hit John's dog.[22] This observation not only shows that sloppy identity of pronominals is obtainable in Japanese, but also provides an independent support for the assumption that a predicate is a context where pronominals can be interpreted as bound variables.

3.2. Properties of Zibun

In this section, we will show that the properties of zibun including those discussed in section 2 will follow from the independent properties of the grammar under the set of assumptions presented in the previous section. Let us first recapitulate the properties of zibun:

(38)a. The antecedent must be a subject. (The Subject Antecedent Condition)

b. The antecedent must c-command zibun. (The C-Command Condition)

c. The long distance binding of zibun is possible.

d. Zibun can be bound by a topic NP.

e. Zibun can be discoure-bound.

We will discuss each of these properties in turn.

3.2.1. The Subject Antecedent Condition

As discussed in section 2.1, only a subject NP qualifies as an antecedent of zibun. This peculiar property of zibun now follows from the fact that the subject in the sense of predication is one of the elements which make possible the interpretation of a pronominal as bound variable. Since zibun is assumed to be a [+bound] pronominal in the present analysis, it follows that its antecedent is limited to a subject NP when it is a referential NP.

An obvious problem with the present analysis is that a quantified NP in the non-subject position is predicted to be a possible antecedent of zibun, if it c-commands zibun. However, this prediction is clearly false, as shown in (39):

(39) a. *John-ga dareka$_i$-o [$_{NP}$ zibun$_i$-no heya]-de nagut-ta
Nom someone Acc self Gen room in hit-Past
'John hit someone in his room.'

b. [$_S$ dareka$_i$-o [$_S$ John-ga t_i [$_{NP}$ zibun$_i$-no heya]-de nagut-ta]]

Note that the variable t c-commands zibun in the LF representation (39b). Thus, the binding of zibun by the quantifier dareka should be possible, but it is not.

One possible solution to this problem is to stipulate the following principle for Japanese:

(40) A variable cannot be the antecedent of the overt pronominal if the variable is in the predicate of the ungoverned S or S' in the domain of the operator binding it.

Suppose that QR is an S-adjunction. Then the S to which a quantifier is adjoined is always ungoverned in the domain of the adjoined quantifier. A similar situation holds of the case of wh-movement, if we assume that nothing governs S in the domain of S'. Thus, (40) expresses a generalization that the variable left by QR is absolutely unavailable to the [+bound] pronominal zibun.

Although (40) is far from satisfactory, we tentatively assume that (40) is on the right track.[23]

3.2.2. The C-Command Condition

The antecedent must c-command zibun, as shown in the following examples:

(41) *[$_{NP}$ Quentin$_i$-no itoko] -wa zibun$_i$-o aisi-te i-ru
Gen cousin Top self Acc love-Prog-Pres
'*Quentin's cousin loves himself.'

(41) is ungrammatical, since the antecedent Quentin does not c-command zibun. This condition follows as the c-command requirement on predication.[24]

3.2.3. Long Distance Binding

As we have observed in section 1.2, zibun does not obey the Binding Theory (A), as illustrated in the following examples:

(42) a. John$_i$-wa [$_S$ Bill$_j$-ga zibun$_{i,j}$-o nikun-de i-ru] to
Top Nom self Acc hate-Prog-Pres COMP

omot-ta
think-Past
'John$_i$ thought that Bill$_j$ hated himself$_{*i,j}$.'

b. John$_i$-wa [$_S$ Bill$_j$-ga [$_{NP}$ [$_S$ Mark$_k$-ga zibun$_{i,j,k}$-no
Top Nom Nom self Gen

tame-ni tukut-ta] omotya]-o mada mot-te i-ru]
for make-Past toy Acc still have-Prog-Pres

to omot-ta
COMP come-Past
'John$_i$ thought that Bill$_j$ still had the toy which Mark$_k$ made for himself$_{*i,*j,k}$.'

