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メタデータ	言語: eng 出版者: 公開日: 2008-03-19 キーワード (Ja): キーワード (En): 作成者: 藤, 正明 メールアドレス: 所属:
URL	<a href="https://oacis.repo.nii.ac.jp/records/596">https://oacis.repo.nii.ac.jp/records/596</a>

# A COMPOSITIONAL APPROACH TO JAPANESE ANAPHORA

MASAAKI FUJI

*Tokyo University of Mercantile Marine*

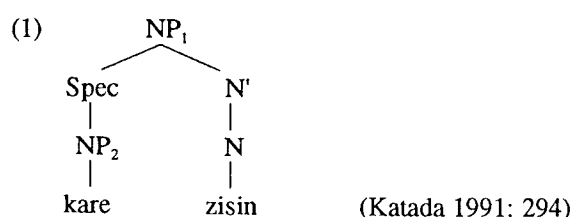
In this article I argue that Japanese complex anaphors such as *kare-zisin* or *zibun-zisin* are best analyzed as a DP, where the head *zisin* takes an NP complement such as *kare* or *zibun*. Syntactic evidence is presented to show that *zisin* is a D and *kare* or *zibun* is an NP. It is then shown that the DP analysis naturally explains various properties of the complex anaphors, including the fact that contrary to what has been observed in the literature, complex anaphors can take an antecedent outside their local domain.\*

*keywords: complex anaphors, binding theory, Japanese anaphora, DP*

## 1. Introduction

Since Pica (1985, 1987), it has been claimed by many researchers that there are basically two types of reflexives in natural language, i.e., simplex and complex reflexives, and that a complex reflexive has an internal structure, just like an ordinary NP or DP. This basic idea, which I will call the compositional approach, has been developed by Reinhart and Reuland (1991, 1993), Katada (1991), among others.<sup>1</sup> I believe their basic insight is correct, but their actual analyses still rely partially on residues of the traditional non-compositional approach. What I will try to do in this paper is bring their basic idea to the extreme. In other words, I would like to take the idea of compositionality at its face value, and pursue the theory in which the properties of the whole are completely derived from the properties of the parts. If this extreme position is successful, we need not stipulate any special principles exclusively for the whole, a welcome result.

To see how the previous analyses fail to execute compositionality in a full-fledged manner, let us take Katada's (1991) theory and examine how she treats Japanese reflexives such as *kare-zisin* 'him-self'. Katada assumes that *kare-zisin* is a phrasal reflexive composed of *kare* plus *zisin*, as shown in (1), and notices that *kare-zisin* inherits an important property from one of its parts, *kare*, namely, the property that it cannot take a quantifier as an antecedent, as shown in (2):<sup>2</sup>




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\* This paper is a slightly revised version of the paper written in August 1994 at Rutgers University as the first generals paper for my Ph.D candidacy. I would like to thank Jane Grimshaw, Vivian Deprez, Ken Safir, and Maria Bittner for their invaluable comments, advice, and encouragement. All remaining errors are mine.

<sup>1</sup> For further details of various sorts of compositional approach, see Battistella (1989), Browning (1992a, 1992b), Cole, Hermon, and Sag (1990), Safir (1993a, 1993b), Tang, C-C J. (1989), Tang, D-W (1989), and Yu (1992).

<sup>2</sup> I will discuss this peculiar property of *kare* in 4.3.1.3.

- (2) a. \*Dareka<sub>i</sub>-ga [kare<sub>i</sub>-ga katta to] omotta.  
 someone<sub>i</sub>-Nom [he<sub>i</sub>-Nom won that] thought  
 'Someone<sub>i</sub> thought that he<sub>i</sub> won.' (Katada 1991: 305)
- b. \*Dareka<sub>i</sub>-ga [kare-zisin]<sub>i</sub>-o semeta.  
 someone<sub>i</sub>-Nom [he-self]<sub>i</sub>-Acc blamed  
 'Someone<sub>i</sub> blamed himself<sub>i</sub>.' (Katada 1991: 300)

The above aspects of Katada's analysis is in accord with the spirit of compositionality. However, she treats *kare-zisin* as a single unit when computing its local domain, and seems to apply Condition A to the whole phrase. I have just used 'seems,' because she never explicitly mentions Conditions of the Binding Theory anywhere in her paper, but I suspect that she implicitly assumes at least something like Condition A in her framework. Otherwise, she could not explain why reflexives like *zibun* or *kare-zisin* must have an antecedent in its local domain. If my interpretation of her treatment of *kare-zisin* is correct, then we can conclude that even under her compositional approach, she sometimes has to treat a complex reflexive in a holistic manner, disregarding its internal structure. Once we admit that sometimes complex reflexives must be treated as a unit, we are forced to list them in the lexicon. This renders all commonalities between *kare* as a pronoun in an NP domain and *kare* in *kare-zisin* just a pure coincidence. Put differently, under this particular version of compositional approach, we must abandon one of its most important feature, i.e., the principle of compositionality, which states that the properties of the whole constituent are completely derived from the properties of its parts, and no specific principles need not be stipulated exclusively for the whole. On the other hand, under the theory which faithfully incorporates the principle of compositionality, we need not list *kare-zisin* in the lexicon, and all of its properties are derivable from its parts. This explains the existence of commonalities between *kare* in an NP domain and *kare* in *kare-zisin*, because both are just two occurrences of the same lexical item *kare*.

The organization of the paper is as follows. Section 2 establishes the internal structure of Japanese complex reflexives. Section 3 offers theories on anaphoric dependency which I will rely on in this paper. In Section 4, I will justify our version of compositional approach, arguing that what is called a 'complex reflexive' is just a syntactic phrase whose head is D<sup>0</sup>. Section 5 draws some conclusions.

## 2. Two Types of Anaphors

### 2.1. Categorical Status of Pronouns

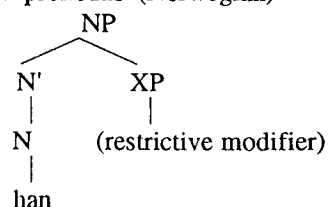
#### 2.1.1. XP-Pronouns and X<sup>0</sup>-Pronouns

Hestvik (1992) claims that natural language has two types of pronouns: XP-pronouns and X<sup>0</sup>-pronouns. XP-pronouns are the pronouns that are immediately and exhaustively dominated by a maximal projection, and X<sup>0</sup>-pronouns are the pronouns that project X-bar structure completely. The former is exemplified by English pronouns such as *he*, *she*, and *it*, and the latter, by Norwegian pronouns such as *han* 'he', and *hun* 'she'. The structures Hestvik (1992) proposes for both types of pronouns are the following:

- (3) a. XP-pronouns (English)



- b. X<sup>0</sup>-pronouns (Norwegian)



The above structures predict that  $X^0$ -pronouns can take a restrictive modifier, but XP-pronouns cannot, because in the latter case, by definition, all and only material that NP's can dominate is a pronoun, and nothing else. This prediction is confirmed by the following observation by Hestvik (1992: 569):

(4) ...[I]magine being in the situation of identifying a mugger in a police lineup. The offender is wearing a red hat. You say to the police officer next to you, without nodding or pointing, the Norwegian expression corresponding to "It's him with the red hat," or "He with the red hat is the guilty one," or "It was he who has a red hat that did it." This is ungrammatical in English, but perfect in Norwegian.

(Hestvik 1992: 569, Note 10)

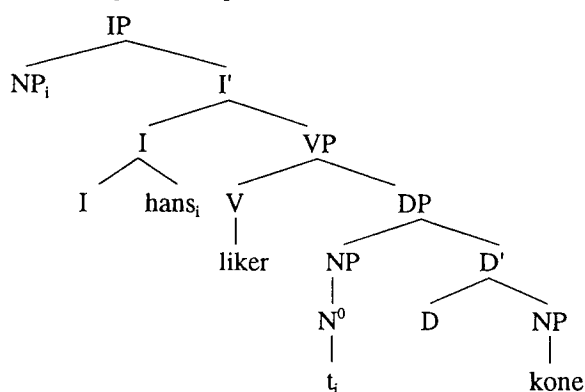
The most interesting consequence of this approach is that antisubject orientation exhibited by Norwegian pronouns and the lack thereof in English can be reduced to the X-bar theoretic differences in pronouns of each language, provided that pronouns, in addition to reflexives, can move at LF. Hestvik proposes the following requirements on movement of pronouns and reflexives:

- (5) At LF,
- $X^0$ -pronouns and  $X^0$ -reflexives must occur in a functional head.
  - XP pronouns and XP-reflexives must occur in the Specifier of their governor.

(Hestvik 1992: 566)

The requirement in (5a) forces Norwegian pronouns to move from their D-structure position to the nearest head position of a functional category. Take, for example, sentences such as the one given in (6a), where *hans* cannot corefer to the subject:

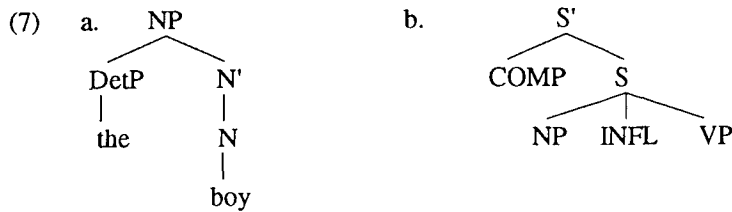
- (6) a. \*John<sub>i</sub> liker [hans<sub>i</sub> kone].  
       John<sub>i</sub> likes [his<sub>i</sub> wife]  
       b. Norwegian LF representation



(Hestvik 1992: 571)

In (6b), *hans*, being an  $X^0$ , moves to the nearest functional head, I, satisfying the requirement in (5a). Hestvik assumes that pronouns must satisfy Condition B both at S-structure and LF. *Hans* in (6b) violates Condition B, because at LF, its governing category is the matrix IP, in which *hans* is bound by the subject NP.

However elegant it may look at first, Hestvik's approach has both conceptual and empirical problems. First, there is one serious conceptual problem: the existence of XP-pronouns is against any versions of the X-bar theory. This can be understood in the context of the development of the X-bar theory. What researchers have tried to eliminate is exactly the type of exception to the X-bar theory Hestvik introduces, namely excocentricity or headlessness. The categories S, S', and DetP were considered to be headless, which is against one of the defining properties of the X-bar theory, endocentricity or headedness. Consider the following structures:



In (7a), DetP is headless. This is just a stipulation to capture the fact that determiners cannot be restrictively modified. Also in (7b), S' and S dominate no heads from which they are supposed to be projected. To eliminate this type of exception, syntactic categories like IP, CP, and DP have been introduced.<sup>3</sup> Now, it is clear that Hestvik's introduction of XP-pronouns is conceptually undesirable, because it amounts to weakening the X-bar theory once again.

Second, Hestvik's analysis makes a wrong prediction in the case of Japanese pronouns. Japanese pronouns like *kare* 'he', and *kanozō* 'she' can be used with restrictive modifiers. This is shown by the fact that the sentences in (8) can be uttered in the same situation as depicted in (4):

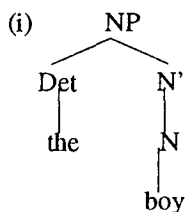
- (8) a. [akai boosi-no *kare*]-ga han'nin desu.  
           [red hat-Gen *he*]-Nom criminal be  
           'He with a red hat is a criminal.'
- b. sono hanzai-wa [akai boosi-o kabbuta *kare*]-ga yarimasita.  
           that crime-Top [red hat-Acc wear *he*]-Nom committed  
           'That crime, he who wears a red hat committed.'

According to Hestvik, this clearly indicates that Japanese pronouns are of X<sup>0</sup>-type. This predicts that Japanese pronouns must show anti-subject orientation, just like Norwegian pronouns. However, this prediction is not borne out, as shown in (9), where the pronoun *kare* and the subject *John* can be coreferential:

- (9) John<sub>i</sub>-wa *kare*<sub>i/j</sub>-no tuma-o aisite-iru.  
       John<sub>i</sub>-Top *he*<sub>i/j</sub>-Gen wife-Acc love-be  
       'John<sub>i</sub> loves his<sub>i/j</sub> wife.'

In sum, the conceptual and empirical problems just discussed make Hestvik's approach less attractive than it may look at first.<sup>4</sup>

<sup>3</sup> See Chomsky (1986) for further discussion. There is also an alternative structure for NP, in which determiners do not project any bar levels:



This analysis violates two principles of the X-bar theory. It is against a principle requiring a specifier to be XP. It is also against a principle requiring an X<sup>0</sup>-category to project to XP-level.

<sup>4</sup> It is not clear to me why Norwegian pronouns show anti-subject orientation, while Japanese pronouns do not exhibit such orientation.

## 2.1.2. D-Pronouns and N-Pronouns

Since Postal (1966), it has been pointed out that there are similarities between pronouns and determiners. Abney (1987) claims that those similarities should be explained by assigning them the same functional category D.

Noguchi (1993) proposes that there are two types of pronouns in natural language: D-pronouns and N-pronouns. D-pronouns are the pronouns that head D-projections, while N-pronouns are the pronouns that head N-projections. The former is exemplified by English pronouns such as *he*, *she*, and *it*, and the latter, by Japanese pronouns such as *kare* 'he', and *kanojo* 'she'. The structures that Noguchi (1993) assumes for these two types of pronouns are given in (10):

- (10) a. D-pronouns (English)                      b. N-pronouns (Japanese)
- $$\begin{array}{c}
 \text{DP} \\
 \swarrow \quad \searrow \\
 \quad \text{D}' \\
 \quad \swarrow \quad \searrow \\
 \quad \text{D} \quad \text{NP} \\
 \quad | \\
 \text{he/she/it}
 \end{array}$$

$$\begin{array}{c}
 \text{NP} \\
 \swarrow \quad \searrow \\
 \quad \text{N}' \\
 \quad | \\
 \quad \text{N} \\
 \quad | \\
 \text{kare/kanozyo}
 \end{array}$$

As one piece of evidence for the N status of Japanese pronouns and for the D status of English pronouns, Noguchi (1993: 9) directs our attention to the fact that English pronouns generally do not cooccur with a prenominal modifier, while Japanese counterparts can. This follows if we make a not unreasonable assumption that modifiers can only attach to N-projections, but not D-projections.

- (11) a. *tiisana kare*                                      c. \*small he  
           small    he  
       b. *sinsetuna kanozyo*                            d. \*kind she  
           kind        she

Noguchi's point can be strengthened by observing the following data:

- (12) a. *kyonen-no kare*                                      c. \*last year's he  
           last.year-Gen he  
           'what he was last year'  
       b. *kinoo-no kanozyo*                            d. \*yesterday's she  
           yesterday-Gen she  
           'what she was yesterday'  
       e. *Taro-wa [Tokyo-no kare] kara tegami-o morratta.*  
           Taro-Top [Tokyo-Gen he] from letter-Acc received  
           'He received a letter from Tokyo's him.' (Lit.)  
       f. *boku-ga moo-itido aitai no-wa [kyonen-no kare] da.*  
           I-Nom once.again want.to.meet Comp-Top [last.year-Gen he] be  
           'Who I want to meet once again is last year's him.' (Lit.)

The data in (12) indicate that Japanese pronouns can be preceded by possessives, but English pronouns cannot. This difference comes from the interaction between the N/D status of pronouns and the difference in where possessives are generated in each language. I assume with Abney (1987) that English possessives are generated in the Spec of DP, to which the genitive Case is assigned by AGR in D. This predicts that if the head of DP is occupied by some other element than AGR, possessives are never licensed. This assumption, together with

Noguchi's claim that English pronouns are D's, explains why (12c) and (12d) are ungrammatical. This is because in (12c) and (12d), a pronoun, occupying the head of DP, excludes AGR, and without AGR, *yesterday's* is not licensed.

Japanese possessives, on the other hand, behave more like adjectives than like English possessives in that they can freely interchange with other adjectives. Compare (13) and (14):

- (13) a. kyonen-no koofukuna kare  
last.year-Gen happy he  
b. koofukuna kyonen-no kare  
happy last.year-Gen he
- (14) a. Tom's beautiful house  
b. \*beautiful Tom's house

I assume that interchangeability of the kind shown in (13) is a typical property of modifiers to N projections. As Fukui (1986) points out, prenominal adjectives in English basically exhibit this type of interchangeability. Though some semantic restriction on the ordering of adjectives make some orderings sound odd, scrambling among prenominal adjectives produces much better combinations than scrambling among all the prenominal elements including a determiner. Observe the contrast between (15) and (16):

- (15) a. the tall, dark, handsome stranger  
b. ??the tall, handsome, dark stranger  
c. ?the dark, tall, handsome stranger  
d. ???the dark, handsome, tall stranger  
e. ???the handsome, tall, dark stranger  
f. ???the handsome, dark, tall stranger
- (16) a. \*tall, dark, handsome, the stranger  
b. \*tall, the, dark, handsome stranger  
c. \*dark, tall, the, handsome stranger  
d. \*handsome, the, tall, dark stranger

The data just given follows from the descriptive generalization in (17), which I assume is applicable universally:

- (17) Syntactically, scrambling among prenominal modifiers to N projections is permitted, while prenominal modifiers to N projections cannot move crossing elements generated within D projections.

Recall that in (13), a possessive and an adjective are allowed to be scrambled. This fact, together with the generalization (17), indicates that Japanese possessives are in fact modifiers to N projections, rather than specifiers of DP. I want to claim here that if this is the case, then the data given in (12a) and (12b) constitute one piece of evidence for N status of Japanese pronouns. In (12a) and (12b), possessives are allowed to precede pronouns. We have already shown that Japanese possessives are modifiers to N projections. Therefore, it must be the case that Japanese pronouns are N's, rather than D's.

There is another piece of evidence given by Noguchi (1993) that shows that English pronouns are determiners and Japanese counterparts are nouns: the former can take an NP complement, while the latter cannot. Note that Japanese is strictly head-final, and hence we have to check combinations such as those given in (19), where nouns precede pronouns.

- (18) a. us three men  
 b. we Americans  
 c. you foolish soldiers
- (19) a. \*nihonzin watasitati  
 Japanese we  
 b. \*keisatukan anatatai  
 policemen you

Noguchi (1993: note 8) also notices that "Japanese pronouns are inflected for number in the same way that common nouns are," and suggests that "this parallelism can be taken as another indication that Japanese pronouns are N's."<sup>5</sup>

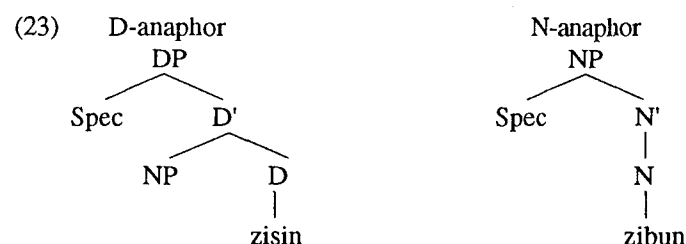
- |         |                                   |    |  |
|---------|-----------------------------------|----|--|
| (20) a. | otoko-ra<br>man-pl<br>'men'       | b. | kodomo-ra<br>child-pl<br>'children'      |
| (21) a. | kare-ra<br>he-pl<br>'they (male)' | b. | kanozoyo-ra<br>she-pl<br>'they (female)' |

## 2.2. *Zisin* as a D-Anaphor and *Zibun* as an N-Anaphor

I propose that just like pronouns, there are two types of anaphors: D-anaphors and N-anaphors: *zisin* is a D-anaphor and *zibun* is an N-anaphor:

- (22) Two Types of Anaphors in Japanese  
*Zisin* heads a D-projection, and *zibun* heads an N-projection.

