North East Linguistics Society

Volume 19
Issue 1 *NELS 19*

Article 18

1989

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0. Introduction

The idea that anaphors raise at LF to a position which only the subject c-commands (Lebeaux 1983, Chomsky 1986a, Pica 1987, and others) accounts for a specific syntactic role of antecedents, known as SUBJECT-ORIENTATION. For example, the Japanese long-distance reflexive <u>zibun</u> picks only subjects as its antecedent; i.e., <u>zibun</u> in (1) below can refer to either a higher subject <u>John</u> or a lower subject <u>Mike</u>, but never the non-subject <u>Bill</u>:

(1) $John_i$-ga $Bill_j$-ni [$Mike_k$-ga $zibun_{i/*j/k}$-o semeta
SB IO SB DO blamed
to] itta.
that told
'$John_i$ told $Bill_j$ that $Mike_k$ blamed $zibun_{i/*j/k}$.'

Subject-orientation alone, however, is not sufficient evidence for anaphor-raising, and the reason for anaphor-raising has never been made explicit. The purpose of this paper is to provide an explanation for anaphor-raising, drawn from Japanese facts, and to explore its theoretical implications. I specifically claim that <u>zibun</u> (or a long-distance anaphor in general) is an operator, and introduce the concept of

OPERATOR ANAPHOR, which is a notion distinct from the standard operators such as quantifiers and null-operators. Crucial to my analysis are the facts that; (i) Japanese possesses three types of reflexives: (a) zibun, (b) zibun-zisin/mizukara, and (c) kare-zisin, each of which displays different binding behavior in a systematic fashion, in particular, (ii) zibun, but not the other reflexives, shares certain properties with quantifiers. I first present three sets of such binding phenomena, and give an explanation for them. I will conclude this paper by generalizing the notion OPERATOR ANAPHOR in the nominal and operator systems of syntax.

1. Locality and Subject-Orientation

The first set of binding phenomena is concerned with locality and subject-orientation. (2) below shows that the antecedent of zibun can be either a higher subject John or a lower subject Bill; the antecedent of zibun-zisin or mizukara is the local subject Bill, as observed in Kurata (1986) and Kitagawa (1986), respectively; and finally the antecedent of kare-zisin is either Bill or Mike, which are the clause-mates of kare-zisin:

(2) John_i-ga [Bill_j-ga Mike_k-ni zibun$_{i/j/*k}$ -no
SB SB IO zibun-zisin$_{?*i/j/*k}$ DO
mizukara$_{?*i/j/*k}$
koto-o hanasita to] itta. kare-zisin$_{?*i/j/k}$
matter-DO old that said
'John said that Bill told Mike about self.'

We thus have the necessity of (3), which calls for an explanation:

(3) Three-way classification of reflexive binding (Katada 1988, Nakamura 1986)
a. zibun, which shows multiply ambiguous long-distance subject-orientation,
b. zibun-zisin/mizukara, which displays local subject-orientation only, and
c. kare-zisin, whose binding is local with no particular orientation.

2. The Absence vs. Presence of Connectivity

The second set of binding phenomena is concerned with the absence vs. presence of Connectivity, which refers to the ability of an anaphor that can take non-c-commanding antecedents through movement (Akmajian

1970, Higgins 1973). In this section, I assume (4), which implies scrambled elements to be in A'-positions:

(4) Scrambling is an S-structure adjunction.
(Saito 1985)

In what follows, I use zibun-zisin, representing the second type of reflexives because the behavior of mizukara basically follows the behavior of zibun-zisin.

To begin, observe in (5) that the reflexives contained in the scrambled object phrase display Connectivity[1]; i.e., the three reflexives can refer to a non-c-commanding subject NP John:

(5) [Zibun$_i$ -no hahaoya]$_j$-o [John$_i$-ga t$_j$ semeta.]
Zibun-zisin$_i$ GN mother DO SB blamed
Kare-zisin$_i$ 'Self's mother, John blamed t.'

However, this connectivity disappears when the scrambled object phrase is quantified by mo "also", a quantificational element (QE)[2]; i.e., none of the reflexives in (6) allow backward reflexivization:

(6) [?*Zibun$_i$ -no hahaoya$_j$]-mo [John$_i$-ga t$_j$ semeta]
?*Zibun-zisin$_i$ GN mother QE(also) SB blamed
?*Kare-zisin$_i$
'Self's mother also, John blamed t.'

What is interesting in this phenomenon is that the same type of contrast shows up between the scrambled bare form reflexives. That is, in (7), the scrambled bare form zibun, though not quantified, reduces the grammaticality of the intended backward reflexivization, but such interpretation is perfectly allowed if the scrambled reflexive is zibun-zisin or kare-zisin:

(7) ??Zibun$_i$ -o [John$_i$-ga t$_i$ semeta.]
Zibun-zisin$_i$ DO SB blamed
Kare-zisin$_i$ 'Self, John blamed t.'