This property of zibun is no longer a problem in the present analysis, since zibun is assumed to be a pronominal, which is not subject to the Binding Theory (A), in the present analysis. Note that pronominal binding does not show any locality in its binding domain, such as expressed in the Binding Theory (A), as shown in (43):

(43) a. Everyone$_i$ knew that such a thing would never happen to him$_i$.

b. No one$_i$ will believe taht the police are going to arrest him$_i$.

There is one observation which suggests that a further elaboration is necessary in the case of zibun. Kuroda (1965) observes that there is a subject-object asymmetry in the binding of zibun in an adjunct clause (S') like a temporal clause. Observe the following examples:[25]

(44) a. John$_i$-wa [$_S$ zibun$_i$-ga Bill-o home-ta] toki
Top Nom Acc praise-Past when

Mary-no soba-ni i-ta
Gen near be-Past
'John was near Mary when he praised Bill.'

b. *John$_i$-wa [$_S$ Bill-ga zibun$_i$-o home-ta] toki
Top Nom self Acc praise-Past when

Mary-no soba-ni i-ta
Gen near be-Past
'John was near Mary when Bill praised him.'

Notice that the long distance binding of zibun is possible only when it is in the subject position of the adjunct clause. He also notes that this subject-object asymmetry does not show up when zibun is in a complement clause (S'), as shown in (45):

(45) a. John$_i$-wa [$_S$ zibun$_i$-ga Bill-o home-ta] koto-o
Top self Nom Acc praise-Past COMP Acc

oboe-te i-ru
remember-Prog-Pres
'John remembers that he praised Bill.'

b. John$_i$-wa [$_S$ Bill-ga zibun$_i$-o home-ta] koto-o
Top Nom self Acc praise-Past COMP Acc

oboe-te i-ru
remember-Prog-Pres
'John remembers that Bill praised him.'

Although it is not clear how this subject-object asymmetry can be accounted for under the parametric approach to zibun, it can be readily accounted for in the present analysis by formulating principle (46) under a natural assumption that a complement clause is governed by the verb, but an adjunct clause is not:[26]

(46) The predicate of an ungoverned S' is opaque to the binding of the overt pronominal, i.e., indices other than that of its own subject are unavailable for this purpose.

We assume that (46) is a principle particular to Japanese. In the next section, it will be shown that (46) is independently motivated in the analysis of topic constructions in Japanese.

3.2.4. Topic Constructions

As we stated in section 2.2, there are two types of topic construction in Japanese, i.e., topic constructions with a gap in the associated clause and those without. In the following sections, we will first consider the latter type of topic construction and then the former.

3.2.4.1. Gapless Topic Constructions

First observe an instance of a gapless topic construction:

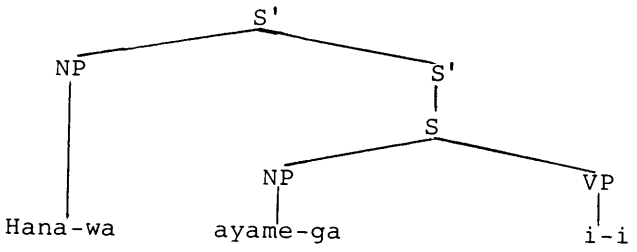
(47) Hana -wa [$_S$ ayame-ga i-i]
flower Top iris Nom good-Pres
'As for flowers, irises are the best.'

We will assume that Japanese phrase structure rules include rule (48), which generates both types of topic construction:[27]

(48) S' ⟶ NP -wa S'

Thus, (47) has the structure (49):

(49)



We further assume that a topic NP is coindexed with the associated clause (S') by the rule of predication in a gapless topic construction. Therefore, a topic NP is a subject and the associated clause a predicate in this sense.