I assume *zisin* takes an NP complement, while *zibun* cannot. Thus the structures in which the two types of anaphors appear are such as those in (23):<sup>6</sup>



The structures given in (23) correctly predict that *zisin* can take *zibun*, but not vice versa, because *zibun* itself is an NP and can be a complement to *zisin*. In the following, I will use 'self<sub>N</sub>' and 'self<sub>D</sub>' as a gross for *zibun* and *zisin*, respectively:

<sup>5</sup> The affix *-ra* is different from English *-s* in that *John-ra* means a group of people which is characterized by John being a salient member of that group, rather than a group of people each member of which happens to be named 'John.'

<sup>6</sup> The fact that *zisin* takes an NP complement but *zibun* cannot may be due to one or both of the following two reasons: (1) *zisin*, but not *zibun*, assigns a special  $\theta$ -role; (2) every functional head must take a specific complement, and thus *zisin*, but not *zibun*, must take a complement. In this paper, I want to claim that (2) is derived from (1).



- (24) a. [<sub>DP</sub> [<sub>D</sub> zibun zisin]]                      b. \*zisin zibun  
           self<sub>N</sub> self<sub>D</sub>                                      self<sub>D</sub> self<sub>N</sub>

They also predict that *zisin*, but not *zibun*, can take various types of NP's. In particular, notice that the fact that *zisin* can take pronouns like *kare* and *kanozyo* corroborates Noguchi's (1993) claim that Japanese pronouns are NP's:

- (25) a. [sono zyosei] zisin                      (26) a. \*[sono zyosei] zibun  
           [that woman] self<sub>D</sub>                                      [that woman] self<sub>N</sub>  
       b. [tiisana kare] zisin                      b. \*[tiisana kare] zibun  
           [short he] self<sub>D</sub>                                      [short he] self<sub>N</sub>  
       c. [utukusii kanozyo] zisin                      c. \*[utukusii kanozyo] zibun  
           [beautiful she] self<sub>D</sub>                                      [beautiful she] self<sub>N</sub>  
       d. [orokana zibun] zisin                      d. \*[orokana zibun] zibun  
           [foolish self<sub>N</sub>] self<sub>D</sub>                                      [foolish self<sub>N</sub> self<sub>N</sub>]

There is another piece of evidence showing the D status of *zisin*, and the N status of *zibun*. *Zibun* can be modified by an adjective, or a possessive, but *zisin* cannot:

- (27) a. tiisana zibun                      (28) a. \*tiisana zisin  
           short self<sub>N</sub>                                      short self<sub>D</sub>  
       b. kinoo-no zibun                      b. \*kinoo-no zisin  
           yesterday-Gen self<sub>N</sub>                                      yesterday-Gen self<sub>D</sub>  
           'what self was yesterday'

Further evidence for our analysis comes from number inflection. *Zibun*, but not *zisin*, is inflected in number in the same way as common nouns:<sup>7</sup>

<sup>7</sup> In a later section, I will claim that *zibun* lacks  $\phi$ -features as a lexical property. This claim seems to be inconsistent with the fact that the N-anaphor *zibun* can take a plural morpheme *-ra*, since this fact appears to indicate that *zibun* has at least the number feature. But I want to claim that *zibun*'s ability to be affixed by *-ra* is independent of the lack or presence of  $\phi$ -features in the lexicon. In the first place, *zibun* does have  $\phi$ -features at LF, because as I will claim later, *zibun*, lacking  $\phi$ -features as a lexical property, gets them from its antecedent at LF. Hence, in principle, *-ra* could be the realization of this newly acquired number feature. However, facts are more complicated than this. Observe the following data:

- (i) a. Taro<sub>i</sub>-wa zibun<sub>i</sub>-ga bakada-to omotteiru.  
           Taro<sub>i</sub>-Top self<sub>Ni</sub>-Nom fool.be-that think  
           'Taro<sub>i</sub> thinks that self<sub>i</sub> is a fool.'  
       b. Taro<sub>i</sub>-wa zibun<sub>i</sub>-ra-ga bakada-to omotteiru.  
           Taro<sub>i</sub>-Top self<sub>Ni</sub>-ra-Nom fool.be-that think  
           'Taro<sub>i</sub> thinks that self<sub>i</sub> and others are fools.'

(ib) shows that the plural affix *-ra* in *zibun-ra* has nothing to do with the number feature passed to *zibun* from *Taro*, i.e., [-plural]. If the affix *-ra* had to be licensed by the feature [+plural] on the stem *zibun*, then (ib) would not be judged as a grammatical sentence. This is because the stem *zibun* in (ib) is marked as [-plural] rather than [+plural].

- (29) a. zibun-ra  
self<sub>N</sub>-pl  
b. \* zisin-ra  
self<sub>D</sub>-pl

Also, note in passing that not only pronouns but also proper names are N's in Japanese, for Japanese proper names pass all the criteria we have used to show the nominal status of a lexical item: (i) they can be a complement to *zisin* [(30a)], (ii) they can be preceded by prenominal adjectives and possessives [(30b,c)], and (iii) they are inflected in number just like common nouns [(30d)].<sup>8</sup>

- (30) a. Taro zisin  
Taro self<sub>D</sub>  
b. utukusii Hanako  
beautiful Hanako  
c. kyonen-no Hanako  
last.year-Gen Hanako  
'what Hanako was last year'  
d. Hanako-ra  
Hanako-pl

### 3. Theories on Anaphoric Dependency

#### 3.1. Spec-Head Agreement as Condition A

In this section I will depart radically from the previous literature and argue that the effects of Condition A on lexical anaphors are derivable from Spec-Head agreement.

##### 3.1.1. The Feature System of Nominals

Before going into the detailed discussion of the reduction of Condition A to Spec-Head agreement, I will make several assumptions about the feature system of nominals.

First, I adopt Grimshaw's (1991) analysis of the syntactic categories, in which N and D have the same feature [+N].

Second, I adopt Hoji's (1990) feature analysis of [+N] categories:

- (31) Features for [+N] categories in Japanese
- |    |  |      |
|----|--|------|
| a. | Anaphors: <i>zibun</i> ('self <sub>N</sub> '), <i>zisin</i> ('self <sub>D</sub> ') | [+a] |
| b. | Pronominals: <i>kare</i> ('he'), <i>kanozoy</i> ('she'), <i>sore</i> ('it'), ...   | [-a] |
| c. | Epithets: <i>yatu</i> ('the guy'), <i>aitu</i> ('the guy'), ...                    | [-a] |
| d. | Social Titles: <i>sensei</i> ('teacher'), <i>daitoryo</i> ('president'),           | [-a] |
| e. | Names: <i>Taro</i> , <i>Hanako</i> , <i>ringo</i> ('apple'), ...                   | [-a] |

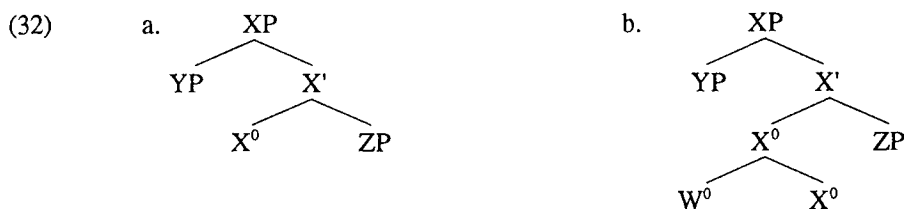
Third, I assume that [-a] heads have  $\phi$ -features, but [+a] heads do not.<sup>9</sup> And I also assume as a part of the definition of X-bar theory that features on the head percolate up to the maximal projection.

<sup>8</sup> The NP *Hanako-ra* in (30d) does not mean the set of people whose names are all Hanako, but it stands for the set of people whose representative member is Hanako.

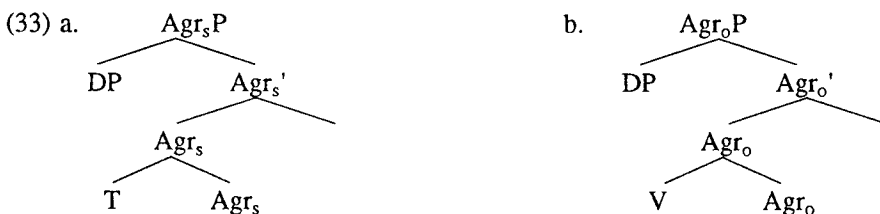
<sup>9</sup> For the lack of  $\phi$ -features, see Burzio (1991). I will follow Burzio (1991) and assume that anaphors lack person, number, and gender features, but not Case feature. In the following, when I use  $\phi$ -features for anaphors, I mean person, number, and gender features, excluding Case features.

### 3.1.2. The Theory of Spec-Head Agreement

The notions 'specifier' and 'head' in Spec-Head agreement are usually defined on the basis of the basic X-bar configuration given in (32a):



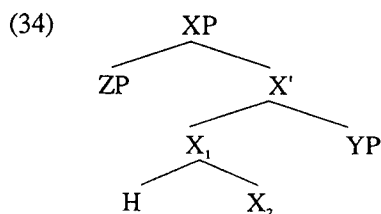
Thus,  $X^0$  in (32a), which is defined as the head in the X-bar theory, also acts as the head in Spec-Head agreement. The crucial defining property of a head is that a head projects a single bar and a double bar levels. According to this definition, the adjoined element  $W^0$  in (32b) is not the head of  $X'$  or  $XP$ , because it does not project any bar levels. A problem arises when we consider the following adjoined structures, where  $T$  and  $V$  are raised and adjoined to  $Agr_s$  and  $Agr_o$ , respectively:



In each case, the Case feature on the adjoined element must be in the Spec-Head relation to the specifier of  $AgrP$ . But the definition of a head given above disallows the adjoined element to be the head of  $AgrP$ , and hence the adjoined element cannot have the Spec-Head relation to the specifier of  $AgrP$ , i.e.,  $DP$ .

Two possible solutions to this problem have already been suggested in Chomsky (1993). The first solution stipulates that the Case feature on  $T$  and  $V$  can percolate up to the upper segment of  $Agr_s$  and  $Agr_o$ , respectively. This stipulation makes it possible for the Case feature on the adjoined element to be checked off against the Case feature on  $DP$  through the conventional Spec-Head relation between  $DP$  and  $Agr$ . In other words, the checking relation between  $DP$  and  $T$  or  $V$  is established via the intermediate  $Agr$ .

The second solution is based on the set of newly defined domains. Among them, a *checking domain* is relevant to our problem. Consider the configuration (34).  $H$  is a zero-level category which raises and adjoins to  $X$ , forming the chain  $CH = (H, t)$ .  $X$  is the head of  $X'$  and  $XP$ . The maximal projections  $ZP$  and  $YP$  are the specifier and the complement, respectively:



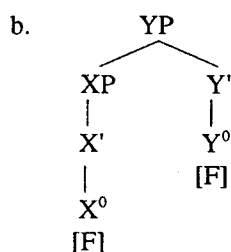
Chomsky assumes that only the chain  $CH = (H, t)$ , rather than  $H$  itself, can have the domains, and both  $CH$  and the two-segment category  $X$  are defined to have the same checking domain, namely,  $ZP$ . If we assume that  $X$  is  $Agr_o$  and  $H$  is  $V$ , or that  $X$  is  $Agr_s$  and  $H$  is  $T$ , then the  $\phi$ -features on  $ZP$  can be checked off against those on  $X$  by virtue of  $ZP$  being in the checking domain of  $X$ , and the Case features on  $ZP$  will also be checked off against those on  $CH$  by virtue of  $ZP$  being in the checking domain of  $CH$ .

I will adopt the second approach in this paper, not only because the domains introduced in the second approach are needed in several important cases, but also because only the second approach, but not the first, is in accord with our analysis of *zibun* binding.

With the above discussion in mind, let us move on to the theory of *Spec-Head Agreement (SHA)*.<sup>10</sup> I assume that SHA consists of two subprinciples: *Feature Checking* and *Feature Passing*. This means that if some projection is required to satisfy SHA, it can satisfy SHA by satisfying Feature Checking or Feature Passing. I give the definitions of these subprinciples in (35) and (36), where a set of features is represented as [F] and the lack thereof, as [ ]. Note that in both (35b) and (36b), [F] on  $X^0$  percolates up to XP. XP is taken to be  $\alpha$  and  $Y^0$ ,  $\beta$ :

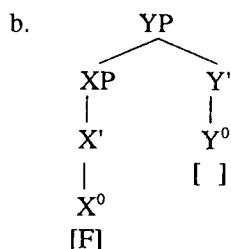
- (35) a. Feature Checking:

The features on an element ( $\alpha$ ) in the checking domain of  $\beta$  are checked by the features on  $\beta$ , and if they match, we say  $\alpha$  satisfies Feature Checking.



- (36) a. Feature Passing:

The features on an element ( $\alpha$ ) in the checking domain of  $\beta$  pass onto  $\beta$ , which lacks those features, and if this passing occurs, we say  $\alpha$  satisfies Feature Passing.



Further, I assume the following licensing condition on [+N] maximal projections:

- (37) *Feature Agreement Principle (FAP)*

Every [+N] maximal projection must satisfy SHA.

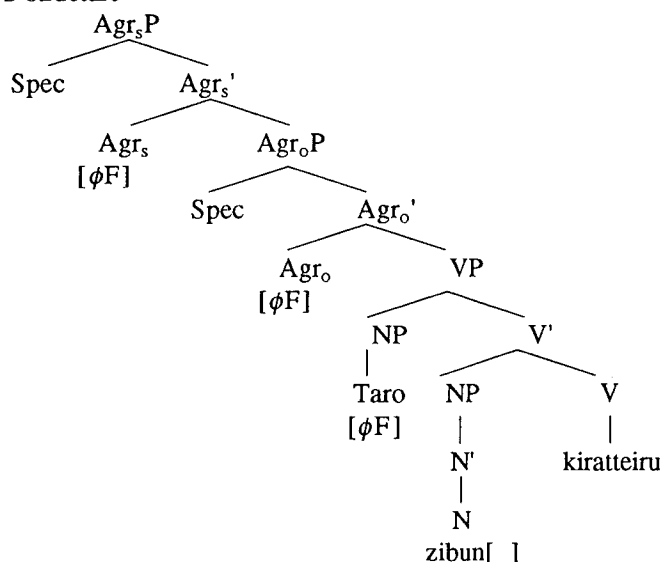
This means that any NP or DP must satisfy either Feature Checking or Feature Passing.

Now, let me illustrate how the above mechanisms interact with each other to derive the effects of Condition A. Consider the following sentence with its S-structure and LF, where [ $\phi$  F] represents a set of  $\phi$ -features, and [ ] stands for the lack of  $\phi$ -features:

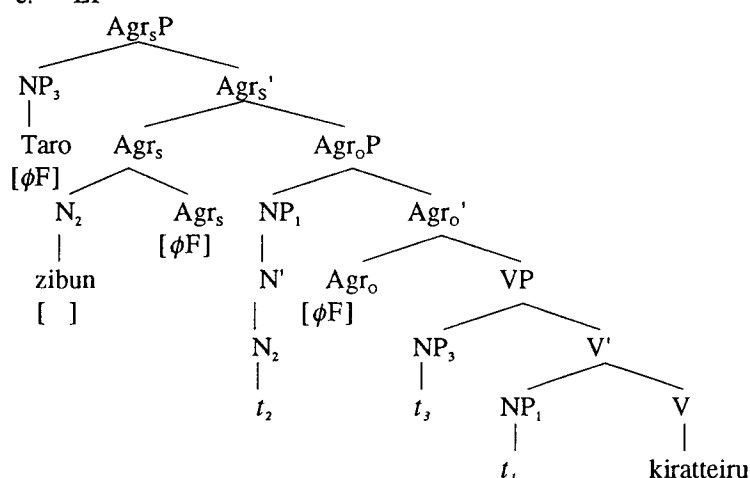
<sup>10</sup> The idea that reflexives lack  $\phi$ -features and their antecedent supplies them is first proposed by Burzio (1991), as far as I know. But the theory of Spec-Head Agreement to be proposed here is based on the idea suggested to me by Vivian Deprez (personal communication). For a similar approach to Spec-Head Agreement, see Deprez (1994).

- (38) a. Taro-ga zibun-o kiratte-iru.  
Taro-Nom self<sub>N</sub>-Acc hate-be

b. S-structure



c. LF



At LF, *Taro* moves to the Spec of  $Agr_s$  and *zibun* moves to the Spec of  $Agr_o$  in order to satisfy SHA. At LF, *Taro* is in the checking domain of  $Agr_s$ , which has  $\phi$ -features. Hence, *Taro* satisfies Feature Checking. But *zibun* cannot satisfy SHA in the Spec of  $Agr_o$ , because *zibun* has no  $\phi$ -features and accordingly, the maximal projection,  $NP_1$ , has no  $\phi$ -features to pass or to be checked. Hence, *zibun* has to move further to get  $\phi$ -features. This time, *zibun* moves as an  $X^0$  to adjoin  $Agr_s$ . As I have assumed above, in this adjoined position, the chain  $CH = (zibun, t_1)$  has the Spec of  $Agr_s$ ,  $NP_3$ , in its checking domain, and thus it gets  $\phi$ -features from  $NP_3$  by Feature Passing. I also assume that the  $\phi$ -features assigned to the chain are shared by each member of the chain. This allows the tail of the chain,  $t_2$ , to get the  $\phi$ -features. And the  $\phi$ -features on  $t_2$  percolate up to  $NP_1$ , which is now able to take part in the Feature-Checking relation with  $Agr_o$ .

If the story given above is correct, then we can dispense with Condition A, at least in the case of anaphor binding, and still account for the fact that *zibun* needs an antecedent. This is because *zibun* needs  $\phi$ -features, and only way to get them is to move to  $Agr_s$ , where *zibun* and its 'antecedent' in Spec of  $Agr_s$  take part in the Spec-Head Agreement.

Further, we need to explain why *zibun* has (i) the subject-orientation, and (ii) the capacity to take a long-distance antecedent. Here, I have to be satisfied with simply making the following assumptions:

- (39) a. In Japanese, the Agr to which V is adjoined (i.e., Agr<sub>o</sub>) cannot take part in the Feature-Passing relation.  
 b. In Japanese, Feature-Passing is optional.

(39a) prohibits *zibun* to adjoin Agr<sub>o</sub>, and effectively forces *zibun* to adjoin Agr<sub>s</sub>. This gives us the subject-orientation. (39b) makes movement of *zibun* non-local, because if the closest Agr<sub>o</sub> to the base position of *zibun* does not participate in Feature-Passing, then *zibun* has to raise to the next higher Agr<sub>o</sub>. Obviously, these conditions are just stipulations right now, but I hope that future study will show that they are derivable from more fundamental principles.

### 3.2. Condition B and Condition C

I will adopt Hoji's (1990) Conditions B and C of the binding theory to account for the properties of X-*zisin*. It is thus necessary to summarize his version of the binding theory before we go into the detailed analysis of X-*zisin*.