Some speakers of Japanese, however, do not find this contrast so clear. But even to these speakers, (8) gives a clear contrast between zibun and zibun-zisin, where the intended antecedent is a quantifier:

(8) ?*Zibun$_i$ -o [dareka$_i$-ga t$_i$ semeta.]
Zibun-zisin$_i$ DO someone-SB blamed
(*Kare-zisin$_i$) 'Self, someone blamed t.'

Note that in (8), coindexation of (kare-zisin$_i$, dareka$_i$)

is ruled out from an independent reason (see endnote 4), but in principle, (7) and (8) together show that zibun-zisin and kare-zisin display Connectivity, but zibun does not. This contrast becomes even clearer when the reflexives are locally scrambled from the embedded clause; i.e., in (9) and (10) below, zibun-zisin and kare-zisin, but not zibun, can refer to a lower non-c-commanding subject Mike or daremo 'everyone':

(9) John$_1$-ga Bill$_2$-ni [zibun$_{1/*2/???3}$ -o [Mike$_3$-ga t
SB IO zibun-zisin$_{1/*2/3}$ DO SB
kare-zisin$_{1/2/3}$
semeta to]] itta.
blamed that told
'John told Bill that self, Mike blamed t.'

(10) John$_1$-ga Bill$_2$-ni [zibun$_{1/*2/?*3}$ -o [daremo$_3$-ga
SB IO zibun-zisin$_{1/*2/3}$ DO everyone SB
(kare-zisin$_{1/2/*3}$)
t semeta to]] itta.
blamed that told
'John told Bill that self, everyone blamed t.'

We thus have the generalization (11)[3]:

(11) The absence vs. presence of connectivity
a. a quantifier/quantified phrase and the bare form zibun display no connectivity effects.
b. the bare form zibun-zisin and kare-zisin display connectivity effects.

Accounting for connectivity effects, two major proposals are available in the literature; one is Reconstruction, which is an undoing movement at LF, and another is Chain-Binding, as in Barss (1985), which applies at S-structure. However, notice that neither Reconstruction nor Chain Binding can handle the contrast described in (11); i.e., these proposals treat all the preposed elements on a par. A question to be answered then is:

(12) Why should it be the case that quantifiers and the bare form zibun display no Connectivity?

Since the contrast in Connectivity described in (11) cannot be read off from the S-structure representation, the only way to account for it is to stipulate (13), which calls for another explanation:

(13)a. Quantifiers and the bare form zibun do not undergo Reconstruction at LF.

b. Non-quantifiers, zibun-zisin, and kare-zisin undergo Reconstruction.

Shortly, I show how (13) follows from the concept of OPERATOR ANAPHOR.

3. Limited vs. Non-Limited Interaction with Pronominal Kare 'he'

The third set of binding phenomena is drawn from interaction with the Japanese pronominal kare 'he'. First, consider a basic property of kare discussed in Saito and Hoji (1983), which appears in (14)[4]:

(14) a quantifier cannot bind kare (he).

Thus, kare and quantifiers must be disjoint, as (15a-c) show:

(15)a. *Dareka$_i$-ga [kare$_i$-ga katta to] omotta.
someone SB he SB won that thought
'Someone thought that kare won.'

b. *Kare$_i$-no hahaoya-ga daremo$_i$-o aisiteiru.
GN mother-SB everyone-DO love
'Kare's mother loves everyone.'

c. *Dare$_i$-ga [kare$_i$-ga tensaida to] omotteiru no.
who SB he SB genius-COP that think Q
'Who thinks that he is a genius?'

Moreover, as observed in Aoun and Hornstein (1986), neither can zibun; that is, kare and zibun in (16a) cannot both bear the same index[5]. Notice that this fact is contrastive with (16b and c), where two occurences of either kare or zibun can both bear the same index:

(16)a. John$_i$-ga [zibun$_i$-ga kare$_{???i}$-no hahaoya-o semeta
SB SB he GN mother-DO blamed
to] itta. 'John said that
that said zibun blamed kare's mother.'

b. John$_i$-ga [kare$_i$-ga kare$_i$-no hahaoya-o semeta
SB he SB he GN mother-DO blamed
to] itta. 'John said that
that said kare blamed kare's mother.'

c. John$_i$-ga [zibun$_i$-ga zibun$_i$-no hahaoya-o semeta
SB SB GN mother-DO blamed
to] itta. 'John said that
that said zibun blamed zibun's mother.'