There seem to be at least three considerations which support this assumption. First, it is often pointed out that there is an "aboutness relation" between a topic NP and the associated clause. This indicates that the associated clause expresses a property which is predicated of the topic NP in some sense. Second, only one topic NP is permitted per one associated clause. This is exactly one of the properties of predication.[28] Third, a topic NP must c-command the associated clause, as shown by the ungrammaticality of (50):

(50) *[$_{S'}$[$_{NP}$ hana$_i$ -no utukusisa] -wa [$_S$' ayame-ga i-i]$_i$]
flowers Gen beautifulness Top iris Nom good-Pres
'As for the beautifulness of flowers, irises are the best.'

This is also a property of predication.

If our assumption is correct, it is no wonder that the topic NP as well as the subject NP can be an antecedent of zibun, since they are both subjects in the sense of predication. Thus, we can unify these two cases under the notion of predication in the present analysis of zibun.

As we noted in section 2.2, there also arises a subject-object asymmetry as to the binding of zibun in topic constructions. Observe the following contrast:

(51) a. ?[$_{S'}$ John$_i$-wa [$_{S'}$ zibun$_i$-no inu-ga sin-de simat-ta]]
Top self Gen dog Nom die-Per-Past
'As for John, his dog has died.'

b. *[$_{S'}$ John$_i$-wa [$_{S'}$ Bill-ga zibun$_i$-no inu-o sin-ase-
Top Nom self Gen dog Acc die-make-
te simat-ta]]
Per-Past
'As for John, Bill has made his dog die.'

Note that the associated clause of a gapless topic construction has the same status as an adjunct clause in the sense that it is ungoverned, since there exists simply no element which governs it in a gapless topic construction. Thus, (51b) is excluded by principle (46) just as a comparable sentence containing an adjunct clause.

3.2.4.2. Topic Constructions with a Gap

We will assume that an empty operator binds a gap in this type of topic construction. Thus, (52a) has the LF representation (52b):[29]

(52) a. Kanako-wa [$_{S'}$ John-ga mituke-ta]
Top Nom find out-Past
'As for Kanako, John found her out.'

b. [$_{S'}$ Kanako$_i$-wa [$_{S'}$ $\emptyset_i$ [$_S$ John-ga t_i mituke-ta]]]

Saito (1982, 15) points out that a topic NP can bind zibun in this type of topic construction only when it does not bind a trace in a non-subject position:

(53) a. *Candacy$_i$-wa [$_{S'}$ $\emptyset_i$ [$_S$ Quentin-ga t_i zibun$_i$-no
Top Nom self Gen
heya-de mi-ta]]
room in see-Past
'As for Candacy, Quentin saw her in her room.'

b. Jake$_i$-wa [$_{S'}$ $\emptyset_i$ [$_S$ t_i Sound and Fury-o zibun$_i$-no
Top Acc self Gen
heya-de yon-da]]
room in read-Past
'As for Jake, he read Sound and Fury in his room.'

In the present analysis of a topic construction with a gap, (53a) is

exactly parallel to the case of the binding of zibun by a quantified NP in a non-subject position. Whether the movement of an empty operator to the operator position is assumed to take place in syntax or at LF, we can account for the ungrammaticality of a sentence, such as (53a), in exactly the same way as the case of QR, i.e., it is simply due to the violation of principle (40).

3.2.5. Discourse-Bound Zibun

Let us first observe the sentences containing an instance of discourse-bound zibun, which are reproductions of (20) and (21):

(54) Speaker A: John$_i$-ga dareka -o okut-ta nodesu-ka?
Nom someone Acc send-Past Dec-Int
'Did John send someone?'

Speaker B: Iie, zibun$_i$ -ga kitan-desu[30]
No self Nom come-Dec
'No, he came.'

(55) Speaker A: Dare-ga John$_i$-o okut-ta nodesu-ka?
who Nom Acc send-Past
'Who sent John?'

Speaker B: *Bill-ga zibun$_i$-o okut-ta ndesu
Nom self Acc send-Past
'Bill sent him.'