First, I will repeat Hoji's feature system for each type of the [+N] expressions in Japanese:

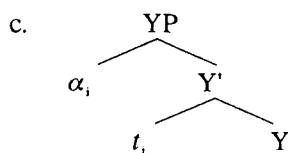
- (40) Features for [+N] categories in Japanese
- |    |  |      |
|----|--|------|
| a. | Anaphors: <i>zibun</i> ('self <sub>N</sub> '), <i>zisin</i> ('self <sub>P</sub> ') | [+a] |
| b. | Pronominals: <i>kare</i> ('he'), <i>kanozzyo</i> ('she'), <i>sore</i> ('it'), ...  | [-a] |
| c. | Epithets: <i>yatu</i> ('the guy'), <i>aitu</i> ('the guy'), ...                    | [-a] |
| d. | Social Titles: <i>sensei</i> ('teacher'), <i>daitoryo</i> ('president'), ...       | [-a] |
| e. | Names: <i>Taro</i> , <i>Hanko</i> , <i>ringo</i> ('apple'), ...                    | [-a] |

Hoji's Conditions B and C are based on this feature analysis:

- (41) Hoji's (1990) Conditions B and C
- Condition B: A [-a] category must be free in its local domain.
  - Condition C: A [-a, -p] category must be free.

Hoji's (1990) definition of the local domain is the simplest one: the local domain for X is the minimal NP or S that contains a subject and X. This definition suffices for his purposes, but not ours. Hence, I will define the local domain by incorporating Chomsky's (1986) idea of the *Complete Functional Complex (CFC)*:

- (42) a. A CFC of an argument  $\alpha$  is a domain in which all the arguments of the head  $\beta$  are realized, where  $\beta$  is the head that assigns a  $\theta$ -role to  $\alpha$ .
- (43) a. The *local domain* for  $\alpha$  is the least CFC of  $\alpha$ .  
 b.  $\alpha$  governs  $\beta$  iff  $\alpha$   $\alpha$ -commands  $\beta$ , and no maximal projection intervenes between  $\alpha$  and  $\beta$ .



Let me illustrate how to define the local domain for  $\alpha$ , using the tree in (43c). Suppose that Y is a one-place predicate which assigns an internal  $\theta$ -role to  $\alpha$  inside Y', and that  $\alpha$  moves into Spec of YP for some reason.

Let me illustrate how to define the local domain for  $\alpha$ , using the tree in (43c). Suppose that  $Y$  is a one-place predicate which assigns an internal  $\theta$ -role to  $\alpha$  inside  $Y'$ , and that  $\alpha$  moves into Spec of  $YP$  for some reason. This movement gives us a non-trivial chain whose head is  $\alpha_i$  and whose tail is  $t_i$ .  $Y$  corresponds to the head  $\beta$  in the definition of the CFC, because  $Y$  assigns a  $\theta$ -role to  $\alpha$  (or more precisely, to the chain with  $\alpha$  as the head and  $t_i$  as the tail). Hence, the least CFC of  $\alpha$  is  $YP$ . Consequently, the local domain for  $\alpha$  is  $YP$ .

Hoji's Conditions B and C behave rather differently from the binding conditions we have been accustomed to. First, Condition B applies not merely to pronominals, but also to names (and other [-a] categories). Second, Condition C never applies to Japanese [-a] categories, let alone anaphors and pronominals. This modification of Conditions B and C is supported by the following observations made by Oshima (1979) and Hoji (1990):

(44) Japanese names must be free in their local domain, but can be bound from outside of this domain.

(44) can be exemplified in the sentences in (45):

- (45) a. \* [John<sub>i</sub>-wa John<sub>i</sub>-o bengosita].  
           [John<sub>i</sub>-Top John<sub>i</sub>-Acc defended]  
           'John<sub>i</sub> defended John<sub>i</sub>.'  
       b. John<sub>i</sub>-wa [John<sub>i</sub>-no hon]-o motte kita.  
           John<sub>i</sub>-Top [John<sub>i</sub>-Gen book]-Acc bring came  
           'John<sub>i</sub> brought John<sub>i</sub>'s book over.'

In (45a), the second occurrence of *John* is bound in its local domain, namely the whole sentence, and this sentence exhibits violation of Condition B. On the other hand, the second occurrence of *John* in (45b) is free in its local domain, namely the NP containing the second occurrence of *John*, but it is bound from outside of its local domain by the subject *John*, and so Condition B is satisfied in (45b).

### 3.3. Linking Theory and the Condition on Linking

Hoji (1990) proposes that in addition to the binding conditions, we have to assume *the condition on linking* (CL), which regulates linking relations between two NPs, and it refers not to features such as [+/- a], or [+/- p], but rather to referential hierarchy. This proposal is based on Lasnik's (1989) generalization, which I will call *Condition D*:<sup>11</sup>

(46) Lasnik's Generalization (Condition D)

A less referential expression may not bind a more referential one.

Hoji's CL is different from Condition D in that it constrains the possible linking, rather than the possible binding. This modification is motivated by the fact that Condition D effects can be suspended. Before illustrating CL, I will first introduce Condition D and show how it works, for I believe it helps understand the intuitive content of the actual condition, i.e., CL.

In order to illustrate how Condition D works, we need to know the referential hierarchy, in which four types of NPs are ranked according to the referentiality:

(47) The Referential Hierarchy: A > B: A is more referential than B  
       Name > Social Title > Epithet > Pronoun

<sup>11</sup>  $\alpha$  binds  $\beta$  iff  $\alpha$  c-commands  $\beta$  and  $\alpha$  is coindexed with  $\beta$ .

Japanese has the following types of NPs, which participate in the referential hierarchy:

- (48) Names: *Taro*, *Hanako*, *gakusei* ('student'), *ringo* ('apple'), ...  
 Social titles: *sensei* ('teacher'), *daitooryoo* ('president'), ...  
 Epithets: *yatu* ('the guy'), *aitu* ('the guy'), ...  
 Pronouns: *kare* ('he'), *kanozyo* ('she'), *sore* ('it'), *pro*, ...

Now let me illustrate how Condition D works by considering the coreferential possibility between a pronoun and a name. Observe that in (49), only (d) violates Condition D, because in (49d), the less referential element *kare* binds the more referential element *Taro*, thereby violating Condition D:

- (49) a. *Taro<sub>i</sub>-ga [Taro<sub>i</sub>-no haha]-o aisiteiru.*  
       *Taro<sub>i</sub>-Nom [Taro<sub>i</sub>-Gen mother]-Acc love*  
       'Taro<sub>i</sub> loves Taro<sub>i</sub>'s mother.'  
       b. *Taro<sub>i</sub>-ga [kare<sub>i</sub>-no haha]-o aisiteiru.*  
       *Taro<sub>i</sub>-Nom [he<sub>i</sub>-Gen mother]-Acc love*  
       'Taro<sub>i</sub> loves his<sub>i</sub> mother.'  
       c. *kare<sub>i</sub>-ga [kare<sub>i</sub>-no haha]-o aisiteiru.*  
       *he<sub>i</sub>-Nom [he<sub>i</sub>-Gen mother]-Acc love*  
       'He<sub>i</sub> loves his<sub>i</sub> mother.'  
       d. \**kare<sub>i</sub>-ga [Taro<sub>i</sub>-no haha]-o aisiteiru.*  
       *he<sub>i</sub>-Nom [Taro<sub>i</sub>-Gen mother]-Acc love*  
       'He<sub>i</sub> loves Taro<sub>i</sub>'s mother.'

Recall that as we assumed in 3.2., languages like Japanese do not have nominals with features [-a, -p], and hence the effect of Condition C never shows up in such a language. This explains the acceptability of (49a).

Instead of Condition D, Hoji (1990) introduces the *rule of linking (RL)* and the *condition on linking (CL)* to capture basically the same generalization as Condition D is designed to capture:

(50) The Rule of Linking

If X and Y are coindexed and X is less referential than Y, X must be linked to Z  
 (Z may be Y itself.) where:

- (i) Z is more referential than or equally referential to Y, and  
 (ii) Z is coindexed with X and Y.

(51) The Condition on Linking

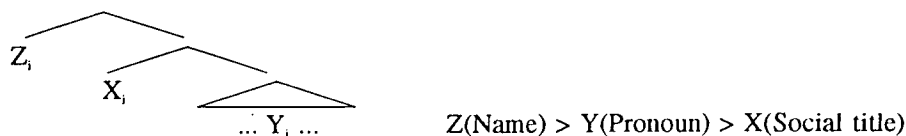
If A c-commands B, A cannot be linked to B.

Let me illustrate how RL and CL work by using (49d). Let us take *kare* and *Taro* as X and Y, respectively. In (49d), *kare* and *Taro* are coindexed, and *kare* is less referential than Y, namely *Taro*. Hence, *kare* must be linked to Z. Let us assume that Z is Y in this case, which means that Z is also *Taro*. This equation is justified, because *Taro*, as Z, is equally referential to itself, and *Taro* is coindexed with itself. Therefore, RL requires that *kare* must be linked to *Taro* in (49d). But this linking is prohibited by CL, because *kare* c-commands *Taro*. Therefore, RL and CL together predict (49d) is out.

This linking approach makes a different prediction from Condition D. It predicts that the so called Condition D effect is suspended in the following situation:



## (52) The Suspension of the Condition D Effect



In (52), X and Y are coindexed and X is less referential than Y. Hence, X must be linked to Z or Y. In this case, X cannot be linked to Y, because this linking is banned by CL. Hence, X must be linked to Z. Therefore, the linking approach predicts that this configuration is ruled in. On the contrary, Condition D predicts that (52) is ungrammatical, because in (52) the less referential element X binds the more referential element Y.

Relevant data favor the linking approach, as can be seen from the following sentences:

- (53) a. [Matumoto sensei]<sub>i</sub>-wa [kanozyo<sub>i</sub>-ga [[Taro-ga sensei<sub>i</sub>-no ie-made todoketa]  
[Matumoto teacher]<sub>i</sub>-Top [she<sub>i</sub>-Nom [[Taro-Nom teacher<sub>i</sub>-Gen house-to delivered]  
repooto]-o nakusitesimatta] to omotteita.  
report]-Acc lost] that thought  
'Ms. Matumoto<sub>i</sub> thought that she<sub>i</sub> lost the report that Taro had delivered to the  
teacher<sub>i</sub>'s house.'
- cf. b. \*Ziro<sub>j</sub>-wa [kanozyo<sub>i</sub>-ga [[Taro-ga sensei<sub>i</sub>-no ie-made todoketa]  
Ziro<sub>j</sub>-Top [she<sub>i</sub>-Nom [[Taro-Nom teacher<sub>i</sub>-Gen house-to delivered]  
repooto]-o nakusitesimatta] to omotteita.  
report]-Acc lost] that thought  
'Ziro<sub>j</sub> thought that she<sub>i</sub> lost the report that Taro had delivered to the  
teacher<sub>i</sub>'s house.'

In (53a), we may take *Matsumoto sensei* as Z, *kanozyo* as X, and *sensei* as Y. Then, the linking approach predicts that (53a) is grammatical, because X has a more referential antecedent above it, namely *Matsumoto sensei*. Further, the linking approach correctly predicts that (53b) is out, because in this case, the subject NP *Ziro* cannot be taken as Z, because it is not coindexed with *kanozyo*. The binding approach makes a wrong prediction in the first case, since a less referential element (*kanozyo*) binds a more referential element (*sensei*) in (53a), thereby inducing Condition D violation.

It is now obvious that the relevant facts are more properly handled by the linking theory than Condition D. Therefore, I will henceforth use the linking approach in the following discussion.

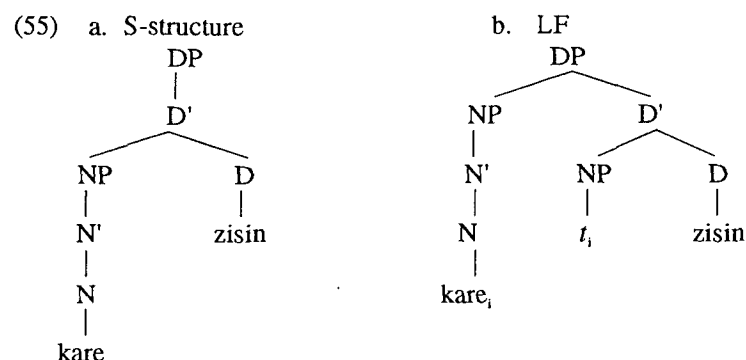
#### 4. A Compositional Analysis of *X-Zisin*

##### 4.1. *X-Zisin* as the Local Domain for X-

The purpose of this section is to show that given the definition of the local domain introduced in 3.2., *X-zisin* itself becomes the local domain for X. I will repeat the definitions of *CFC*, *local domain* and *government* in (54):

- (54) a. A *CFC* of an argument  $\alpha$  is a domain in which all the arguments of the head  $\beta$  are realized, where  $\beta$  is the head that assigns a  $\theta$ -role to  $\alpha$ .  
b. The *local domain* for  $\alpha$  is the least CFC of  $\alpha$ .  
c.  $\alpha$  *governs*  $\beta$  iff  $\alpha$  m-commands  $\beta$ , and no maximal projection intervenes between  $\alpha$  and  $\beta$ .

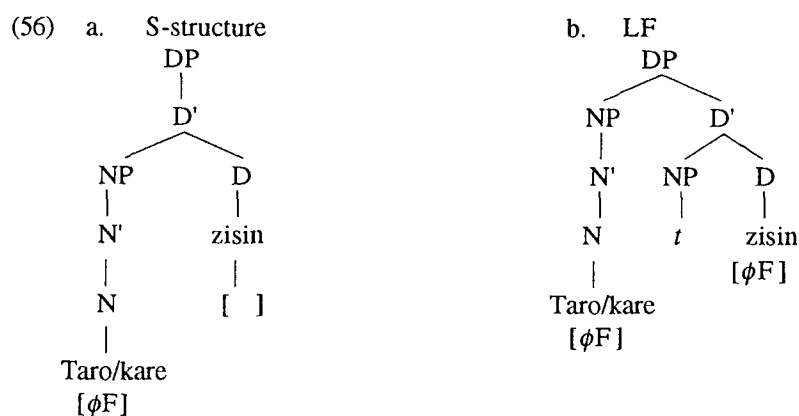
Let me illustrate how (54) works by using *kare-zisin* as an example. As we will see in 4.2., *kare* in *kare-zisin* is first generated as a complement to *zisin*, and then raises to the Spec of DP, as can be seen in (55):



I assume that Binding Theory applies at LF. So, we have to determine the local domain for *kare* in the representation given in (55b). The local domain for *kare* is the least CFC of *kare* (see (54b)). Now, a question arises as to whether or not *kare* has a CFC in the first place. I believe the answer is positive. Abney (1987) argues that every functional head assigns a functional role (*F-role*), a kind of  $\theta$ -role, to its complement. Suppose Abney is correct. Then the functional head *zisin* also assigns a F-role to its complement *kare*. A CFC of *kare* is a domain in which all the arguments of *zisin* are realized (see (54a)). In (55b) the DP is qualified as the domain in question. This is because this DP dominates both *kare*, the only argument of *zisin*, and its head *zisin*. And obviously this DP is also the smallest CFC of *kare*. Hence, the local domain for *kare* in (55b) must be the DP.

#### 4.2. *Zisin* and Spec-Head Agreement

Like the N-anaphor *zibun*, the D-anaphor *zisin*, being a [+a] head, lacks  $\phi$ -features. Hence, it has to get  $\phi$ -features, which is needed for the maximal projection DP to satisfy FAP. In order to get  $\phi$ -features, *zisin* has to be in the Spec-Head relation with the specifier which has  $\phi$ -features to pass. I will claim that the complement NP to *zisin* raises to the Spec of DP, and passes  $\phi$ -features to *zisin*. This movement is in accord with 'Greed,' because if the complement NP does not raise, it violates FAP. Consider the following structures for *Taro-zisin* ('Taro-self<sub>p</sub>') and *kare-zisin* ('he- self<sub>p</sub>'):



In (56a), *Taro/kare* cannot pass its  $\phi$ -features to D, and so it violates FAP in situ. Hence, it raises to Spec of DP at LF, as shown in (56b). From this position, it passes its  $\phi$ -features to *zisin*, satisfying SHA and FAP. Now *zisin* has  $\phi$ -features, and they percolate up to DP, which also needs  $\phi$ -features to satisfy FAP. Note that in

our system, we need not stipulate *zisin* has to get  $\phi$ -features. This is derived from FAP. To see this last point, let us consider the following sentence and its LF representation:

- (57) a. Ziro<sub>i</sub>-ga kare<sub>i</sub>-zisin-o aisite-iru.  
 Ziro<sub>i</sub>-Nom he<sub>i</sub>-self<sub>D</sub>-Acc love-be  
 'Ziro<sub>i</sub> loves himself<sub>i</sub>.'
- b.
- 

Suppose  $\phi$ -features do not pass from NP<sub>3</sub> to D. Then, DP<sub>2</sub> would end up having no  $\phi$ -features, which is a violation of FAP, because Agr<sub>o</sub> cannot check  $\phi$ -features on DP<sub>2</sub>.

The theory presented so far predicts that DP's such as *Taro-zisin* or *kare-zisin* can be used without any 'antecedent,' because *zisin* gets  $\phi$ -features DP-internally, and hence *zisin* need not raise to Agr<sub>s</sub> to enter into the Spec-Head Agreement relation with NP<sub>1</sub>, a potential antecedent in the binding theoretic terms. This prediction is indeed borne out:<sup>12</sup>

- (58) a. [Elisabeth zyoo-oo zisin]-ga kuruma-o unten-sita.  
 [Elisabeth queen self<sub>D</sub>]-Nom car-Acc drive-did  
 'Queen Elisabeth herself drove the car.'
- b. [kare zisin]-ga boku-ni aini-kita.  
 [he self<sub>D</sub>]-Nom I-to meet-came  
 'He himself came to see me.'

#### 4.3. X-Zisin and the Theories on Anaphoric Dependency

In this section I will pursue the consequences of the compositional approach by investigating how *X* in *X-zisin* behaves with respect to the theories on anaphora introduced in Section 3.

<sup>12</sup> As the translation of the sentences in (58) indicate, this use of *X-zisin* induces an emphatic reading. I will adopt the informal definition of an emphatic reading proposed by Aikawa (1994).

- (i) Informally, an emphatic reading of a referent *X* is such that the referent *X* is put forward or intensified, while other alternatives under consideration are being excluded for the agent of a proposition in question.  
 (Aikawa 1994: 28)

For instance, in (58a), the referent of *Elisabeth zyoo-oo zisin* 'Queen Elisabeth herself' is put forward or intensified, while other alternative individuals are being excluded for the agent of the act of having driven the car. See 4.3.1.2., where I will discuss more of the emphatic reading, and show that the holistic approach cannot handle the emphatic reading properly.

### 4.3.1. *Kare-Zisin*

#### 4.3.1.1. *Kare-Zisin* and Condition B

As pointed out in 4.1., the local domain for *kare-* in *kare-zisin* is the DP *kare-zisin* itself. Given this, it is predicted that *kare-* in *kare-zisin* behaves exactly like *kare-* in *kare-no hahaoya* 'his mother' with respect to Condition B. In this section I will show that this is indeed the case.

First, as we have already shown in 4.2., *kare-* can be used without any antecedent in its local domain:

- (59) a. [DP *kare-zisin*]-ga boku-ni aini-kita.  
           [DP he-self<sub>D</sub>]-Nom I-Dat meet-came  
           'He himself came to see me.'  
       b. [NP *kare-no hahaoya*]-ga boku-ni aini-kita.  
           [NP he-Gen mother]-Nom I-Dat meet-came  
           'His mother came to see me.'