In this respect, zibun-zisin rather behaves like zibun, but kare-zisin does not; that is, kare-zisin, but not zibun-zisin, can bear the same index as that of kare:

(17) John$_i$-ga [zibun-zisin$_i$-ga kare$_{???i}$-no hahaoya-o
kare-zisin$_i$ kare$_i$ GN mother-DO
semeta to] itta.
blamed that said
'John said that self blamed kare's mother.'

If this contrast in (17) is not so clear to some speakers, coordinate constructions in (18) provide for a clear contrast; that is, in either (18a) or (18b), zibun[6] and zibun-zisin fall under a type of expressions that limit the behavior of kare, while kare-zisin does not belong to this type:

(18)a. John$_i$-ga [[zibun$_i$ -no kutu] to [kare$_{*i}$-no
SB zibun-zisin$_i$ GN shoes and kare$_{*i}$ GN
kare-zisin$_i$ kare$_i$
fuku]]-o katazuketa.
clothes-DO put-away
'John put away self's shoes and kare's clothes.'

b. John$_i$-ga [[kare$_{*i}$-no kutu] to [zibun$_i$ -no
SB kare$_{*i}$ GN shoes and zibun-zisin$_i$ GN
kare$_i$ kare-zisin$_i$
fuku]]-o katazuketa.
clothes-DO put-away
'John put away kare's shoes and self's clothes.'

(19) summarizes the observation made in this section, which calls for further explanation:

(19)a. Quantifiers, zibun, and zibun-zisin limit coreference possibilities of kare.
b. Kare-zisin does not limit the behavior of kare.

4. Explanation

I claim that there is a single systematic factor that underlies the different binding behavior summarized in (3), (13), and (19), repeated below:

(3) Three-way classification of reflexive binding
a. zibun, which shows multiply ambiguous long-distance subject-orientation,
b. zibun-zisin/mizukara, which displays local subject-orientation only, and
c. kare-zisin, whose binding is local with no particular orientation.

(13)a. Quantifiers and the bare form zibun do not undergo Reconstruction at LF.
b. Non-quantifiers, zibun-zisin, and kare-zisin undergo Reconstruction.

(19)a. Quantifiers, zibun, and zibun-zisin limit coreference possibilities of kare.
b. Kare-zisin does not limit the behavior of kare.

Central to my claim is the proposal (20), which derives from the shared properties of zibun with quantifers, given in (13) and (19):

(20) Zibun is a member of the set of operators.

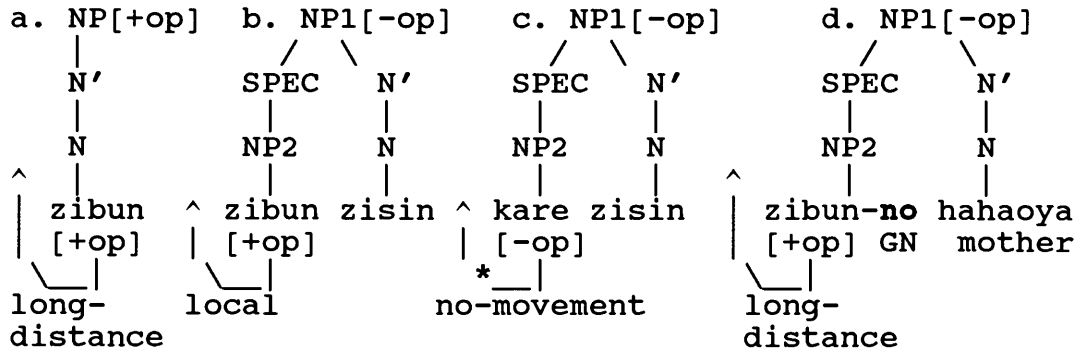
I call such an expression an OPERATOR ANAPHOR, which may apply universally to long-distance anaphors in general (see section 6). Note that an OPERATOR ANAPHOR is a notion distinct from the standard operators such as quantifiers and null operators (see section 7.1). The proposal (20) implies the existence of NON-OPERATOR ANAPHORS, which is a set that includes expressions such as zibun-zisin and kare-zisin. Under a unified treatment of operators (c.f., May 1977, 1985), (21) consequently obtains from (20):

(21) An OPERATOR ANAPHOR undergoes LF-raising.