As we have pointed out in Ueda (1983), this phenomenon can be subsumed under the case of zibun bound by a topic NP, if Huang's (1984) proposal of an "empty topic" as a parameter is correct. Huang's claim is that whether a language allows an occurrence of an empty topic or not is a parameter, and that languages like Chinese, Japanese, and Korean allow an occurrence of an empty topic, while languages like English do not. Under this approach, (54B), for example, will have the following representation at the relevant level:

(54B') $[_{S'}\ \emptyset_i\ [_{S'}$ zibun$_i$-ga kitan-desu $]_i]$

There are two considerations which support this line of approach to discourse-bound zibun. First, in this approach, the subject-object asymmetry observed in the case of discouse-bound zibun can be accounted for exactly in the same way as that in the case of gapless topic constructions, i.e., the ungrammaticality of (55B) is explained as the result of the violation of principle (46). Second, (54B) is considerably worse in grammaticality than the following instance of discourse-bound zibun where zibun is in the determiner position of the subject NP:

(56) Speaker A: John$_i$-ni nani-ga okot-ta no?
to what Nom happen-Past Int
'What happened to John?'

Speaker B: [$_{NP}$ Zibun$_i$-no imooto] -ga kekkonsi-ta
self Gen little sister Nom marry-Past

nodesu
Dec
'His little sister got married.'

Whatever principle is responsible for this difference in grammaticality, it is exactly parallel to that in gapless topic constructions. This principle can be formulated as a single principle in our approach. This fact also favors the present approach to discourse-bound zibun.

If the approach presented above is correct, then we do not need any special mechanisms to account for the case of discouse-bound zibun. It is simply a subcase of zibun bound by a topic NP.

3.3. Remaining Problems

3.3.1. Disjoint Reference

As is well known, the bound variable interpretation of a pronominal is prevented in the domain where Disjoint Reference applies, i.e., a pronominal is subject to the Binding Theory (B) even if it is interpreted as a variable bound by a quantified NP as in:

(57) a. *Everyone$_i$ loves him$_i$.
b. *Every student believes him$_i$ to be a genius.

If zibun is a pronominal, it must also be subject to the Binding Theory (B). Observe that the other members of the category pronominal in Japanese, a [-bound] overt pronominal, such as kare 'he' and empty pronominals, $\emptyset_1$ and $\emptyset_2$, are subject to the Binding Theory (B):

(58) a. *John$_i$-ga kare$_i$ -o aisi-te i-ru
Nom he Acc love-Prog-Pres
'*John loves him.'

b. *Jane$_i$-wa $\emptyset_i$ seme-ta
Top blame-Past
'*Jane blamed her.'

c. *Daremo$_i$-ga $\emptyset_i$ seme-ta
Top blame-Past
'*Everyone blamed him.'

However, zibun apparently does not obey this principle, as shown in (59) and (60):[31]

(59) a. John$_i$-wa zibun$_i$-o aisi-te i-ru
Top self Acc love-Prog-Pres
'*John loves him.'

b. John$_i$-wa zibun$_i$-o nikun-de i-ru
Top self Acc hate-Prog-Pres
'*John hates him.'

c. John$_i$-wa zibun$_i$-o osore-te i-ru
Top self Acc fear-Prog-Pres
'*John fears him.'

(60) a. John$_i$-wa zibun$_i$-o seme-ta
Top self Acc blame-Past
'*John blamed him.'

b. John$_i$-wa zibun$_i$-o bengosi-ta
Top self Acc defend-Past
'*John defended him.'

c. John$_i$-wa zibun$_i$-o nagusame-ta
Top self Acc confort-Past
'*John comforted him.'

Oshima (1979, 425), on the other hand, notes that there are cases where zibun obeys the Binding Theory (B):[32]

(61) a. *Hiroshi$_i$-wa zibun$_i$-o korosi-ta
Top self Acc kill-Past
'*Hiroshi Killed him.'

b. *John$_i$-wa zibun$_i$-o nagut-ta
Top self Acc hit-Past
'*John hit him.'

c. *John$_i$-wa zibun$_i$-o ket-ta
Top self Acc kick-Past
'*John kicked him.'