Second, *kare-* has no subject-orientation, because *kare-* is allowed to coindex with any NP outside of its local domain:

- (60) a. Taro<sub>i</sub>-ga Jiro<sub>j</sub>-ni [*kare*<sub>ij</sub>-*zisin*]-nituite hanasita.  
           Taro<sub>i</sub>-Nom Jiro<sub>j</sub>-Dat [he<sub>ij</sub>-self<sub>D</sub>]-about talked  
           'Taro<sub>i</sub> talked to Jiro<sub>j</sub> about himself<sub>ij</sub>.'  
       b. Taro<sub>i</sub>-ga Jiro<sub>j</sub>-ni [*kare*<sub>ij</sub>-*no hahaoya*]-nituite hanasita.  
           Taro<sub>i</sub>-Nom Jiro<sub>j</sub>-Dat [he<sub>ij</sub>-Gen mother]-about talked  
           'Taro<sub>i</sub> talked to Jiro<sub>j</sub> about his<sub>ij</sub> mother.'

Third, *kare-* can have an antecedent outside the smallest AGRsP containing *kare-*. This may be controversial, because it has been assumed that *kare-zisin* as a whole is an anaphor, and obeys the Specified Subject Condition, but not the Nominative Island Condition. This means that *kare-* cannot have an antecedent outside of the smallest AGRsP containing *kare-*, unless *kare-* itself is a subject. Katada (1991), for instance, cites the following sentences to make this point:

- (61) a. John<sub>i</sub>-ga [Bill<sub>j</sub>-ga Mike<sub>k</sub>-ni *kare-zisin*<sub>7\*ijjk</sub>-no koto-o hanasita to] itta.  
           John<sub>i</sub>-Nom [Bill<sub>j</sub>-Nom Mike<sub>k</sub>-Dat he-self<sub>7\*ijjk</sub>-Gen matter-Acc told that] said  
           'John<sub>i</sub> said that Bill<sub>j</sub> told Mike<sub>k</sub> about he-self<sub>7\*ijjk</sub>.'  
       b. John<sub>i</sub>-ga Bill<sub>j</sub>-ni [*kare-zisin*<sub>ij</sub>-ga katta to] itta.  
           John<sub>i</sub>-Nom Bill<sub>j</sub>-Dat [he-self<sub>ij</sub>-Nom won that] said  
           'John<sub>i</sub> told Bill<sub>j</sub> that he-self<sub>ij</sub> won.' (Katada 1991: 289)

According to Katada (1991), *kare-zisin* in (61a) cannot take *John* as its antecedent, because *kare-zisin* is inside the embedded sentence with a Specified Subject, *Bill*. On the other hand, in (61b), *kare-zisin* is a subject of the embedded sentence, so that it can escape the effect of the Specified Subject Condition, and hence take any NP in the matrix as a potential antecedent. Contrary to Katada (1991) and most of the researchers, I would like to claim that we should not generally rule out sentences like (61a) with *kare-* coindexed with the matrix subject, because we can easily construct a sentence in which *kare-* occupies an embedded non-subject position, and still may take the matrix subject as its antecedent:

- (62) a. John<sub>i</sub>-wa [Mary<sub>j</sub>-ga Susan<sub>k</sub>-ni kare<sub>i/\*j/\*k</sub>-zisin-no himitu-o barasita]  
 John<sub>i</sub>-Top [Mary<sub>j</sub>-Nom Susan-Dat he<sub>i/\*j/\*k</sub>-self<sub>D</sub>-Gen secret-Acc let.out]  
 koto-o okotteita.  
 that-Acc was.angry  
 'John<sub>i</sub> was angry that Mary<sub>j</sub> let out his<sub>i/\*j/\*k</sub> own secret to Susan<sub>k</sub>.'
- b. Tarō<sub>i</sub>-wa [minna<sub>j</sub>-ga kare<sub>i/\*j</sub>-zisin-o kiratteiru] to omotteita.  
 Tarō<sub>i</sub>-Top [everyone<sub>j</sub>-Nom he<sub>i/\*j</sub>-self<sub>D</sub>-Acc hate that thought  
 'Tarō<sub>i</sub> thought that everyone<sub>j</sub> hated himself<sub>i/\*j</sub>.'
- c. titi<sub>i</sub>-wa [musume<sub>j</sub>-ga kare<sub>i/\*j</sub>-zisin-o kiratteiru] koto-o  
 father-Top [daughter<sub>j</sub>-Nom he<sub>i/\*j</sub>-self<sub>D</sub>-Acc hate] that-Acc  
 hazimete sitta.  
 for.the.first.time learned  
 'The father<sub>i</sub> learned for the first time that his daughter<sub>j</sub> hates himself<sub>i/\*j</sub>.'
- d. Tarō<sub>i</sub>-wa [Jiro<sub>j</sub>-ga kare<sub>i/\*j</sub>-zisin-o homete-kureta] to itteita.  
 Tarō<sub>i</sub>-Top [Jiro<sub>j</sub>-Nom he<sub>i/\*j</sub>-self<sub>D</sub>-Acc praise-gave] that said  
 'Tarō<sub>i</sub> said that Jiro<sub>j</sub> praised himself<sub>i/\*j</sub>.'
- e. Tarō<sub>i</sub>-wa [Jiro<sub>j</sub>-ga kare<sub>i/\*j</sub>-zisin-ni tyokusetu situmon-sini-kita] koto-o  
 Tarō<sub>i</sub>-Top [Jiro<sub>j</sub>-Nom he<sub>i/\*j</sub>-self<sub>D</sub>-Dat directly question-ask-came] that-Acc  
 yorokonda.  
 was.glad  
 'Tarō<sub>i</sub> was glad that Jiro<sub>j</sub> himself came to ask questions to himself<sub>i/\*j</sub>.'

The most crucial property shared by all the sentences in (62) is that inside the embedded clause, there is no possible antecedent for *kare*-. In (62a) there are two NPs that are structurally allowed to act as an antecedent for *kare*-, but neither of them can be the actual antecedent, because they do not agree in gender with *kare*-. In (62b) since *kare*- cannot take a quantified NP as its antecedent in general, *minna* 'everyone' cannot be the actual antecedent. The embedded subject *musume* 'daughter' in (62c) does not serve as an antecedent to *kare*-, because of the difference in gender. Also in (62d) and (62e) the referent of *kare*- may not be the embedded subject *Jiro*. I would like to claim, following Kuno and Kaburaki (henceforth, K&K) (1977), that this is caused by the interaction between *-zisin* and helping verbs like *-kureru* 'give' and *-kuru* 'come'. Before dealing with this particular case, it is necessary to introduce K&K's (1977) proposal on empathy and its interaction with syntax.

K&K (1977) defines the notion 'empathy' as shown in (63a):

- (63) a. *Empathy*  
 Empathy is the speaker's identification, with varying degrees (ranging from degree 0 to 1), with a person who participates in the event that he describes in a sentence.
- b. John hit his wife. [*his wife* = *Mary*]
- c. Mary's husband hit her. [*Mary's husband* = *John*]

For instance, in (63b), the speaker identifies himself with *John* rather than with *Mary*. On the other hand, in (63c), the speaker identifies himself with *Mary* rather than with *John*. In the following, I use '>' to indicate this kind of the empathy relationship. Namely, 'A > B' stands for 'the speaker identifies himself with A rather than with B'. So, the empathy relations in (63b) and (63c) can be expressed with this notation; (64a) and (64b) correspond to (63b) and (63c), respectively:

- (64) a. John > Mary  
b. Mary > John

Now, let us turn to Japanese giving verbs. Japanese uses two different verbs to express the meaning of 'give': *yaru* and *kureru*. K&K (1977) claim that *yaru* is subject-centered, and *kureru*, non-subject-centered. In other words, *yaru*, as a subject-centered verb, is used "when the action is looked at from the point of view of the referent of the subject, and not from the point of view of the referent of the dative object [i.e. the non-subject: MF]" (K&K 1977: 630). On the other hand, *kureru*, as a non-subject centered verb, is used "when the action is looked at from the point of view of the referent of the dative object [i.e. the non-subject: MF], and not from the point of view of the referent of the subject (K&K 1977: 630)." To show the effect of the subject-, and non-subject-, centrality, they use the following sentences:

- (65) a. Boku-wa Taro-ni okane-o yatta. (Subject-Centered)  
I-Top Taro-Dat money-Acc gave  
'I gave money to Taro.'  
b. \*Taro-wa boku-ni okane-o yatta. (Subject-Centered)  
Taro-Top I-Dat money-Acc gave  
'Taro gave me money.'
- (66) a. \*Boku-wa Taro-ni okane-o kureta. (Non-subject-Centered)  
I-Top Taro-Dat money-Acc gave  
'I gave money to Taro.'  
b. Taro-wa boku-ni okane-o kureta. (Non-subject-Centered)  
Taro-Top I-Dat money-Acc gave  
'Taro gave me money.' (K&K 1977: 631)

The empathy relationship in each of the sentences given above can be expressed as follows:

- (67) (65a): Speaker > Taro  
\* (65b): Taro > Speaker  
\* (66a): Taro > Speaker  
(66b): Speaker > Taro

To account for the unacceptability of (65b) and (66a), K&K propose the following constraint:

- (68) *Speech-Act Empathy Hierarchy (SAEH)*

It is not possible for the speaker to empathize more with someone else than with himself.

In (65b) and (66a), as we have already seen in (67), the speaker empathizes more with *Taro* than with himself, thereby violating SAEH.

K&K further try to account for the unacceptability of (69b):

- (69) a. Taro<sub>i</sub>-wa [Hanako-ga zibun<sub>i</sub>-ni kasite-kureta] okane-o tukatte-simatta.  
Taro<sub>i</sub>-Top [Hanako-Nom self<sub>i</sub>-Dat lending-gave] money-Acc spending-ended.up  
'Taro<sub>i</sub> has spent all the money that Hanako had lent to him<sub>i</sub>.'  
b. \*Taro<sub>i</sub>-wa [Hanako-ga zibun<sub>i</sub>-ni kasite-yatta] okane-o tukatte-simatta.  
Taro<sub>i</sub>-Top [Hanako-Nom self<sub>i</sub>-Dat lending-gave] money-Acc spending-ended.up  
'Taro<sub>i</sub> has spent all the money that Hanako had lent to him<sub>i</sub>.'

They first propose the following constraint:

(70) *The Ban on Conflicting Empathy Foci (BCEF)*

A single sentence cannot contain logical conflicts in empathy relationships.

(K&K 1977: 632)

They also make the following assumption on the empathy relationship of *zibun*:

(71) *The Empathy Relationship of 'Zibun'*

Japanese reflexive pronoun *zibun* 'self', as it is used in a subordinate clause of the type illustrated in [(69)], requires that the speaker empathize with its referent rather than with other persons that show up in the same clause.

Given (71) and the empathy relationships of the giving verbs, the empathy relationships that hold in the embedded clauses in (69) are as shown in (72):

- (72) (69a): *zibun*: Taro > Hanako  
           *kureta*: Taro > Hanako (Non-subject-Centered)  
       \* (69b): *zibun*: Taro > Hanako  
           *yatta*: Hanako > Taro (Subject-Centered)

(69b) is unacceptable, because the empathy relationship of *zibun* and that of *yatta* conflict with each other, violating BCEF.

Now let us consider the sentences we introduced in (62d) and (62e), repeated here as (73a) and (73b), respectively:

- (73) a. Taro<sub>i</sub>-wa [Jiro<sub>j</sub>-ga kare<sub>i/j</sub>-zisin-o homete-kureta] to itteita.  
           Taro<sub>i</sub>-Top [Jiro<sub>j</sub>-Nom he<sub>i/j</sub>-self<sub>D</sub>-Acc praise-gave] that said  
           'Taro<sub>i</sub> said that Jiro<sub>j</sub> praised himself<sub>i/j</sub>.'  
       b. Taro<sub>i</sub>-wa [Jiro<sub>j</sub>-ga kare<sub>i/j</sub>-zisin-ni tyokusetu situmon-sini-kita] koto-o  
           Taro<sub>i</sub>-Top [Jiro<sub>j</sub>-Nom he<sub>i/j</sub>-self<sub>D</sub>-Dat directly question-ask-came] that-Acc  
           yorokonda.  
           was.glad  
           'Taro<sub>i</sub> was glad that Jiro<sub>j</sub> himself came to ask questions to himself<sub>i/j</sub>.'

First, I would like to generalize (71) to (74):

(74) *The Empathy Relationship of Japanese Reflexives*

Japanese reflexives *zibun* 'self<sub>N</sub>' and *zisin* 'self<sub>D</sub>', as they are used in a subordinate clause, require that the speaker empathize with their referent rather than with other persons that show up in the same clause.

Second, I assume that *kuru* 'come' is a non-subject centered verb, just like *kureru* 'give'. This means that the speaker using this verb empathizes more with its non-subject than with its subject.

We can now compute the empathy relationships in the embedded clauses of (73):

- (75) (73a):
- i) zisin = Taro: zisin: Taro > Jiro  
kureta: Taro > Jiro
  - \* ii) zisin = Jiro: zisin: Jiro > Taro  
kureta: Taro > Jiro
- (73b):
- i) zisin = Taro: zisin: Taro > Jiro  
kita: Taro > Jiro
  - \* ii) zisin = Jiro: zisin: Jiro > Taro  
kita: Taro > Jiro

As is clear from (75), BCEF prohibits *-zisin* to have the embedded subject Jiro as its antecedent.

To recapitulate so far, we have seen that *kare-zisin* can have non-local antecedent, only when the local subject is unavailable as an antecedent for *kare-*. It has also been observed that this unavailability of the local subject stems from the three reasons; (i) mismatch of  $\phi$ -features between *kare-* and its antecedent, (ii) *kare-*'s inability to take a quantified antecedent, and (iii) the pragmatic constraint on the conflicting empathy relationships.<sup>13</sup>

#### 4.3.1.2. Further Evidence for the Compositional Approach

I have not mentioned in the preceding section that the sentences in (62), where *kare-zisin* has a non-local antecedent, actually induce emphatic readings just like the sentences in (58). In this section, we will see that this fact leads us to an argument against the holistic approach and in favor of our compositional approach, with several auxiliary assumptions.

In order to achieve this goal, we first need to clarify the relationship between the syntactic and pragmatic components. It is plausible to assume that both of the components are autonomous, and that the LF representations are input to the pragmatic component. It is also plausible to assume that the pragmatic component plays a role of filtering out pragmatically undesirable representations, without ever saving the output from the syntactic component that has already been marked as ungrammatical.

Within the holistic approach, we can offer two different analyses of the fact that *kare-zisin* is interpreted either emphatically or non-emphatically. The first analysis assumes that Japanese lexicon contains just one *kare-zisin*, whose distribution is constrained by Condition A. Or alternatively, we may assume that in Japanese lexicon, there are two subtypes of *kare-zisin*: the emphatic *kare-zisin* and the non-emphatic *kare-zisin*. The first analysis, call it the *Holistic Analysis with 1 Kare-Zisin* (HA-1, for short), is untenable. To see this, let us consider the following:

- (76) a. John<sub>i</sub>-ga [Bill<sub>j</sub>-ga kare-zisin<sub>7, i/j</sub>-o aisiteiru] to itaa.  
John<sub>i</sub>-Nom [Bill<sub>j</sub>-Nom he-self<sub>D7, i/j</sub>-Acc love] that said  
'John<sub>i</sub> said that Bill<sub>j</sub> loves himself<sub>7, i/j</sub>.'

<sup>13</sup> It is possible for *kare-zisin* to have a non-local antecedent even if there is an intervening antecedent. This happens only when the intervening antecedent is also non-local (The local domain for *kare-zisin* is indicated by square brackets.):

- (i) Tanaka-moto-syushoo-wa sudeni taihosareteiru zibun-no hisyo-ga kensatukan-ni  
The.former.prime.minister.Tanaka-Top already arrested self<sub>N</sub>-Gen secretary-Nom prosecutor-Dat  
[*kare-zisin*-ga hanzai-ni kakawatteita] koto-o morasu-nodewa-naika-to simpaisiteiru.  
[he-self<sub>D</sub>-Nom crime-Dat involved] that-Acc let.out-be-may-that is.worried  
'The former prime minister Tanaka<sub>i</sub> is worried that his secretary<sub>j</sub>, who has already been arrested, may let out to the prosecutor the fact that he<sub>i/j</sub> himself was involved in the crime.'



- b. John<sub>i</sub>-wa [Bill<sub>j</sub>-ga kare-zisin<sub>i/\*j</sub>-o homete-kureta] koto-o  
 John<sub>i</sub>-Top [Bill<sub>j</sub>-Nom he-self<sub>D<sub>i/\*j</sub></sub>-Acc praise-gave] that-Acc  
 yorokonda.  
 was.glad  
 'John<sub>i</sub> was glad that Bill<sub>j</sub> had praised himself<sub>i/\*j</sub>.'

Under HA-1, *kare-zisin* is constrained by Condition A in the syntactic component. Hence, *kare-zisin* in both of the above sentences must be bound by *Bill*, but not by *John*, at the level of LF. Put differently, in (76a), *kare-zisin* takes *Bill*, but not *John*, as its antecedent at LF. And in (76b), contrary to the fact, *kare-zisin* takes *Bill*, but not *John*, as its antecedent at LF. The schematic LF representation for (76b) is given in the following:

- (77) John<sub>i</sub>-wa [Bill<sub>j</sub>-ga [kare-zisin]<sub>i/\*j</sub>-o ... kureta] ....

To obtain the desired result, we have to posit the following processes in the pragmatic component: (i) *Bill* and *kare-zisin* must be made non-coreferential. (ii) *John* and *kare-zisin* must be made coreferential. The first process is not problematic, because pragmatic processes are supposed to function as filters. But the second process is problematic, because its effect is to make acceptable the representation that has already been made ungrammatical in the syntactic component. This is impossible in the pragmatic component. Therefore, HA-1 cannot explain (76b), and is thus untenable.

Now, let us move on to the second analysis, call it the *Holistic Analysis with 2 Kare-Zisin's* (HA-2, for short). Under this approach, each sentence in (76) has two different derivations, i.e., one with the non-emphatic *kare-zisin*, and the other with the emphatic *kare-zisin* (I will use *KARE-ZISIN* for this usage.). The two different LF representations for each of the sentences are given below:

- (78) LF Representations for (76a)  
 a. LF Representation with Non-Emphatic *Kare-Zisin*  
 John<sub>i</sub>-ga [Bill<sub>j</sub>-ga [kare-zisin]<sub>i/\*j</sub>-o ...] ....  
 b. LF Representation with Emphatic *Kare-Zisin*  
 John<sub>i</sub>-wa [Bill<sub>j</sub>-ga [KARE-ZISIN]<sub>i/\*j</sub>-o ...] ....
- (79) LF Representations for (76b)  
 a. LF Representation with Non-Emphatic *Kare-Zisin*  
 John<sub>i</sub>-wa [Bill<sub>j</sub>-ga [kare-zisin]<sub>i/\*j</sub>-o ... kureta] ....  
 b. LF Representation with Emphatic *Kare-Zisin*  
 John<sub>i</sub>-wa [Bill<sub>j</sub>-ga [KARE-ZISIN]<sub>i/\*j</sub>-o ... kureta] ....

In (78a) and (79a) *kare-zisin* is non-emphatic, and obeys Condition A. On the other hand, I assume that *KARE-ZISIN* in (78b) and (79b), which is emphatic, does not obey Condition A. Instead, it obeys both Condition B and an optional condition which stipulates that *KARE-ZISIN* must be bound from outside its local domain.<sup>14</sup>

Let us now consider what happens in the pragmatic component. The following two pragmatic conditions seem to be relevant here:

<sup>14</sup> The second condition needs to be optional, since *KARE-ZISIN* can be used without an antecedent:

- (i) KARE-ZISIN-ga kuruma-o untensita.  
 he-self-Nom car-Acc drove  
 'He himself drove the car.'

- (80) a. *The Ban on Conflicting Empathy Foci (BCEF)*  
 A single sentence cannot contain logical conflicts in empathy relationships.  
 (Kuno and Kaburaki 1977: 632)
- b. *Emphatic Reflexive Condition (ERC)*  
 An emphatic reading of a referent of *X* is licensed only when its non-emphatic reading is unavailable.

The representation in (78a) is allowed in the pragmatic component. But the representation in (78b) is ruled out by ERC, because the representation in (78a) licenses a non-emphatic reading of a referent of *KARE-ZISIN*, which makes an emphatic reading unavailable. On the other hand, the representation in (79a) is ruled out by BCEF, because in (79a) *kare-zisin* empathizes more with *Bill*, but *kureta* empathizes more with *John*. Hence, a non-emphatic reading of a referent of *kare-zisin* is unavailable. The representation of (79b) satisfies both ERC and BCEF, because a non-emphatic reading of a referent of *kare-zisin* is unavailable, and because both *KARE-ZISIN* and *kureta* empathize more with *John*. Therefore, among the representations in (78) and (79), only (78a) and (79b) are well-formed in the pragmatic component. This is consistent with the fact.

It is, then, tempting to conclude that HA-2 is correct, and thus the holistic approach is on the right track. However, there is a severe conceptual problem with HA-2. To see this, observe the following:

- (81) a. (N.Y.-no) John<sub>i</sub>-wa [(L.A.-no) John<sub>j</sub>-ga [John-zisin]<sub>i/\*j</sub>-o hihansiteita]  
 (N.Y.-Gen) John<sub>i</sub>-Top [(L.A.-Gen) John<sub>j</sub>-Nom [John-self<sub>D</sub>]<sub>i/\*j</sub>-Acc criticized]  
 to itta.  
 that said  
 'John<sub>i</sub> in N.Y. said that John<sub>j</sub> in L.A. had criticized [John-self<sub>D</sub>]<sub>i/\*j</sub>.'
- b. (N.Y.-no) John<sub>i</sub>-wa [(L.A.-no) John<sub>j</sub>-ga [John-zisin]<sub>i/\*j</sub>-o homete-kureta]  
 (N.Y.-Gen) John<sub>i</sub>-Top [(L.A.-Gen) John<sub>j</sub>-Nom [John-self<sub>D</sub>]<sub>i/\*j</sub>-Acc praise-gave]  
 koto-o yorokonda.  
 that-Acc was.glad  
 'John<sub>i</sub> in N.Y. was glad that John<sub>j</sub> in L.A. had praised [John-self<sub>D</sub>]<sub>i/\*j</sub>.'
- (82) a. Tanaka-sensei<sub>i</sub>-wa [Suzuki-sensei<sub>j</sub>-ga [sensei-zisin]<sub>i/\*j</sub>-o hihansiteita]to itta.  
 Tanaka-teacher<sub>i</sub>-Top [Suzuki-teacher<sub>j</sub>-Nom [teacher-self<sub>D</sub>]<sub>i/\*j</sub>-Acc criticized] that said  
 'Mr. Tanaka<sub>i</sub> said that Mr. Suzuki<sub>j</sub> had criticized [teacher-self<sub>D</sub>]<sub>i/\*j</sub>.'
- b. Tanaka-sensei<sub>i</sub>-wa [Suzuki-sensei<sub>j</sub>-ga [sensei-zisin]<sub>i/\*j</sub>-o homete-kureta]  
 Tanaka-teacher<sub>i</sub>-Top [Suzuki-teacher<sub>j</sub>-Nom [teacher-self<sub>D</sub>]<sub>i/\*j</sub>-Acc praise-gave]  
 koto-o yorokonda.  
 that-Acc was.glad  
 'Mr. Tanaka<sub>i</sub> was glad that Mr. Suzuki<sub>j</sub> had praised [teacher-self<sub>D</sub>]<sub>i/\*j</sub>.'

Note that in (81) and (82) we obtain the same anaphoric pattern as we observed in (76). So under HA-2, we have to posit that the Japanese lexicon includes emphatic and non-emphatic subtypes of both *John-zisin* and *sensei-zisin*. If the list is limited to *kare-zisin*, *John-zisin*, and *sensei-zisin*, the redundancy may not be so problematic. But in fact, this list must include a huge number of lexical items whose form is *X-zisin*. For instance, we can replace *John* in *John-zisin* with any human names, and the resulting form can be substituted for *John-zisin* in (81). The redundancy is overwhelming, and therefore we can conclude that even HA-2 is untenable.

It is easy to see that our compositional approach is free from this problem. Under this approach, all we need to posit is that there are emphatic and non-emphatic *zisin* in the lexicon, and it is not necessary to specify that *kare-zisin*, *John-zisin*, and so on have two different subtypes. We call this approach the *Compositional Approach with 2 zisin's* (CA-2, for short). Obviously, CA-2 radically reduces the number of lexical items we

have to store in the lexicon. We can thus conclude that CA-2 is superior to HA-2, and therefore the compositional approach must be chosen over the holistic approach.

#### 4.3.1.3. *Kare-Zisin* and Quantified NP Antecedents

Our compositional approach predicts that *kare-* in *kare-zisin* displays exactly the same properties as *kare* within an NP domain. We have already seen in the preceding section that this is indeed the case with respect to Condition B. Now let us move on to another property which is shared by *kare-* in *kare-zisin* and *kare* within an NP domain.

It has been noted that the Japanese pronoun *kare*, unlike the English pronoun *he*, cannot be interpreted as a variable bound by a quantified antecedent. This can be seen in (83):

- (83) a. \*daremo<sub>i</sub>-ga [kare<sub>i</sub>-ga tensai da] to omotte iru.  
 everyone<sub>i</sub>-Nom [he<sub>i</sub>-Nom genius be] that think be  
 'Everyone<sub>i</sub> thinks that he<sub>i</sub> is a genius.'  
 b. \*dare<sub>i</sub>-ga [kare<sub>i</sub>-ga katta] to omotte iru no.  
 who<sub>i</sub>-Nom [he<sub>i</sub>-Nom won] that think be Q  
 'Who<sub>i</sub> thinks that he<sub>i</sub> won?'

However, Hoji(1991) points out that the more referential a quantified antecedent is, the more acceptable the bound/coreferential interpretation of *kare* becomes. Compare the sentences in (84):

- (84) a. \*dare<sub>i</sub>-ga [Mary-ga kare<sub>i</sub>-o butta to] itta no.  
 who<sub>i</sub>-Nom [Mary-Nom he<sub>i</sub>-Acc hit that] said Q  
 'Who<sub>i</sub> said that Mary had hit him<sub>i</sub>?'  
 b. ??[dono hito]<sub>i</sub>-ga [Mary-ga kare<sub>i</sub>-o butta to] itta no.  
 [which person]<sub>i</sub>-Nom [Mary-Nom he<sub>i</sub>-Acc hit that] said Q  
 'Which person<sub>i</sub> said that Mary had hit him<sub>i</sub>?'  
 c. ?[dono sakka]<sub>i</sub>-ga [Mary-ga kare<sub>i</sub>-o butta to] itta no.  
 [which writer]<sub>i</sub>-Nom [Mary-Nom he<sub>i</sub>-Acc hit that] said Q  
 'Which writer<sub>i</sub> said that Mary had hit him<sub>i</sub>?'  
 d. [dono nooberusyoo-zyusyoo-sakka]<sub>i</sub>-ga [Mary-ga kare<sub>i</sub>-o butta to] itta no.  
 [which Nobel Prize-winning-author]<sub>i</sub>-Nom [Mary-Nom he<sub>i</sub>-Acc hit that] said Q  
 'Which Nobel Prize-winning author<sub>i</sub> said that Mary had hit him<sub>i</sub>?'

Interestingly, if we replace *kare* with *kare-zisin* in (83) and (84), exactly the same pattern is obtained. This is a strong confirmation of our compositional approach. This is because if we do not equate *kare-* in *kare-zisin* with the pronoun *kare* within an NP, assuming *kare-zisin* is an anaphor and *kare* a pronoun, then there is no obvious reason why they behave exactly the same when they are forced to be construed with a quantified NP antecedent with a varying degree of referentiality. Put differently, the fact that the subtlety of the judgments reported in (84) is reproduced with *kare-zisin* can only be explained by the compositional approach. Note, in passing, that the use of the term 'explain' here is appropriate. What we are trying to 'explain' is not the fact that *kare* tends to resist being construed with a quantified NP antecedent, but the fact that *kare-* in *kare-zisin* and *kare* within an NP behave in exactly the same way. The latter fact indeed follows from, and hence is explained by, our compositional approach.

4.3.2. *pro-Zisin*4.3.2.1. Stylistic Conditions on the Usage of *pro-Zisin*

At first sight, *zisin* seems to be a bound morpheme, because as we have already seen, *zisin* is typically used with a complement NP [(85)], but does not seem to be used as an independent word, without an overt complement [(86)]:

- (85) kare-zisin, kanozyo-zisin, sore-zisin, zibun-zisin, Mary-zisin, etc.  
 he-self<sub>D</sub> she-self<sub>D</sub> it-self<sub>D</sub> self<sub>N</sub>-self<sub>D</sub> Mary-self<sub>D</sub>
- (86) a. Taro<sub>i</sub>-ga ??zisin<sub>i</sub>/zibun<sub>i</sub>-o nagutta.  
 Taro<sub>i</sub>-Nom self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Acc hit  
 'Taro<sub>i</sub> hit himself<sub>i</sub>.'
- b. Taro<sub>i</sub>-ga ??zisin<sub>i</sub>/zibun<sub>i</sub>-o kenasita.  
 Taro<sub>i</sub>-Nom self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Acc despised  
 'Taro<sub>i</sub> despised himself<sub>i</sub>.'
- c. Taro<sub>i</sub>-ga ??zisin<sub>i</sub>/zibun<sub>i</sub>-no kokyoo-ni kaetta.  
 Taro<sub>i</sub>-Nom self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Gen hometown-Dat returned  
 'Taro<sub>i</sub> returned to his<sub>i</sub> own hometown.'
- d. Taro<sub>i</sub>-ga ??zisin<sub>i</sub>/zibun<sub>i</sub>-ga baka-da to omotteiru.  
 Taro<sub>i</sub>-Nom self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Nom fool-be that think  
 'Taro<sub>i</sub> thinks that he<sub>i</sub> himself is a fool.'

I would like to claim, however, that the oddness observed in (86) has nothing to do with the syntactic component of Japanese grammar, but it is rather related to the following two factors:

- (87) a. Distinction between a formal style and an informal style  
 b. Distinction between an honorific style and a non-honorific style

More precisely, my claim is that *zisin* is a free morpheme, but can only be used in a formal style, or in an honorific style. The first factor can be shown by the contrast between (88) and (89), where the former is in an informal style, and the latter, in a formal style:

- (88) a. Anone, Taro<sub>i</sub>-ga ne \*zisin<sub>i</sub>/zibun<sub>i</sub>-o naguttan datte sa.  
 say Taro<sub>i</sub>-Nom you.know self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Acc hit I.hear you.know  
 'Say, I hear Taro<sub>i</sub> hit himself<sub>i</sub>.'
- b. Anone, Taro<sub>i</sub>-ga ne \*zisin<sub>i</sub>/zibun<sub>i</sub>-o kenasitan datte sa.  
 say Taro<sub>i</sub>-Nom you.know self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Acc criticized I.hear you.know  
 'Say, I hear Taro<sub>i</sub> criticized himself<sub>i</sub>.'
- c. Anone, Taro<sub>i</sub>-ga ne \*zisin<sub>i</sub>/zibun<sub>i</sub>-no kokyoo-ni kaettan datte sa.  
 say Taro<sub>i</sub>-Nom you.know self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Gen hometown-Dat returned I.hear you.know  
 'Say, I hear Taro<sub>i</sub> went back to his<sub>i</sub> hometown.'
- d. Anone, Taro<sub>i</sub>-ga ne \*zisin<sub>i</sub>/zibun<sub>i</sub>-ga baka-datte omotterun datte sa.  
 say Taro<sub>i</sub>-Nom you.know self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Nom fool-is think I.hear you.know  
 'Say, I hear Taro<sub>i</sub> thinks that he<sub>i</sub> is an idiot.'
- (89) a. Tanaka<sub>i</sub>-ga zisin<sub>i</sub>/zibun<sub>i</sub>-o ooda-suru koto-wa yurusareru koto dewa-nakatta.  
 Tanaka-Nom self<sub>D<sub>i</sub></sub>/self<sub>N<sub>i</sub></sub>-Acc hit-do that-Top be.permitted thing not.was  
 'It was prohibited that Tanaka<sub>i</sub> hit himself<sub>i</sub>.'

- b. Tanaka<sub>i</sub>-ga zisin<sub>i</sub>/zibun<sub>i</sub>-o hihan-suru koto-ga hituyoo-to-sareteita.  
 Tanaka<sub>i</sub>-Nom self<sub>Di</sub>/self<sub>Ni</sub>-Acc criticize-do that-Nom it.was.necessary  
 'It was necessary that Tanaka<sub>i</sub> criticized himself<sub>i</sub>.'
- c. Tanaka<sub>i</sub>-ga zisin<sub>i</sub>/zibun<sub>i</sub>-no kokyoo-ni kaette-simatta koto-o daremo-ga  
 Tanaka<sub>i</sub>-Nom self<sub>Di</sub>/self<sub>Ni</sub>-Gen hometown-Dat went.back that-Acc everyone-Nom  
 kooteetekini hyooka-siyoo-to-siteita.  
 positively was.trying.to.evaluate  
 'The fact that Tanaka<sub>i</sub> went back to his<sub>i</sub> hometown, everyone was trying to evaluate  
 it positively.'
- d. Tanaka<sub>i</sub>-ga zisin<sub>i</sub>/zibun<sub>i</sub>-ga titeki-de-nai koto-o ninsiki-siteiru.  
 Tanaka<sub>i</sub>-Nom self<sub>Di</sub>/self<sub>Ni</sub>-Nom intellectual-be-not that-Acc recognition-do  
 'Tanaka<sub>i</sub> recognizes that he<sub>i</sub> is unintellectual.'

Now let us turn to the second factor. Many Japanese nouns, adjectives, and adverbs can be turned into honorific forms or polite forms by prefixing *o-* or *go-*:

- |   |  |
|---|--|
| <p>(90) a. [Noun]<br/>         kuti ----&gt; o-kuti<br/>         'mouth'</p> <p>b. [Adjective]<br/>         utukusyii-----&gt; o-utukusyii<br/>         'beautiful'</p> <p>c. [Adverb]<br/>         hayaku----&gt; o-hayaku<br/>         'fast'</p> | <p>(91) a. [Noun]<br/>         kainin ----&gt; go-kainin<br/>         'pregnancy'</p> <p>b. [Adjective]<br/>         rippaana ----&gt; go-rippaana<br/>         'splendid'</p> <p>c. [Adverb]<br/>         yukkuri ----&gt; go-yukkuri<br/>         'slowly'</p> |
|---|--|

The two kinds of anaphors in Japanese also can be turned into honorific forms:

- (92) a. zibun ----> go-zibun  
 b. zisin ----> go-zisin

I will assume that *o/go*-prefixation takes place in the lexicon, and that the only contribution of the prefix is to add the honorific meaning to the base, preserving all the syntactic and semantic information of *zisin*. This is indeed the case, as can be seen in (93):

- (93) a. [<sub>DP</sub> [<sub>NP</sub> Tanaka-sensei] go-zisin]  
           [<sub>DP</sub> [<sub>NP</sub> Tanaka-teacher] Hon-self<sub>D</sub>]
- b. \*tiisana go-zisin/ \*kinoo-no go-zisin  
       small Hon-self<sub>D</sub> yesterday-Gen Hon-self<sub>D</sub>
- c. \*go-zisin-ra  
       Hon-self<sub>D</sub>-Pl

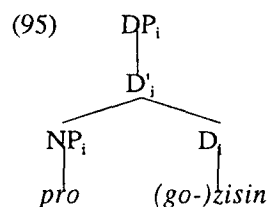
The examples in (93) show the following: (i) *go-zisin* can take an NP-complement, (ii) *go-zisin* cannot be modified by adjectives or possessives, and (iii) *go-zisin* cannot be suffixed with a plural morpheme. Therefore, it is reasonable to assume that we can use *go-zisin* in order to investigate the properties of *zisin*. If this assumption is correct, we have a very good probe into the behavior of *zisin*. This is because, while the use of *zisin* is constrained by the stylistic factor which is not so easy to control sometimes, we can easily construct sentences in which *go-zisin* is well-formed. Compare the sentences in (94) with those in (86):

- (94) a. Tanaka-sensei<sub>i</sub>-ga go-zisin<sub>i</sub>-o nagu-rare-ta.  
 Tanaka-teacher<sub>i</sub>-Nom Hon-self<sub>Di</sub>-Acc hit-Hon-Past  
 'Mr. Tanaka hit himself.'
- b. Tanaka-sensei<sub>i</sub>-ga go-zisin<sub>i</sub>-o kenas-are-ta.  
 Tanaka-teacher<sub>i</sub>-Nom Hon-self<sub>Di</sub>-Acc criticize-Hon-Past  
 'Mr. Tanaka criticized himself.'
- c. Tanaka-sensei<sub>i</sub>-ga go-zisin<sub>i</sub>-no kokyoo-ni kaer-are-ta.  
 Tanaka-teacher<sub>i</sub>-Nom Hon-self<sub>Di</sub>-Gen hometown-Dat return-Hon-Past  
 'Mr. Tanaka went back to his hometown.'
- d. Tanaka-sensei<sub>i</sub>-ga go-zisin<sub>i</sub>-ga baka-da to omotte-orare-ru.  
 Tanaka-teacher<sub>i</sub>-Nom Hon-self<sub>Di</sub>-Nom fool-be that think-Hon-Pres  
 'Mr. Tanaka thinks that he is an idiot.'

The sentences in (94) show that as long as we put *go-zisin* into an appropriate honorific context, it can be used without any complement. This fact, together with the fact given in (89) indicates that *(go-)zisin* is a free, rather than a bound, morpheme.

#### 4.3.2.2. *pro-Zisin* and Condition B

I will assume that *(go-)zisin* in sentences such as those in (89) and (94) takes *pro* as its complement:



If this assumption is correct, we can predict that *(go-)zisin* behaves exactly the same as *kare-zisin*, because both have a pronominal as a complement. This prediction is indeed borne out.

First, just like *zisin* in *kare-zisin*, *(go-)zisin* satisfies Condition A by having a local A-binder in its complement.

Second, since the local domain of *pro* is the first DP above it, and *pro* is free inside it, *(go-)zisin* can have an antecedent in the preceding sentence, as shown by the following sentences:

- (96) a. A: Tanaka-sensei<sub>i</sub>-no otaku-ni-wa hisasiku ukagatte-nai-ne.  
 Tanaka-teacher<sub>i</sub>-Gen house-Dat-Top for.a.long.time go.to-not  
 'We didn't go to Mr. Tanaka's place for a long time.'
- B: Zitu-wa kinoo [*pro*<sub>i</sub>-go-zisin]-ga boku-no ie-ni tazunete-kor-are-ta-yo.  
 in.fact yesterday [*pro*<sub>i</sub>-Hon-self<sub>D</sub>]-Nom I-Gen house-Dat visit-come-Hon-Past  
 'In fact, yesterday, he<sub>i</sub> came to visit my place.'
- b. dare-no syoogen-ga Taro<sub>i</sub>-ni yuuri-ni narunodearooka.  
 who-Gen testimony-Nom Taro<sub>i</sub>-Dat favorable-Dat become.would  
 'Who's testimony would be favorable to Taro<sub>i</sub>?'  
 [*pro*<sub>i</sub>-zisin]-no syoogen-wa saibantyoo-ga saiyoosinaidearoo.  
 [*pro*<sub>i</sub>-self<sub>D</sub>]-Gen testimony-Top chief.judge-Nom adopt-do.not.will  
 'His<sub>i</sub> testimony, the chief judge won't accept it.'