Therefore, the existence of such sentences as (59) and (60) is problematic to the present analysis of zibun, but that of (61) supports it. The situation is exactly reversed in the parametric approach where zibun is assumed to be an anaphor.

Although we leave the grammaticality of (59) and (60) as a problem open for further study, it is worth noting a possible approach to this problem in the present analysis.[33] First, there is some evidence that the binding of zibun in (59) and (60) is marginal

or marked. Observe that, if these sentences are embedded in another sentence, the matrix subject is always a preferred antecedent of zibun, as shown in (62):

(62) a. Bill_i-wa [$_S$ John_j-ga $\text{zibun}_{i,?j}$-o nikun-de i-ru]
Top Nom self Acc hate-Prog-Pres

to omot-ta
COMP think-Past
'Bill_i thought that John_j hated $\text{him}_{i,*j}$.'

b. Bill_i-wa [$_S$ John_j-ga $\text{zibun}_{i,?j}$-o bengosu-ru daroo]
Top Nom self Acc defend-Pres will

to omot-ta
COMP think-Past
'Bill_i thought that John_j would defend $\text{him}_{i,*j}$.'

and that this preference disappears when zibun is contained in a larger NP, i.e., when zibun ceases to be in the domain of Disjoint Reference with respect to the embedded subject:[34]

(63) Bill_i-wa [$_S$ John_j-ga [$_{NP}$ $\text{zibun}_{i,j}$-no tomodati]-o
Top Nom self Gen friend Acc

nikun-de i-ru] to omot-ta
hate-Prog-Pres COMP think-Past
'Bill_i thought that John_j hated $\text{his}_{i,j}$ friend.'

In this connection, notice that (61) becomes grammatical if zibun is contained in a larger NP:

(64) a. Hiroshi_i-wa [$_{NP}$ zibun_i-no ozi] -o korosi-ta
Top self Gen uncle Acc kill-Past
'Hiroshi killed his uncle.'

b. John_i-wa [$_{NP}$ zibun_i-no ozi] -o nagut-ta
Top self Gen uncle Acc hit-Past
'John hit his uncle.'

c. John_i-wa [$_{NP}$ zibun_i-no ozi] -o ket-ta
Top self Gen uncle Acc kick-Past
'John kicked his uncle.'

These observations seem to suggest that (61) might be an unmarked case, their ungrammaticality being due to the violation of the Binding Theory (B), and that the grammaticality of (59)-(60) is due to some systematic weakening of the Binding Theory (B). The semantics of the verbs in (59)-(60) provides a basis for this line of approach. There is a considerably clear semantic difference between the verbs in (59)-(60) on the one hand and those in (61) on the other, i.e.,

the latter represent physical activity, and the former represent activity of more abstract sort. Thus, a rough initial generalization is that zibun is exempt from the Binding Theory (B) when the verb of the clause in which zibun occurs represents abstract activity.[35]

3.3.2. The Thematically Governed Case of Predication

Williams (1980) distinguishes two environments for predication, i.e., grammatically-governed and thematically-governed. The grammatically-governed environments are as follows:

(65) a. NP VP
b. NP VP X
c. NP be X

In these environments, the two underlined phrases are in the relation of predication, i.e., the subject and the predicate, respectively. The thematically governed environments are characterized as "all involving predicates in the VP, and the predication is of the theme of the verb of the VP."

A problem for the present analysis is that it seems that the subject of predication in the thematically governed case does not qualify as an antecedent of zibun, as shown by the ungrammaticality of (66):

(66) *John-wa [$_{VP}$ Mary$_i$-o [$_{NP}$ zibun$_i$-no kaisya -no zyuuyaku]
Top Acc self Gen company Gen executive
to minasi-ta]
as consider-Past
'John considered Mary an executive of her company.'

We leave the definitive treatment of this problem simply open here.