Third, *pro-(go-)zisin* has no subject-orientation, because *pro* is free to pick up any NP outside its local domain:

- (97) a. Hanako-wa Tanaka-sensei<sub>i</sub>-ni [*pro*<sub>i</sub>-go-zisin]-no syasin-o okutte-sasiageta.  
 Hanako-Top Tanaka-teacher<sub>i</sub>-Dat [*pro*<sub>i</sub>-Hon-self<sub>D</sub>]-Gen photo-Acc send-gave  
 'Hanako sent Mr. Tanaka<sub>i</sub> his<sub>i</sub> photo.'  
 b. Hanako-wa Tanaka-sensei<sub>i</sub>-ni [*pro*<sub>i</sub>-go-zisin]-nituite-no hanasi-o  
 Hanako-Top Tanaka-teacher-Dat [*pro*<sub>i</sub>-Hon-self<sub>D</sub>]-about-Gen story-Acc  
 site-sasiageta.  
 do-gave  
 'Hanako told Mr. Tanaka<sub>i</sub> about the story of himself<sub>i</sub>.'

This construal is not enforced by the special mechanism of honorification, because if we replace *pro-(go-)zisin* with *go-zibun* in (97), the sentences become less acceptable:

- (98) a. ??Hanako-wa Tanaka-sensei<sub>i</sub>-ni [go-zibun<sub>i</sub>]-no syasin-o okutte-sasiageta.  
 Hanako-Top Tanaka-teacher<sub>i</sub>-Dat [Hon-self<sub>D<sub>i</sub></sub>]-Gen photo-Acc send-gave  
 'Hanako sent Mr. Tanaka<sub>i</sub> his<sub>i</sub> photo.'  
 b. ??Hanako-wa Tanaka-sensei<sub>i</sub>-ni [go-zibun<sub>i</sub>]-nituite-no hanasi-o site-sasiageta.  
 Hanako-Top Tanaka-teacher<sub>i</sub>-Dat [Hon-self<sub>D<sub>i</sub></sub>]-about-Gen story-Acc do-gave  
 'Hanako told Mr. Tanaka<sub>i</sub> about the story of himself<sub>i</sub>.'

Fourth, *pro-(go-)zisin* can have a non-local antecedent outside of the smallest AGRsP containing it:

- (99) Tanaka-sensei<sub>i</sub>-wa [Hanako-ga [*pro*<sub>i</sub>-go-zisin]-no ronbun-o hitotumo yondeinai]  
 Tanaka-teacher<sub>i</sub>-Top [Hanako-Nom [*pro*<sub>i</sub>-Hon-self<sub>D</sub>]-Gen paper-Acc any did.not.read]  
 to omotte-orareru.  
 that think-Hon  
 'Mr. Tanaka<sub>i</sub> thinks that Hanako did not read any of his<sub>i</sub> papers.'

#### 4.3.2.3. *pro-Zisin* and Quantified NP Antecedents

If *(go-)zisin* takes *pro* as its complement, *(go-)zisin* is expected to be construed with a quantified NP antecedent. This is because, unlike overt pronouns like *kare*, *pro* in Japanese can be used as a variable:

- (100) a. daremo<sub>i</sub>-ga [*pro*<sub>i</sub> tensai-da] to omotteiru.  
 Everyone<sub>i</sub>-Nom [*pro*<sub>i</sub> genius-be] that think  
 'Everyone<sub>i</sub> thinks that he<sub>i</sub>/she<sub>i</sub> is a genius.'  
 b. dare<sub>i</sub>-ga [*pro*<sub>i</sub> tensa<sub>i</sub>-da] to omotteiru no.  
 who<sub>i</sub>-Nom [*pro*<sub>i</sub> genius-be] that think Q  
 'Who<sub>i</sub> thinks he<sub>i</sub>/she<sub>i</sub> is a genius?'

The expectation is justified by the sentences in (101):

- (101) a. donatamo<sub>i</sub> [*pro*<sub>i</sub>-go-zisin]-no o-karada-o taisetuni sareteimasu.  
 Everyone<sub>i</sub>(Hon) [*pro*<sub>i</sub>-Hon-self<sub>D</sub>]-Gen Hon-body-Acc precious make  
 'Everyone<sub>i</sub> takes good care of himself<sub>i</sub>/herself<sub>i</sub>'

- (101) a. donatamo<sub>i</sub> [pro<sub>i</sub>-go-zisin]-no o-karada-o taisetuni sareteimasu.  
 Everyone<sub>i</sub>(Hon) [pro<sub>i</sub>-Hon-self<sub>D</sub>]-Gen Hon-body-Acc precious make  
 'Everyone<sub>i</sub> takes good care of himself<sub>i</sub>/herself<sub>i</sub>'  
 b. donata<sub>i</sub>-ga [pro<sub>i</sub>-go-zisin]-o suisen-saretanodesu ka.  
 who<sub>i</sub>(Hon)-Nom [pro<sub>i</sub>-Hon-self<sub>D</sub>]-Acc recommend-made Q  
 'Who<sub>i</sub> recommended herself<sub>i</sub>/himself<sub>i</sub>.'

The fact given in (101), then, is consistent with the analysis which posits *pro* inside a DP headed by (*go*-)zisin.

#### 4.3.3. *Taro/Sensei/Aitu-Zisin*

In this section I will consider the syntax of names, social titles, and epithets when they are used as *X* in *X-zisin*. As has been discussed in 3.1.1., these nominals are assigned the feature [-a], just like pronominals, and thus are subject to Condition B, rather than Condition C. In the following, I will use *Taro/sensei/aitu-* to indicate *Taro/sensei/aitu* in both [<sub>DP</sub> *Taro/sensei/aitu-zisin*] and [<sub>NP</sub> *Taro/sensei/aitu-no N*].

The first prediction our compositional approach makes is that *Taro/sensei/aitu-* can be used without any antecedent in its local domain:

- (102) a. [<sub>DP</sub> *Taro/sensei/aitu-zisin*]-ga Tokyo-ni itta.  
 [<sub>DP</sub> *Taro/teacher/guy-self<sub>D</sub>*]-Nom Tokyo-Dat went  
 'Taro/The teacher/The guy himself went to Tokyo.'  
 b. [<sub>NP</sub> *Taro/sensei/aitu-no haha*]-ga Tokyo-ni itta.  
 [<sub>NP</sub> *Taro/teacher/guy-Gen mother*]-Nom Tokyo-Dat went  
 'Taro/The teacher/The guy's mother went to Tokyo.'

Second, *Taro/sensei/aitu-* has no subject-orientation, since *Taro/sensei/aitu-* is allowed to coindex with any NP outside of its local domain:

- (103) a. (Tokyo-no) Taro<sub>i</sub>-ga (Osaka-no) Taro<sub>j</sub>-ni [<sub>DP</sub> *Taro<sub>ij</sub>-zisin*]-nituite hanasita.  
 (Tokyo-Gen) Taro<sub>i</sub>-Nom (Osaka-Gen) Taro<sub>j</sub>-Dat [<sub>DP</sub> *Taro<sub>ij</sub>-self<sub>D</sub>*]-about talked  
 'Taro<sub>i</sub> in Tokyo talked to Taro<sub>j</sub> in Osaka about Taro<sub>ij</sub> himself.'  
 b. (Tokyo-no) Taro<sub>i</sub>-ga (Osaka-no) Taro<sub>j</sub>-ni [<sub>NP</sub> *Taro<sub>ij</sub>-no haha*]-nituite hanasita.  
 (Tokyo-Gen) Taro<sub>i</sub>-Nom (Osaka-Gen) Taro<sub>j</sub>-Dat [<sub>NP</sub> *Taro<sub>ij</sub>-Gen mother*]-about talked  
 'Taro<sub>i</sub> (in Tokyo) talked to Taro<sub>j</sub> (in Osaka) about Taro<sub>ij</sub>'s mother.'  
 (104) a. Tanaka<sub>i</sub> sensei-ga Suzuki<sub>j</sub> sensei-ni [<sub>DP</sub> *sensei<sub>ij</sub>-zisin*]-nituite hanasita.  
 Tanaka<sub>i</sub> teacher-Nom Suzuki<sub>j</sub> teacher-Dat [<sub>DP</sub> *teacher<sub>ij</sub>-self<sub>D</sub>*]-about talked  
 'Mr. Tanaka<sub>i</sub> talked to Mr. Suzuki<sub>j</sub> about the teacher<sub>ij</sub> himself.'  
 b. Tanaka<sub>i</sub> sensei-ga Suzuki<sub>j</sub> sensei-ni [<sub>NP</sub> *sensei<sub>ij</sub>-no haha*]-nituite  
 Tanaka<sub>i</sub> teacher-Nom Suzuki<sub>j</sub> teacher-Dat [<sub>NP</sub> *teacher<sub>ij</sub>-Gen mother*]-about  
 hanasita.  
 talked  
 'The teacher Tanaka<sub>i</sub> talked to the teacher Suzuki<sub>j</sub> about the teacher<sub>ij</sub>'s mother.'  
 (105) a. (Tokyo-no) aitu<sub>i</sub>-ga (Osaka-no) aitu<sub>j</sub>-ni [<sub>DP</sub> *aitu<sub>ij</sub>-zisin*]-nituite  
 (Tokyo-Gen) the.guy<sub>i</sub>-Nom (Osaka-Gen) the.guy<sub>j</sub>-Dat [<sub>DP</sub> *the.guy<sub>ij</sub>-self<sub>D</sub>*]-about  
 hanasita.  
 talked  
 'The guy<sub>i</sub> in Tokyo talked to the guy<sub>j</sub> in Osaka about the guy<sub>ij</sub> himself.'



- b. (Tokyo-no) *aitu<sub>i</sub>*-ga (Osaka-no) *aitu<sub>j</sub>*-ni [<sub>NP</sub> *aitu<sub>ij</sub>*-no haha]-nituite  
 (Tokyo-Gen) the.guy<sub>i</sub>-Nom (Osaka-Gen) the.guy<sub>j</sub>-Dat [<sub>NP</sub> the.guy<sub>ij</sub>-Gen mother]-about  
 hanasita.  
 talked  
 'The guy<sub>i</sub> in Tokyo talked to the guy<sub>j</sub> in Osaka about the guy<sub>ij</sub>'s mother.'

Third, *Taro/sensei/aitu-* can have a non-local antecedent outside the smallest IP containing *Taro/sensei/aitu-*. This is because *Taro/sensei/aitu-* is subject to Condition B, which is satisfied in its local domain:

- (106) a. *Taro<sub>i</sub>*-wa [<sub>IP</sub> *Jiro*-ga [<sub>DP</sub> *Taro<sub>i</sub>*-zisin]-no kako-o tyoosasiteiru]-to  
*Taro<sub>i</sub>*-Top [<sub>IP</sub> *Jiro*-Nom [<sub>DP</sub> *Taro<sub>i</sub>*-self<sub>D</sub>]-Gen past-Acc be.investigating]-that  
 omotteiru.  
 thinks  
 'Taro<sub>i</sub> thinks that Jiro is investigating Taro<sub>i</sub>'s own past.'
- b. *Taro<sub>i</sub>*-wa [<sub>IP</sub> *Jiro*-ga [<sub>NP</sub> *Taro<sub>i</sub>*-no haha]-no kako-o tyoosasiteiru]-to  
*Taro<sub>i</sub>*-Top [<sub>IP</sub> *Jiro*-Nom [<sub>NP</sub> *Taro<sub>i</sub>*-Gen mother]-Gen past-Acc be.investigating]-that  
 omotteiru.  
 thinks  
 'Taro<sub>i</sub> thinks that Jiro is investigating Taro<sub>i</sub>'s mother's past.'
- (107) a. *Tanaka<sub>k</sub>* sensei-wa [<sub>IP</sub> *Jiro*-ga [<sub>DP</sub> sensei<sub>i</sub>-zisin]-no kako-o  
*Tanaka<sub>k</sub>* teacher-Top [<sub>IP</sub> *Jiro*-Nom [<sub>DP</sub> teacher<sub>i</sub>-self<sub>D</sub>]-Gen past-Acc  
 tyoosasiteiru]-to omotteiru.  
 be.investigating]-that thinks  
 'Mr. Tanaka<sub>k</sub> thinks that Jiro is investigating the teacher<sub>i</sub>'s own past.'
- b. *Tanaka<sub>k</sub>* sensei-wa [<sub>IP</sub> *Jiro*-ga [<sub>NP</sub> sensei<sub>i</sub>-no haha]-no kako-o  
*Tanaka<sub>k</sub>* teacher-Top [<sub>IP</sub> *Jiro*-Nom [<sub>NP</sub> teacher<sub>i</sub>-Gen mother]-Gen past-Acc  
 tyoosasiteiru]-to omotteiru.  
 be.investigating]-that thinks  
 'Mr. Tanaka<sub>k</sub> thinks that Jiro is investigating the teacher<sub>i</sub>'s mother's past.'
- (108) a. *aitu<sub>i</sub>*-wa [<sub>IP</sub> *Jiro*-ga [<sub>DP</sub> *aitu<sub>i</sub>*-zisin]-no kako-o tyoosasiteiru]-to  
 the.guy<sub>i</sub>-Top [<sub>IP</sub> *Jiro*-Nom [<sub>DP</sub> the.guy<sub>i</sub>-self<sub>D</sub>]-Gen past-Acc be.investigating]-that  
 omotteiru.  
 thinks  
 'The guy<sub>i</sub> thinks that Jiro is investigating the guy<sub>i</sub>'s own past.'
- b. *aitu<sub>i</sub>*-wa [<sub>IP</sub> *Jiro*-ga [<sub>NP</sub> *aitu<sub>i</sub>*-no haha]-no kako-o  
 the.guy<sub>i</sub>-Top [<sub>IP</sub> *Jiro*-Nom [<sub>NP</sub> the.guy<sub>i</sub>-Gen mother]-Gen past-Acc  
 tyoosasiteiru]-to omotteiru.  
 be.investigating]-that thinks  
 'The guy<sub>i</sub> thinks that Jiro is investigating the guy<sub>i</sub>'s mother's past.'

#### 4.3.4. *Zibun-Zisin*

This section will provide evidence showing that the properties of *zibun-zisin* entirely follows from its component parts: *zibun* and *zisin*. This position sharply contrasts with the position taken by Aikawa (1993, 1994), where she argues that *zibun-zisin*, which is a reflexivizer anaphor, must be distinguished from the non-reflexivizer anaphor *zibun*. In other words, she tries to establish that there are properties of *zibun-zisin* which cannot be reduced to its component parts. If her claim is correct, then we cannot maintain our compositional

approach, of course. But as we shall see, the arguments she used in favor of her claim are, in fact, consistent with our analysis, and moreover, I will show that there are a lot of commonalities between *zibun-zisin* and *zibun*, which are explained naturally only by our compositional approach.

#### 4.3.4.1. *Zibun* and *Zibun-Zisin* with a QP/WH Antecedent

The first difference between *zibun-zisin* and *zibun* that Aikawa (1994) points out can be shown by the contrasts between (109) and (110):

- (109) a. ?\*dareka<sub>i</sub>-ga zibun<sub>i</sub>-o nagutta.  
 someone<sub>i</sub>-Nom self<sub>Ni</sub>-Acc hit  
 'Someone<sub>i</sub> hit himself<sub>i</sub>.'
- b. ?\*daremo<sub>i</sub>-ga zibun<sub>i</sub>-o hagemasita.  
 everyone<sub>i</sub>-Nom self<sub>Ni</sub>-Acc encouraged  
 'Everyone<sub>i</sub> encouraged himself<sub>i</sub>.'
- c. ?\*dare<sub>i</sub>-ga zibun<sub>i</sub>-o taihosita no.  
 who<sub>i</sub>-Nom self<sub>Ni</sub>-Acc arrested Q  
 'Who<sub>i</sub> arrested himself<sub>i</sub>?'
- (110) a. dareka<sub>i</sub>-ga [zibun-zisin]<sub>i</sub>-o nagutta.  
 Someone<sub>i</sub>-Nom [self<sub>N</sub>-self<sub>D</sub>]<sub>i</sub>-Acc hit  
 'Someone<sub>i</sub> hit himself<sub>i</sub>.'
- b. daremo<sub>i</sub>-ga [zibun-zisin]<sub>i</sub>-o hagemasita.  
 everyone<sub>i</sub>-Nom [self<sub>N</sub>-self<sub>D</sub>]<sub>i</sub>-Acc encouraged  
 'Everyone<sub>i</sub> encouraged himself<sub>i</sub>.'
- c. dare<sub>i</sub>-ga [zibun-zisin]<sub>i</sub>-o taihosita no.  
 who<sub>i</sub>-Nom [self<sub>N</sub>-self<sub>D</sub>]<sub>i</sub>-Acc arrested Q  
 'Who<sub>i</sub> arrested himself<sub>i</sub>?' (Aikawa 1994: 3)

According to Aikawa, *zibun-zisin* as a whole must be treated as an anaphor. This non-compositional, holistic approach to *zibun-zisin* gives us the following generalization about the difference given above:

#### (111) Aikawa's Generalization 1-a

*Zibun* cannot be locally bound, but *zibun-zisin* can.

Further, the following data show that when embedded in an NP or a clause, *zibun* can be bound by a QP/WH antecedent:

- (112) a. dareka<sub>i</sub>-ga [<sub>NP</sub> zibun<sub>i</sub>-no kodomo]-o nagutta.  
 Someone<sub>i</sub>-Nom [<sub>NP</sub> self<sub>Ni</sub>-Gen child]-Acc hit  
 'Someone<sub>i</sub> hit self<sub>i</sub>'s child.'
- b. dare<sub>i</sub>-ga [<sub>NP</sub> zibun<sub>i</sub>-no kodomo]-o nagutta no?  
 who-Nom [<sub>NP</sub> self<sub>Ni</sub>-Gen child]-Acc hit Q  
 'Who<sub>i</sub> hit self<sub>i</sub>'s child?'
- (113) a. dareka<sub>i</sub>-ga [<sub>CP</sub> [<sub>IP</sub> John-ga zibun<sub>i</sub>-o nagutta] to] itta.  
 someone<sub>i</sub>-Nom [<sub>CP</sub> [<sub>IP</sub> John-Nom self<sub>Ni</sub>-Acc hit] that] said  
 'Someone<sub>i</sub> said that John hit self<sub>i</sub>'

- b. dare<sub>i</sub>-ga [<sub>CP</sub> [<sub>IP</sub> John-ga zibun<sub>i</sub>-o tunetta] to] itta no.  
 who<sub>i</sub>-Nom [<sub>CP</sub> [<sub>IP</sub> John-Nom self<sub>Ni</sub>-Acc pinched] that] said Q  
 'Who<sub>i</sub> said that John pinched self<sub>i</sub>?'