4. CONCLUSION

We have argued that zibun should be assumed to be an inherently bound pronominal, and have shown that the peculiar properties of zibun (38) naturally follow from the independent properties of the grammar under this assumption. The present analysis is diametrically different from the parametric approach in the sense that we deny the anaphor-status of zibun, and is free from the defects inherent in that approach.

NOTES

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1. (1)-(4) are cited from Chomsky (1981, 188, 211-222) with minimal presentational modifications.

2. Cf. Mohanan (1982) and Koster (1982) for discussion of this sort of problem along essentially the same lines.

3. Cf. Chomsky (1981,, 220) for discussion of the consequences of dropping the reference to the notion "governor" from the definition of the notion "governing category".

4. Yang (1983) identifies tagai, a stylistically more restricted variant of otagai, as the Japanese reciprocal. We will adopt otagai in the following discussion. In Japanese, the notion of "reciprocity" can also be expressed by means of the verbal suffix aw, as in (i):

   (i) karera-wa aisi-at-te i-ru
   they Top love-Recip-Prog-Pres
   'They love each other.'

   See Abe (1982) for an interesting discussion of a property of this suffix within the framework of categorial grammar.

5. To my knowledge, there has been no study in which the necessity of postulating AGR in Japanese is substantially discussed.

6. We will use the notations Nom(inative), Acc(usative), Dat(ive), and so on instead of Subject, Direct Object, Indirect Object, and so on. However, a Nominative NP is generally identifiable as Subject, and an Accusative NP as Direct Object, and so forth.

7. This statement does not hold for the marked reflexive zibun. Since only AGR counts as a SUBJECT, and Japanese lacks AGR, zibun will not have the c-domain in which it is bound. We will discuss this problem immediately below.

8. This solution is essentially along the same lines of Chomsky's (1981, 220) proposal for an analogous problem in English.

9. We follow the terminology of Oyakawa (1973). Cf. Inoue (1976) and N. McCawley (1976) for discussion of this condition.

10. Yang seems to be confused about the notion "unmarked domain",

saying that it is the "c-domain of the c-commanding minimal SUBJECT of an anaphor". If what he says is correct, then each other will take the unmarked domain in both (13a) and (13b) below. This is clearly not what he intended. We assume in the following discussion that the characterization of the unmarked domain presented in the text is correct.

11. Yang attributes this observation to Chomsky (personal communication).

12. (12) seems to hold of the counterparts of (13) containing a reflexive in place of a reciprocal to the less extent for some reason, which we are not concerned with here:

(i) a. Mary$_i$ knew that a picture of herself$_i$ was on sale.

b. ?John told Mary$_i$ that a picture of herself$_i$ was on sale.

13. It is also claimed that a head of relative clauses can be an antecedent of zibun in addition to a topic NP. However, if we assume the correctness of Kuno's (1973) analysis of relative clauses where relative clauses are derived from the structures with an underlying topic, we can trivially derive this fact from the analysis of topic constructions. See also Akmajian and Kitagawa (1976).

14. zibun might be characterized as a resumptive pronoun here. This fact itself could constitute an independent argument for the promoninal status of zibun. We do not go into the discussion of this issue here, leaving the elaboration of this argument for further study.

15. Akmajian and Kitagawa (1976, 69) consider (i) which is analogous to (18) to be grammatical:

(i) Satoo-syusyoo$_i$ -wa [$_S$ yuumei-na sakka$_j$ -ga zibun$_i$-no
Prime Minister Sato Top famous writer Nom self

denki -o kai-ta]
biography Acc write-Past
'Speaking of Prime Minister Sato, a famous writer$_j$ wrote self's (i.e. his$_i$) biography.'

We do not agree with their judgments of this type of sentence. Many native speakers of Japanese agree with our judgments. We assume that these sentences are ungrammatical, as indicated in the text.

16. Cf. Oshima (1979) for an earlier discussion of this phenomenon.

17. Naoki Fukui (personal communication) brought my attention to this possibility.

18. We assume that there is no substantial difference between these two interpretations in (ii). This is essentially the same position as adovocated by Lasnik (1976). Cf. Evans (1980) for a possible objection to this position.

19. This possibility was first pointed out to us by Edwin Williams (personal communication).

20. We assume that empty pronominal $\emptyset$ is an empty counterpart of the overt pronominal, i.e., pro. See Hasegawa (1985) for a different approach to empty pronominals in Japanese.

21. There are two other principles of UG to which a pronominal, [+bound] or [-bound], is subject. One is the Binding Theory (B). The other is a principle, which Higginbotham (1983) formulates as follows:

    (i) If X c-commands Y, then Y is not an antecedent of X.

    See Higginbotham (1983) for a further detail.

22. The non-sloppy reading is problematic to our analysis, but we leave this problem open here.

23. Principle (40), though it seems to have a peculiar property, is functionally motivated. Recall that there are two [+bound] pronominals, $\emptyset_1$ and zibun, in Japanese. (40) seems to function to eleimate a redundancy in language, making the distribution of zibun complementary to that of its empty counterpart $\emptyset_1$, and this hypothesis seems to be factually supported by the distributional data of these two elements.

24. We assume the following definition of the notion "c-command":

    (i) Node A c-commands B if neither A nor B dominates the other and the first branching node which dominates A dominates B.

    (Reinhart, 1976, 32)

    We also assume that whatever node dominates an NP and the case particle following it (ga (Nom), o (Acc) and ni (Dat)) does not count as a first branching node in the sense of (i), and the NP can c-command the nodes which the next higher branching node dominates. On the other hand, we assume that PPs dominating an NP and a postposition such as Kara 'from', made 'to', and so on constitute the first branching nodes in the sense of (i).

25. (44b) is cited from Kuroda (1973, 385).

26. We assume that an adjunct clause is adjoined to VP. Thus, it is in the domain of a predicate (VP), but not governed by the head of the VP.
    Note also that there seem to be non-trivial similarities between (40) and (46). It might be possible to derive these two principles from a more general principle. We leave this issue open here. Cf. note 23.

27. We assume in accodance with Hoji (1985) that a topic wa-phrase is base-generated, while a contrastive wa-phrase is moved to the sentence-initial position by Move α, and that all the PP-wa are contrastive wa-phrases, thus being moved by Move α to the sentence-initial position. See Hoji (1985) for a further detail.

28. There are sentences with multiple topic NPs. We assume that each topic NP is coindexed with the associated S' which may contain another topic construction in itself.

29. We assume that a topic NP is coindexed with an empty operator in the associated clause by the rule of predication in this type of topic construction.

30. This type of sentence is rather marginal to many native speakers for some reason with which we are not concerned here. However, there is a clear grammaticality difference between (54B) and (55B).

31. (60a, b) are cited from Oshima (1979, 425).

32. This observation and the sentence (62b) are originally from N. McCawley (1972), as noted by Oshima (1979). (61a) is cited from Oshima (1979, 425).

33. Sportiche (1986) suggests an interesting possibility that the [+bound] pronominal and the anaphor happen to have the same phonetic form in Japanese. This suggestion is quite ingenious and merits a careful consideration. However, we do not go into a discussion of this possiblity, leaving it for further study.

34. We owe this observation to Fukui (1984).

35. (61a) is grammatical, if it is interpreted to represent abstract activity of killing one's ego or withholding oneself from realizing one's own will. This was pointed out to us by Nobuko Hasegawa.

REFERENCES

Abe, Y. (1982) "On the Representation of Argument Structure." NELS 12, Amherst, Mass.: University of Massachusetts, pp. 1-15.

Akmajian, A. and C. Kitagawa (1976) "Deep Structure Binding of Pronouns and Anaphoric Bleeding." Language 52.1, 66-77.

Chomsky, N. (1981) Lectures on Government and Binding. Dordrecht: Foris Publications.

Chomsky, N. (1982) Some Concepts and Consequences of the Theory of Government and Binding, Cambridge, Mass.: The MIT Press.