(Aikawa 1994: 4)

This set of data supports the second half of Aikawa's Generalization 1:

(114) *Aikawa's Generalization 1-b*

*Zibun* can be non-locally bound.

It is now obvious that in Aikawa's generalization, both *zibun* and *zibun-zisin* must be mentioned, because they are two different anaphors. But once we realize that *zibun-zisin* is actually a DP, which forms a local domain for *zibun*-, we need not stipulate anything about *zibun-zisin*. Instead, all we need is to formulate a generalization on *zibun*-binding, as is given in (115):

(115) *Generalization on 'Zibun'-Binding*

*Zibun* can be non-locally bound, but cannot be locally bound.

In sum, the compositional approach not only accounts for the same range of data as Aikawa's holistic approach, but also lets us make the more concise generalization given in (115), where we need not refer to *zibun-zisin*.

4.3.4.2. *Zibun* and *Zibun-Zisin* with a Referential Antecedent

Observe the contrast in grammaticality of the following sentences, where a numeral quantifier is used to pick out only the coreference reading of *zibun* and *zibun-zisin* (*Cl* in the gloss stands for classifier.):

- (116) a. John<sub>i</sub>-wa (kagami-ni) 3-nin-no zibun<sub>i</sub>-o mita.  
 John<sub>i</sub>-Top (mirror-Dat) 3-Cl-Gen self<sub>Ni</sub>-Acc saw  
 'John<sub>i</sub> saw 3 self<sub>Ni</sub> in the mirror.'  
 b. \*John<sub>i</sub>-wa (kagami-ni) 3-nin-no [zibun-zisin]<sub>i</sub>-o mita.  
 John<sub>i</sub>-Top (mirror-Dat) 3-Cl-Gen [self<sub>N</sub>-self<sub>D</sub>]<sub>i</sub>-Acc saw  
 'John<sub>i</sub> saw 3 [self<sub>N</sub>-self<sub>D</sub>]<sub>i</sub> in the mirror.'  
 c. \*John<sub>i</sub>-wa minna-ni [<sub>CP</sub> [<sub>IP</sub> Mary-ga kagami-ni 3-nin-no zibun<sub>i</sub>]-o mita]  
 John<sub>i</sub>-Top everyone-Dat [<sub>CP</sub> [<sub>IP</sub> Mary-Nom mirror-Dat 3-Cl-Gen self<sub>Ni</sub>]-Acc saw]  
 to] itta.  
 that] said  
 'John<sub>i</sub> said to everyone that May saw 3 self<sub>Ni</sub> in the mirror.'

(Aikawa 1994: 6, 7)

In (116a, b), *zibun* and *zibun-zisin* have a referential NP as a local antecedent. In (116c), *zibun* has a non-local antecedent. Aikawa (1994) draws a generalization from (116):

(117) *Aikawa's Generalization 2*

*Zibun* can enter into a coreference relationship with its local antecedent whereas *zibun-zisin* cannot.

If we assume the compositional approach, we can simplify the generalization by getting rid of the statement concerning *zibun-zisin*, because once construed as a DP, *zibun-zisin* in (116b) constitutes the local domain for *zibun*-inside. The simplified generalization is given in (118):

(118) *Generalization on the Coreference Reading of 'Zibun'*

*Zibun* can only enter into a coreference relationship with its local antecedent.

Here again, it is our compositional approach that can make a simplified generalization.

Aikawa also cites the data which require more sophisticated analysis of the construal of *zibun*:

- (119) ?\*[<sub>NP</sub> John<sub>i</sub>-to Mary<sub>j</sub>]-ga zibun<sub><i,j></sub>-o hagemasita/nagutta.  
           [<sub>NP</sub> John<sub>i</sub>-and Mary<sub>j</sub>]-Nom self<sub>N<i,j></sub>-Acc encouraged/hit  
           'John<sub>i</sub> encouraged himself<sub>i</sub> and Mary<sub>j</sub> encouraged herself<sub>j</sub>./ John<sub>i</sub> hit himself<sub>i</sub> and  
           Mary<sub>j</sub> hit herself<sub>j</sub>.'  
 (120) John<sub>i</sub>-ga zibun<sub>i</sub>-o hagemasita/nagutta.  
           John<sub>i</sub>-Nom self<sub>N<sub>i</sub></sub>-Acc encouraged/hit  
           'John<sub>i</sub> encouraged/hit himself<sub>i</sub>.'

In order to capture why (119) is ungrammatical, she introduces the following generalization:

(121) *Aikawa's Generalization 3*

*Zibun* participates in coreference by evoking only a guise of an atomic individual, not a guise of a collective figure.

(119) is ungrammatical, because *zibun* cannot evoke a guise of a collective figure *John-to Mary* 'John and Mary'. I adopt (121) without modification. Further, she notices that if *zibun* is non-locally bound and used as a bound variable (cf. (115)), it can have a conjoined NP as its antecedent:

- (122) a. [<sub>NP</sub> John<sub>i</sub>-to Mary<sub>j</sub>]-ga [<sub>NP</sub> zibun<sub><i,j>/\*<i+j></sub>-no uti]-o tateta.  
           [<sub>NP</sub> John<sub>i</sub>-and Mary<sub>j</sub>]-Nom [<sub>NP</sub> self<sub>N<i,j>/\*<i+j></sub>-Gen house]-Acc built  
           'John<sub>i</sub> and Mary<sub>j</sub> built their<sub><i,j>/\*<i+j></sub> house.'  
           (<the distributive reading/\*the group reading>)  
       b. [<sub>NP</sub> John<sub>i</sub>-to Mary<sub>j</sub>]-ga [<sub>CP</sub>[<sub>IP</sub> Bill-ga zibun<sub><i,j>/\*<i+j></sub>-o semeta]  
           [<sub>NP</sub> John<sub>i</sub>-and Mary<sub>j</sub>]-Nom [<sub>CP</sub>[<sub>IP</sub> Bill-Nom self<sub>N<i,j>/\*<i+j></sub>-Acc blamed]  
           to] itta.  
           that] said  
           'John<sub>i</sub> and Mary<sub>j</sub> said that Bill blamed self<sub><i,j>/\*<i+j></sub>.'  
           (<the distributive reading/\*the group reading>)

Note that the only available reading in (122) is the distributive reading, not the group reading. This means that a bound variable like *zibun* can 'range over each individual of the conjunct NP antecedent (Aikawa 1994: 8).' Put differently, the generalization we get is given in (123), which we also adopt:

(123) *Aikawa's Generalization 4*

If a variable is bound by the conjunct NP antecedent, it only has the distributive reading, not the group reading.

Under both Aikawa's holistic approach and our compositional approach, the generalization (123) predicts that *zibun-zisin* bound by the conjunct NP antecedent is grammatical only on the distributive reading. This prediction is actually borne out:

- (124) [<sub>NP</sub> John<sub>i</sub>-to Mary<sub>j</sub>]-ga    *zibun-zisin*<sub><ij>/\*<i+j></sub>-o    hagemasita/tunetta.  
       [<sub>NP</sub> John<sub>i</sub>-and Mary<sub>j</sub>]-Nom   self<sub>N</sub>-self<sub>D<ij>/\*<i+j></sub>Acc    encouraged/pinched  
       'Jonni and Maryj encouraged/pinched themselves<sub><ij>/\*<i+j></sub>.'  
       (<the distributive reading/\*the group reading>)

Under the holistic approach, *zibun-zisin*, being a bound variable as a whole, can only have the distributive reading, as predicted. Under the compositional approach, *zibun-* inside *zibun-zisin* is a bound variable, thereby receiving only the distributive reading.

#### 4.3.4.3. Commonalities between *Zibun* and *Zibun-Zisin*

In this section, I will point out three commonalities between *zibun* and *zibun-zisin*. The point I want to make here is that the existence of these commonalities renders the holistic approach impossible to maintain.

First, both *zibun* and *zibun-zisin* can be used as a bound variable. This fact is more important than is usually believed, because not all reflexives have this usage. For instance, as we discussed in 4.3.1.3., *kare-zisin* 'him-self' cannot be used as a bound variable. And, *kanozyo-zisin* 'her-self', *aitu-zisin* 'that guy-self' do not have a bound variable usage, either. But interestingly, *sore-zisin* 'it-self', and *soitu-zisin* 'the guy-self' do have a bound variable usage. Under the compositional approach, this rather peculiar situation can be naturally explained. To see this, consider the following diagram, where *X* and *X-zisin* are contrasted with respect to whether or not it can be used as a bound variable:

(125)

<i>X</i>	<i>Bound Variable</i>	<i>X-zisin</i>	<i>Bound Variable</i>
kare	*	kare-zisin	*
kanozyo	*	kanozyo-zisin	*
aitu	*	aitu-zisin	*
zibun	OK	zibun-zisin	OK
sore	OK	sore-zisin	OK
soitu	OK	soitu-zisin	OK

The correct generalization can easily be drawn from (125):

- (126) *X-zisin* can be used as a bound variable only when *X-* alone can be used as such.

Under the compositional approach, this generalization follows from the fact that *X-zisin* is just a phrase which is composed of *X* and *zisin*. On the other hand, the holistic approach makes the generalization (126) a sheer coincidence. In other words, under the latter approach, we have to list both *X* and *X-zisin* in the lexicon and specify whether or not each item has a bound variable usage.

The second commonality between *zibun* and *zibun-zisin* is subject-orientation. This property is most naturally captured by the compositional approach. All we need do is specify *zibun* has this property. Under the holistic approach, we have to specify both *zibun* and *zibun-zisin* have the property.

The third commonality between the two reflexives is their plural forms: plural morphemes *-ra*, and *-tati* can be attached to *zibun(-)*:

(127) a.	[singular]	[plural]
	<i>zibun</i>	<i>zibun-ra</i>
b.	[singular]	[plural]
	<i>zibun-zisin</i>	<i>zibun-ra-zisin</i>
	<i>zibun-tati</i>	<i>zibun-tati-zisin</i>

This property is also explicable by the compositional approach. Under this approach, *zibun* is specified as being able to be attached by *-ra*, or *-tati*. This explains why *-ra*, or *-tati* cannot be attached to *zibun-zisin*:

(128)	[singular]	[plural]
	<i>zibun-zisin</i>	* <i>zibun-zisin-ra</i>
		* <i>zibun-zisin-tati</i>

Under the holistic approach, we have to specify a plural morpheme must appear between *zibun* and *zisin*, not after *zibun-zisin*.

#### 4.4. *X-Zisin* and the Linking Theory

In this section, I will present another piece of evidence for our compositional approach by showing that *X* in *X-zisin* behaves just like *X* in an ordinary phrasal domain, say, *X-no haha* ('X's mother) with respect to the linking theory.

In 3.3., we have adopted Hoji's (1990) linking theory, which consists of the Rule of Linking (RL) and the Condition on Linking (CL):

##### (129) *The Rule of Linking*

If *X* and *Y* are coindexed and *X* is less referential than *Y*, *X* must be linked to *Z*

(*Z* may be *Y* itself.) where:

- (i) *Z* is more referential than or equally referential to *Y*, and
- (ii) *Z* is coindexed with *X* and *Y*.

##### (130) *The Condition on Linking*

If *A* c-commands *B*, *A* cannot be linked to *B*.

And the referential hierarchy we have adopted from Hoji (1990) is repeated in (131):

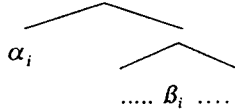
##### (131) *The Referential Hierarchy: A > B: A is more referential than B*

Name > Social Title > Epithet > Pronoun

The first prediction this theory makes is given in (132):

(132) *Prediction A*

If  $\alpha$  is less referential than  $\beta$ ,  $\alpha$  and  $\beta$  are coindexed, and  $\alpha$  c-commands  $\beta$ , then RL requires, but CL prohibits,  $\alpha$  to be linked to  $\beta$ . This contradiction makes the sentence ungrammatical.



As Hoji (1990) claims, this prediction is borne out with various combinations of nominals when the c-commanded nominal is in the NP domain. In the following, I will use ' $\alpha < \beta$ ' to mean ' $\alpha$  is less referential than  $\beta$ ':

## (133)

[A-1]: pronoun < epithet

- a. \*kare<sub>i</sub>-ga [NP yatu<sub>i</sub>-no haha]-o kiratteiru.  
 he<sub>i</sub>-Nom [NP the guy<sub>i</sub>-Gen mother]-Acc hate  
 'He<sub>i</sub> hates the guy<sub>i</sub>'s mother.'

[A-2]: pronoun < social title

- b. \*kare<sub>i</sub>-ga [NP katyo<sub>i</sub>-no haha]-o kiratteiru.  
 he<sub>i</sub>-Nom [NP section head<sub>i</sub>-Gen mother]-Acc hate  
 'He<sub>i</sub> hates the section head<sub>i</sub>'s mother.'

[A-3]: pronoun < name

- c. \*kare<sub>i</sub>-ga [NP Taro<sub>i</sub>-no haha]-o kiratteiru.  
 he<sub>i</sub>-Nom [NP Taro<sub>i</sub>-Gen mother]-Acc hate  
 'He<sub>i</sub> hates Taro<sub>i</sub>'s mother.'

[A-4]: epithet < social title

- d. \*yatu<sub>i</sub>-ga [NP katyo<sub>i</sub>-no haha]-o kiratteiru.  
 the guy<sub>i</sub>-Nom [NP section head<sub>i</sub>-Gen mother]-Acc hate  
 'The guy<sub>i</sub> hates the section head<sub>i</sub>'s mother.'

[A-5]: epithet < name

- e. \*yatu<sub>i</sub>-ga [NP Taro<sub>i</sub>-no haha]-o kiratteiru.  
 the guy<sub>i</sub>-Nom [NP Taro<sub>i</sub>-Gen mother]-Acc hate  
 'The guy<sub>i</sub> hates Taro<sub>i</sub>'s mother.'

[A-6]: social title < name

- f. ??katyo<sub>i</sub>-ga [NP Tanaka<sub>i</sub> katyo-no haha]-o kiratteiru.  
 section head<sub>i</sub>-Nom [NP Tanaka<sub>i</sub> section.head-Gen mother]-Acc hates  
 'The section head<sub>i</sub> hates the section head Tanaka<sub>i</sub>'s mother.'

The same pattern is obtained when we use *X-zisin* instead of a noun phrase:

## (134)

[A-1]: pronominal < epithet

- a. \*kare<sub>i</sub>-ga [DP yatu<sub>i</sub> zisin]-o kiratteiru.  
 he<sub>i</sub>-Nom [DP guy<sub>i</sub> self<sub>D</sub>]-Acc hate  
 'He<sub>i</sub> hates the guy<sub>i</sub> himself.'

[A-2]: pronominal < social title

- b. \*kare<sub>i</sub>-ga [DP kato<sub>i</sub> zisin]-o kiratteiru.  
 he<sub>i</sub>-Nom [DP section.head<sub>i</sub> self<sub>D</sub>]-Acc hate  
 'He<sub>i</sub> hates the section head<sub>i</sub> himself.'

[A-3]: pronominal < name

- c. \*kare<sub>i</sub>-ga [DP Taro<sub>i</sub> zisin]-o kiratteiru.  
 he<sub>i</sub>-Nom [DP Taro<sub>i</sub> self<sub>D</sub>]-Acc hate  
 'He<sub>i</sub> hates Taro<sub>i</sub> himself.'

[A-4]: epithet < social title

- d. \*yatu<sub>i</sub>-ga [DP kato<sub>i</sub> zisin]-o kiratteiru.  
 guy<sub>i</sub>-Nom [DP section.head<sub>i</sub> self<sub>D</sub>]-Acc hate  
 'The guy<sub>i</sub> hates the section head<sub>i</sub> himself.'

[A-5]: epithet < name

- e. \*yatu<sub>i</sub>-ga [DP Taro<sub>i</sub> zisin]-o kiratteiru.  
 guy<sub>i</sub>-Nom [DP Taro<sub>i</sub> self<sub>D</sub>]-Acc hate  
 'The guy<sub>i</sub> hates Taro<sub>i</sub> himself.'

[A-7]: social title < name

- f. ??kato<sub>i</sub>-ga [DP Tanaka kato<sub>i</sub> zisin]-o kiratteiru.  
 section.head<sub>i</sub>-Nom [DP Tanaka section.head<sub>i</sub> self<sub>D</sub>]-Acc hate  
 'The section head<sub>i</sub> hates the section head Tanaka<sub>i</sub> himself.'

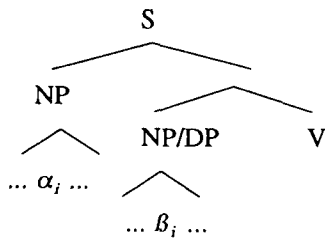
The second prediction Hoji (1990) makes is given in (135):

(135) *Prediction B*

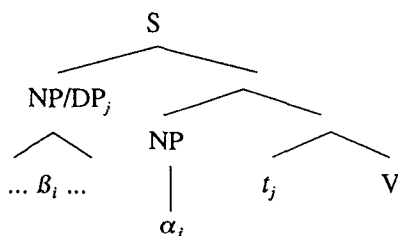
If  $\alpha$  is less referential than  $\beta$ ,  $\alpha$  and  $\beta$  are coindexed, and  $\alpha$  does not c-command  $\beta$ , then RL requires, and CL allows,  $\alpha$  to be linked to  $\beta$ . This makes the sentence grammatical.

The prediction B can be tested in the following two structures:

(136) a.  $\alpha$  is less referential than  $\beta$



b.  $\alpha$  is less referential than  $\beta$



In (136a), the less referential element  $\alpha$  in subject does not c-command the more referential element  $\beta$  in object. The difference between the structure used to introduce the prediction A and the structure given in (136a) is that in the former, the more referential element c-commands the less referential one, while in the latter, the more



referential element, which is embedded in the subject NP, does not c-command the more referential element. In (136b), where the object NP/DP is scrambled to the sentence initial position, the less referential element  $\alpha$  no longer c-commands the more referential element  $\beta$  in object. In both cases, then, a less referential element is allowed to be linked to a more referential element, thereby satisfying RL.

The prediction given in (135) is actually borne out in the two types of structures just illustrated. First, when a more referential element (i.e.  $\beta$  in the above structures) is contained in an ordinary NP, the sentences corresponding to (136a) and (136b) are both grammatical; the sentences in (137) have the structure in (136a), and those in (138) have the structure in (136b):

(137)

[B-1]: pronoun < epithet

- a.  $[_{NP} \text{ kare}_i\text{-no koibito}]\text{-ga } [_{NP} \text{ yatu}_i\text{-no zaisan}]\text{-o neratteiru.}$   
 $[_{NP} \text{ he}_i\text{-Gen love}]\text{-Nom } [_{NP} \text{ guy}_i\text{-Gen fortune}]\text{-Acc is.after}$   
 'His<sub>i</sub> lover is after the guy<sub>i</sub>'s fortune.'

[B-2]: pronoun < social title

- b.  $[_{NP} \text{ kare}_i\text{-no koibito}]\text{-ga } [_{NP} \text{ katyo}_i\text{-no zaisan}]\text{-o neratteiru.}$   
 $[_{NP} \text{ he}_i\text{-Gen lover}]\text{-Nom } [_{NP} \text{ section.head}_i\text{-Gen fortune}]\text{-Acc is.after}$   
 'His<sub>i</sub> lover is after the section head<sub>i</sub>'s fortune.'