Evans, G. (1980) "Pronouns." Linguistic Inquiry 11.2, 337-362.

Fukui, N. (1984) "Studies on Japanese Anaphora I: The Adjunct Subject Hypothesis and 'Zibun'." ms. MIT.

Koster, J. (1982) "Counter-Opacity in Korean and Japanese." ms. Tilburg University.

Kuno, S. (1973) The Structure of The Japanese Language, Cambridge, Mass.: The MIT Press.

Kuroda, S.-Y. (1965) Generative Grammatical Studies in the Japanese Language. Unpublished Ph.D. dissertation, MIT.

Kuroda, S.-Y. (1973) "Where Epistemology, Style, and Grammar Meet." in Anderson, S and P. Kiparsky (eds.) A Festshrift for Morris Halle, New York: Holt, pp. 377-391.

Hasegawa, N. (1985) "On the So-Called 'Zero Pronouns' in Japanese." to appear in Linguistic Review 4.3.

Higginbotham, J. (1980) "Pronouns and Bound Variables." Linguistic Inquiry 11.4, 679-708.

Higginbotham, J. (1983) "Logical Form, Binding, and Nominals." Linguistic Inquiry 14.3, 395-420.

Hoji, H. (1985) Logical Form Constraints and Configurational Structures in Japanese. Unpublished Ph.D. dissertation, University of Washington.

Huang, J. (1984) "On the Distribution and Reference of Empty Pronouns." Linguistic Inquiry 15.4, 531-574.

Inoue, K. (1976) "Reflexivization: An Interpretive Approach." in Shibatani, M. (ed.) Syntax and Semantics 5: Japanese Generative Grammar, New York: Academic Press, pp. 117-200.

McCawley, N. (1972) A Study of Japanese Reflexivation. Unpublished Ph.D. dissertation, University of Illinois, Urbana.

McCawley, N. (1976) "Reflexivization: A Transformational Approach." in Shibatani, M. (ed.) Syntax and Semantics 5: Japanese Generative Grammar, New York: Academic Press, pp. 51-116.

Mohanan, K. P. (1982) "Grammatical Relations and Anaphora in Malayalam." in Marantz, A. and T. Stowell (eds.) MIT Working Papers in Lainguistics 4, Cambridge, Mass.: Dept. of Linguistics, MIT, pp. 169-190.

Oshima, S. (1979) "Conditions on Rules: Anaphora in Japanese." in Bedell, G. et al. (eds.) Explorations in Linguistics: Papers in Honor of Kazuko Inoue, Tokyo: Kenkyuusha, pp. 423-448.

Oyakawa, T. (1973) "Japanese Reflexivization I." Papers in Japanese Linguistics 2, 49-135.

Partee, B. (1975) "Deletion and Variable Binding." in Keenan, E. L. (ed.) Formal Semantics of Natural Language, Cambridge: Cambridge University Press, pp. 16-33.

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

Saito, M. (1982) "Case Marking in Japanese: A Preliminary Study." ms. MIT.

Saito, M. (1983) "Comments on the Papers on Generative Syntax." in Otsu, Y. et al. (eds.) Studies in Generative Grammar and Language Acquisition, Tokyo: ICU, pp. 79-89.

Saito, M. (1985) Some Asymmetries in Japanese and Their Theoretical Consequences. Ph.D. dissertation, MIT.

Shibatani, M. (1977) "Grammatical Relations and Surface Cases." Language 53.4, 789-809.

Sportiche, D. (1986) "Zibun." Linguistic Inquiry 17.2, 369-374.

Ueda, M. (1983) "Notes on a Japanese (Reflexive) Pronoun Zibun." ms. University of Massachusetts, Amherst.

Williams, E. (1977) "Discourse and Logical Form." Linguistic Inquiry 8.1, 101-139.

Williams, E. (1980) "Predication." Linguistic Inquiry 11.1, 203-239.

Yang, D. W. (1983) "The Extended Binding Theory of Anaphors." ms. Seol National University.