[B-3]: pronoun < name

- c.  $[_{NP} \text{ kare}_i\text{-no koibito}]\text{-ga } [_{NP} \text{ Taro}_i\text{-no zaisan}]\text{-o neratteiru.}$   
 $[_{NP} \text{ he}_i\text{-Gen lover}]\text{-Nom } [_{NP} \text{ Taro}_i\text{-Gen fortune}]\text{-Acc is.after}$   
 'His<sub>i</sub> lover is after Taro<sub>i</sub>'s fortune.'

[B-4]: epithet < social title

- d.  $[_{NP} \text{ yatu}_i\text{-no koibito}]\text{-ga } [_{NP} \text{ katyo}_i\text{-no zaisan}]\text{-o neratteiru.}$   
 $[_{NP} \text{ guy}_i\text{-Gen lover}]\text{-Nom } [_{NP} \text{ section.head}_i\text{-Gen fortune}]\text{-Acc is.after}$   
 'The guy<sub>i</sub>'s lover is after the section head<sub>i</sub>'s fortune.'

[B-5]: epithet < name

- e.  $[_{NP} \text{ yatu}_i\text{-no koibito}]\text{-ga } [_{NP} \text{ Taro}_i\text{-no zaisan}]\text{-o neratteiru.}$   
 $[_{NP} \text{ guy}_i\text{-Gen lover}]\text{-Nom } [_{NP} \text{ Taro}_i\text{-Gen fortune}]\text{-Acc is.after}$   
 'The guy<sub>i</sub>'s lover is after Taro<sub>i</sub>'s fortune.'

[B-6]: social title < name

- f.  $[_{NP} \text{ katyo}_i\text{-no koibito}]\text{-ga } [_{NP} \text{ Tanaka}_i \text{ katyo-no zaisan}]\text{-o}$   
 $[_{NP} \text{ section.head}_i\text{-Gen lover}]\text{-Nom } [_{NP} \text{ Tanaka}_i \text{ section.head-Gen fortune}]\text{-Acc}$   
 neratteiru.  
 is.after  
 'The section head<sub>i</sub>'s lover is after Tanaka<sub>i</sub>'s fortune.'

(138)

[B-1]: pronoun < epithet

- a.  $[_{NP} \text{ yatu}_i\text{-no haha}]\text{-o } \text{kare}_i\text{-ga } t \text{ kiratteiru.}$   
 $[_{NP} \text{ guy}_i\text{-Gen mother}]\text{-Acc } \text{he}_i\text{-Nom } t \text{ hate}$   
 'The guy<sub>i</sub>'s mother, he<sub>i</sub> hates *t*.'

[B-2]: pronoun < social title

- b.  $[_{NP} \text{ katyo}_i\text{-no haha}]\text{-o } \text{kare}_i\text{-ga } t \text{ kiratteiru.}$   
 $[_{NP} \text{ section.head}_i\text{-Gen mother}]\text{-Acc } \text{he}_i\text{-Nom } t \text{ hate}$   
 'The section head<sub>i</sub>'s mother, he<sub>i</sub> hates *t*.'

[B-3]: pronoun < name

- c.  $[_{NP} \text{ Taro}_i\text{-no haha}]_o \quad \text{kare}_i\text{-ga} \quad t \quad \text{kiratteiru.}$   
 $[_{NP} \text{ Taro}_i\text{-Gen mother}]_o\text{-Acc} \quad \text{he}_i\text{-Nom} \quad t \quad \text{hate}$   
 'Taro<sub>i</sub>'s mother, he<sub>i</sub> hates *t*.'

[B-4]: epithet < social title

- d.  $[_{NP} \text{ katyo}_i\text{-no} \quad \text{haha}]_o \quad \text{yatu}_i\text{-ga} \quad t \quad \text{kiratteiru.}$   
 $[_{NP} \text{ section.head}_i\text{-Gen mother}]_o\text{-Acc} \quad \text{guy}_i\text{-Nom} \quad t \quad \text{hate}$   
 'The section head<sub>i</sub>'s mother, the guy<sub>i</sub> hates *t*.'

[B-5]: epithet < name

- e.  $[_{NP} \text{ Taro}_i\text{-no haha}]_o \quad \text{yatu}_i\text{-ga} \quad t \quad \text{kiratteiru.}$   
 $[_{NP} \text{ Taro}_i\text{-Gen mother}]_o\text{-Acc} \quad \text{guy}_i\text{-Nom} \quad t \quad \text{hate}$   
 'Taro<sub>i</sub>'s mother, the guy<sub>i</sub> hates *t*.'

[B-6]: social title < name

- f.  $[_{NP} \text{ Tanaka}_i \text{ katyo-no} \quad \text{haha}]_o \quad \text{katyo}_i\text{-ga} \quad t \quad \text{kiratteiru.}$   
 $[_{NP} \text{ Tanaka}_i \text{ section.head-Gen mother}]_o\text{-Acc} \quad \text{section.head}_i\text{-Nom} \quad t \quad \text{hate}$   
 'The section head Tanaka<sub>i</sub>'s mother, the section head<sub>i</sub> hates *t*.'

Second, when a more referential element (i.e.  $\beta$  in the above structures) is contained in the DP domain, the sentences corresponding to (136a) and (136b) are again grammatical; the sentences in (139) have the structure in (136a), and those in (140) have the structure in (136b):

(139)

[B-1]: pronoun < epithet

- a.  $[_{NP} \text{ kare}_i\text{-no koibito}]_o\text{-ga} \quad [_{DP} \text{ yatu}_i \text{ zisin}]_o\text{-o} \quad \text{keisatu-ni} \quad \text{utta.}$   
 $[_{NP} \text{ he}_i\text{-Gen lover}]_o\text{-Nom} \quad [_{DP} \text{ guy}_i \text{ self}_D]_o\text{-Acc} \quad \text{police-Dat} \quad \text{sold}$   
 'His<sub>i</sub> lover sold the guy<sub>i</sub> himself to the police.'

[B-2]: pronoun < social title

- b.  $[_{NP} \text{ kare}_i\text{-no koibito}]_o\text{-ga} \quad [_{DP} \text{ katyo}_i \text{ zisin}]_o\text{-o} \quad \text{keisatu-ni} \quad \text{utta.}$   
 $[_{NP} \text{ he}_i\text{-Gen lover}]_o\text{-Nom} \quad [_{DP} \text{ section.head}_i \text{ self}_D]_o\text{-Acc} \quad \text{police-Dat} \quad \text{sold}$   
 'His<sub>i</sub> lover sold the section head<sub>i</sub> himself to the police.'

[B-3]: pronoun < name

- c.  $[_{NP} \text{ kare}_i\text{-no koibito}]_o\text{-ga} \quad [_{DP} \text{ Taro}_i \text{ zisin}]_o\text{-o} \quad \text{keisatu-ni} \quad \text{utta.}$   
 $[_{NP} \text{ he}_i\text{-Gen lover}]_o\text{-Nom} \quad [_{DP} \text{ Taro}_i \text{ self}_D]_o\text{-Acc} \quad \text{police-Dat} \quad \text{sold}$   
 'His<sub>i</sub> lover sold Taro<sub>i</sub> himself to the police.'

[B-4]: epithet < social title

- d.  $[_{NP} \text{ yatu}_i\text{-no koibito}]_o\text{-ga} \quad [_{DP} \text{ katyo}_i \text{ zisin}]_o\text{-o} \quad \text{keisatu-ni} \quad \text{utta.}$   
 $[_{NP} \text{ guy}_i\text{-Gen lover}]_o\text{-Nom} \quad [_{DP} \text{ section.head}_i \text{ self}_D]_o\text{-Acc} \quad \text{police-Dat} \quad \text{sold}$   
 'The guy<sub>i</sub>'s lover sold the section head<sub>i</sub> himself to the police.'

[B-5]: epithet < name

- e.  $[_{NP} \text{ yatu}_i\text{-no koibito}]_o\text{-ga} \quad [_{DP} \text{ Taro}_i \text{ zisin}]_o\text{-o} \quad \text{keisatu-ni} \quad \text{utta.}$   
 $[_{NP} \text{ guy}_i\text{-Gen lover}]_o\text{-Nom} \quad [_{DP} \text{ Taro}_i \text{ self}_D]_o\text{-Acc} \quad \text{police-Dat} \quad \text{sold}$   
 'The guy<sub>i</sub>'s lover sold Taro<sub>i</sub> himself to the police.'

[B-6]: social title < name

- f. [NP katyo<sub>i</sub>-no koibito]-ga [DP Tanaka<sub>i</sub> katyo zisin]-o  
 [NP section.head<sub>i</sub>-Gen lover]-Nom [DP Tanaka<sub>i</sub> section.head self<sub>D</sub>]-Acc  
 keisatu-ni utta.  
 police-Dat sold  
 'The section head<sub>i</sub>'s lover sold Tanaka<sub>i</sub> himself to the police.'

(140)

[B-1]: pronoun < epithet

- a. [DP yatu<sub>i</sub> zisin]-o karei-ga *t* kiratteiru.  
 [DP guy<sub>i</sub> self<sub>D</sub>]-Acc he-Nom *t* hate  
 'The guy<sub>i</sub> himself, he<sub>i</sub> hates *t*.'

[B-2]: pronoun < social title

- b. [DP katyo<sub>i</sub> zisin]-o karei-ga *t* kiratteiru.  
 [DP section.head<sub>i</sub> self<sub>D</sub>]-Acc he-Nom *t* hate  
 'The section head<sub>i</sub> himself, he<sub>i</sub> hates *t*.'

[B-3]: pronoun < name

- c. [DP Taro<sub>i</sub> zisin]-o karei-ga *t* kiratteiru.  
 [DP Taro self<sub>D</sub>]-Acc he<sub>i</sub>-Nom *t* hate  
 'Taro<sub>i</sub> himself, he<sub>i</sub> hates *t*.'

[B-4]: epithet < social title

- d. [DP katyo<sub>i</sub> zisin]-o yatu<sub>i</sub>-ga *t* kiratteiru.  
 [DP section.head<sub>i</sub> self<sub>D</sub>]-Acc guy<sub>i</sub>-Nom *t* hate  
 'The section head<sub>i</sub> himself, the guy<sub>i</sub> hates *t*.'

[B-5]: epithet < name

- e. [DP Taro<sub>i</sub> zisin]-o yatu<sub>i</sub>-ga *t* kiratteiru.  
 [DP Taro<sub>i</sub> self<sub>D</sub>]-Acc guy<sub>i</sub>-Nom *t* hate  
 'Taro<sub>i</sub> himself, the guy<sub>i</sub> hates *t*.'

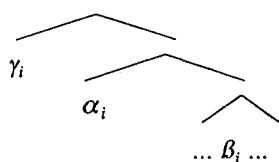
[B-6]: social title < name

- f. [DP Tanaka<sub>i</sub> katyo zisin]-o katyo<sub>i</sub>-ga *t* kiratteiru.  
 [DP Tanaka<sub>i</sub> section.head self<sub>D</sub>]-Acc section.head<sub>i</sub>-Nom *t* hate  
 'The section head Tanaka<sub>i</sub> himself, the section head<sub>i</sub> hates *t*.'

The third prediction the linking theory makes is based on what is called 'the suspension of the Condition D effect,' which I have illustrated in 3.3.:

(141) *Prediction C*

If (i)  $\alpha$  is less referential than  $\beta$ , which is in turn less referential than, or as referential as,  $\gamma$ , (ii)  $\alpha$ ,  $\beta$ , and  $\gamma$  are coindexed, and (iii)  $\gamma$  c-commands  $\alpha$ , which in turn c-commands  $\beta$ , then RL requires, and CL allows,  $\alpha$  and  $\beta$ , or  $\alpha$  to be linked to  $\gamma$ . This makes the given sentence grammatical.



$$\alpha < \beta < \gamma \text{ or } \alpha < \beta = \gamma$$

The prediction C is borne out when B is contained in an NP:

(142)

[C-1]: pronoun < epithet < name

- a. Taro<sub>i</sub>-wa kare<sub>i</sub>-ga [<sub>NP</sub> yatu<sub>i</sub>-no haha]-o kiratteiru koto-o kakusiteita.  
 Taro<sub>i</sub>-Top he<sub>i</sub>-Nom [<sub>NP</sub> the guy<sub>i</sub>-Gen mother]-Acc hate that-Acc kept.secret  
 'Taro<sub>i</sub> kept it secret that he<sub>i</sub> hates the guy<sub>i</sub>'s mother.'

[C-2]: pronoun < social title < name

- b. Tanaka katyo<sub>i</sub>-wa kare<sub>i</sub>-ga [<sub>NP</sub> katyo<sub>i</sub>-no haha]-o kiratteiru  
 Tanaka section.head<sub>i</sub>-Top he<sub>i</sub>-Nom [<sub>NP</sub> section head<sub>i</sub>-Gen mother]-Acc hate  
 koto-o kakusiteita.  
 that-Acc kept.secret  
 'The section head Tanaka<sub>i</sub> kept it secret that he<sub>i</sub> hates the section head<sub>i</sub>'s mother.'

[C-3]: pronoun < name = name

- c. Taro<sub>i</sub>-wa kare<sub>i</sub>-ga [<sub>NP</sub> Taro<sub>i</sub>-no haha]-o kiratteiru koto-o kakusiteita.  
 Taro<sub>i</sub>-Top he<sub>i</sub>-Nom [<sub>NP</sub> Taro<sub>i</sub>-Gen mother]-Acc hate that-Acc kept.secret  
 'Taro<sub>i</sub> kept it secret that he<sub>i</sub> hates Taro<sub>i</sub>'s mother.'

[C-4]: epithet < social title < name

- d. Tanaka katyo<sub>i</sub>-wa yatu<sub>i</sub>-ga [<sub>NP</sub> katyo<sub>i</sub>-no haha]-o kiratteiru  
 Tanaka section.head<sub>i</sub>-Top the guy<sub>i</sub>-Nom [<sub>NP</sub> section head<sub>i</sub>-Gen mother]-Acc hate  
 koto-o kakusiteita.  
 that-Acc kept.secret  
 'The section head Tanaka<sub>i</sub> kept it secret that the guy<sub>i</sub> hates the section head<sub>i</sub>'s mother.'

[C-5]: epithet < name = name

- e. Taro<sub>i</sub>-wa yatu<sub>i</sub>-ga [<sub>NP</sub> Taro<sub>i</sub>-no haha]-o kiratteiru koto-o kakusiteita.  
 Taro<sub>i</sub>-Top the guy<sub>i</sub>-Nom [<sub>NP</sub> Taro<sub>i</sub>-Gen mother]-Acc hate that-Acc kept.secret  
 'Taro<sub>i</sub> kept it secret that the guy<sub>i</sub> hates Taro<sub>i</sub>'s mother.'

[C-6]: social title < name = name

- f. Tanaka katyo<sub>i</sub>-wa katyo<sub>i</sub>-ga [<sub>NP</sub> Tanaka katyo<sub>i</sub>-no haha]-o  
 Tanaka section.head<sub>i</sub>-Top section.head<sub>i</sub>-Nom [<sub>NP</sub> Tanaka section.head<sub>i</sub>-Gen mother]-Acc  
 kiratteiru koto-o kakusiteita.  
 hates that-Acc kept.secret  
 'The section head Tanaka<sub>i</sub> kept it secret that the section head<sub>i</sub> hates the section  
 head Tanaka<sub>i</sub>'s mother.'

Exactly the same pattern is obtained when we use *X-zisin*, instead of an NP:

(143)

[C-1]: pronoun < epithet < name

- a. Taro<sub>i</sub>-wa kare<sub>i</sub>-ga [<sub>DP</sub> yatu<sub>i</sub> zisin]-o kiratteiru koto-o kakusiteita.  
 Taro<sub>i</sub>-Top he<sub>i</sub>-Nom the guy self<sub>D</sub> -Acc hate that-Acc kept.secret  
 'Taro<sub>i</sub> kept it secret that he<sub>i</sub> hates the guy<sub>i</sub> himself.'

[C-2]: pronoun < social title < name

- b. Tanaka katyo<sub>i</sub>-wa kare<sub>i</sub>-ga [<sub>DP</sub> katyo<sub>i</sub> zisin]-o kiratteiru  
 Tanaka section.head<sub>i</sub>-Top he<sub>i</sub>-Nom [<sub>DP</sub> section.head<sub>i</sub> self<sub>D</sub>]-Acc hate  
 koto-o kakusiteita.  
 that-Acc kept.secret  
 'The section head Tanaka<sub>i</sub> kept it secret that he<sub>i</sub> hates the section head<sub>i</sub> himself.'

[C-3]: pronoun < name = name

- c. Taro<sub>i</sub>-wa kare<sub>i</sub>-ga [<sub>DP</sub> Taro<sub>i</sub> zisin]-o kiratteiru koto-o kakusitetita.  
 Taro<sub>i</sub>-Top he<sub>i</sub>-Nom [<sub>DP</sub> Taro self<sub>D</sub>]-Acc hate that-Acc kept.secret  
 'Taro<sub>i</sub> kept it secret that he<sub>i</sub> hates Taro<sub>i</sub> himself.'

[C-4]: epithet < social title < name

- d. Tanaka katyo<sub>i</sub>-wa yatu<sub>i</sub>-ga [<sub>DP</sub> katyo<sub>i</sub> zisin]-o kiratteiru  
 Tanaka section.head<sub>i</sub>-Top the guy<sub>i</sub>-Nom [<sub>DP</sub> section.head<sub>i</sub> self<sub>D</sub>]-Acc hate  
 koto-o kakusiteita.  
 that-Acc kept.secret  
 'The section head Tanaka<sub>i</sub> kept it secret that the guy<sub>i</sub> hates the section head<sub>i</sub> himself.'

[C-5]: epithet < name = name

- e. Taro<sub>i</sub>-wa yatu<sub>i</sub>-ga [<sub>NP</sub> Taro<sub>i</sub> zisin]-o kiratteiru koto-o kakusiteita.  
 Taro<sub>i</sub>-Top the guy<sub>i</sub>-Nom [<sub>NP</sub> Taro<sub>i</sub> self<sub>D</sub>]-Acc hate that-Acc kept.secret  
 'Taro<sub>i</sub> kept it secret that the guy<sub>i</sub> hates Taro<sub>i</sub> himself.'

[C-6]: social title < name = name

- f. Tanaka katyo<sub>i</sub>-wa katyo<sub>i</sub>-ga [<sub>NP</sub> Tanaka katyo<sub>i</sub> zisin]-o  
 Tanaka section.head<sub>i</sub>-Top section.head<sub>i</sub>-Nom [<sub>NP</sub> Tanaka section.head<sub>i</sub> self<sub>D</sub>]-Acc  
 kiratteiru koto-o kakusiteita.  
 hates that-Acc kept.secret  
 'The section head Tanaka<sub>i</sub> kept it secret that the section head<sub>i</sub> hates the  
 section head Tanaka<sub>i</sub> himself.'

In this section we have seen that the predictions A, B, and C are all borne out both in DP- and NP-domains. This clearly suggests that *X* in *X-zisin* behaves just like *X* in an ordinary phrasal domain, thereby supporting our claim that *X-zisin* also forms a phrasal domain and must be analyzed compositionally.

## 5. Concluding Remarks

In this paper I have shown that Japanese complex anaphors such as *kare-zisin* and *zibun-zisin* are truly phrasal, and that their properties are completely reducible to their component parts. This compositional approach has been contrasted with the holistic approach, in which it is claimed that the grammatical mechanisms referring to the whole are indispensable if some, if not all, properties of complex anaphors are to be explained. We have seen that the holistic approach encounters so many difficulties, while the compositional approach can naturally account for every one of them. Hence, we can conclude that the compositional approach must be chosen over the holistic approach.

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