Given (20) and (21), I am now in a position to provide for a unified explanation for (3), (13), and (19). First, I claim that the three-way contrasts with respect to "locality and subject-orientation" given in (3) is reducible to anaphor-raising and the Empty Category Principle (ECP) (Chomsky 1981). To see how, I propose the following internal structure of the reflexives in (22), which may be characterized by Lexical vs. Non-Lexical Anaphors[7]. That is, zibun is a lexical anaphor, which is directly dominated by the base category N as in (22a), while zibun-zisin and kare-zisin are non-lexical anaphors that are found in the phrasal structure in (22b and c)[8]. The structure (22b and c) are similar to that of zibun-no hahaoya 'self's mother' in (22d) with one difference; in (22b and c), the genitive marker no is suppressed[9], and this makes the specifier position not lexically governed. Here, I am assuming, following Saito (1985), that case markers are lexical governers, and that head government is not relevant to proper government in Japanese. Since an operator undergoes raising at LF, zibun in (22a and d) can raise long-distance, as long as it is lexically governed. In (22b), zibun in zibun-zisin is

still an operator, thus it must raise. However, its raising is always local since its trace must be antecedent-governed due to the lack of the genitive case marker no. Notice that in (22b), NP1 itself does not bear the operator-property (designated by "[op]"); thus nothing forces NP1 (zibun-zisin as a whole) to raise. In (22c), kare-zisin involves no operator property at all, hence no movement:

(22) Lexical vs. Non-Lexical Anaphors and Raising



I assume that an operator movement proceeds via adjunction, and propose that an adjunction site for zibun is VP (c.f., Chomsky 1986b). (22a, b, and c) thus result in three different LF-representations given in (23a, b, and c), respectively.

(23)a. [NP-ga .. [$_{VP}$ zibun [$_{VP}$ .. [$_{CP*}$ ... t ...]]]..]
(lex-gvnd)
(CP* stands for zero or more occurences of clauses.)

b. [NP-ga .. [$_{VP}$ zibun [$_{VP}$ .. [$_{NP}$ [t] zisin]..]]..]
(ant-gvnd)

c. [NP-ga .. [$_{VP}$ ..NP-ni .. [$_{NP}$ kare-zisin] ..] ..]

In (23a), zibun is interpreted in multiply possible VP adjunction sites. This induces multiply ambiguous subject-orientation. In (23b), zibun-zisin is interpreted in the local VP adjunction site, inducing local subject-orientation only. And finally, in (23c), kare-zisin is interpreted in situ; thus its binding is local with no particular orientation. In general, my analysis proposes the following:

(24) Subject-orientation (whether long-distance or local) is a property of anaphors that involve LF-raising.

Second, the proposal (20) offers an explanation for the two-way contrasts given in (13), repeated below, with respect to Reconstruction.

(13)a. Quantifiers and the bare form zibun do not undergo Reconstruction at LF.
b. Non-quantifiers, zibun-zisin, and kare-zisin undergo Reconstruction.

To explain how, I propose the following assumption (25), which subsumes (13) under the notion OPERATOR ANAPHOR:

(25)a. Operators can and must remain in A'-positions.
b. Non-operators must undergo Reconstruction.

Given (25), the scrambled operator anaphor zibun and quantified phrases such as mo-marked 'self's mother' are in A'-positions at LF, as (26a and a') show:

(26) a. $\underset{[+op]}{zibun_i}$-o [$NP_i$-ga .. t_i ..]
a'. [$zibun_i$-no hahaoya]$_j$-mo [NP_i-ga .. t_j ..]
[+op] QE

Here, there are two conceivable violations; (i) the trace is A-bound by NP_i (26a), violating Principle (C), and (ii) zibun does not have a requisite antecedent. On the other hand, non-operator anaphors and non-quantified phrases such as o-marked 'self's mother' undergo reconstruction, as (27) shows:

(27) [NP_i-ga .. $\begin{matrix} zibun\text{-}zisin_i\text{-}o \\ kare\text{-}zisin_i\text{-}o \\ zibun_i\text{-}no\ hahaoya\text{-}o \\ [-op] \end{matrix}$ .....]

As a result, the two conceivable violations are reconciled, and connectivity effects are observed accordingly.

Third, the proposal (20 and 21) furthermore offers an explanation for the two-way contrasts described in (19), repeated below, with respect to the interaction with the pronoun kare.

(19)a. Quantifiers, zibun, and zibun-zisin limit coreference possibilities of kare.
b. Kare-zisin does not limit the behavior of kare.

I first summarize Aoun and Hornstein's (1986) analysis.

Their analysis is to relate the general property of kare in (28) with the idea of anaphor-raising to an A'-position:

(28) Kare cannot be bound by a quantifier.
(Saito and Hoji 1983)

If zibun raises, then quantifiers and zibun share a common property at LF; namely, both are in A'-positions as (29) illustrates:

(29) * QP_i/WH_i/$zibun_i$ .. [.. $kare_i$ ..]

Since zibun is not a quantifier in the standard sense (see section 7.1), the disjointness requirement imposed on kare in the form (30):

(30) Kare must be A'-free. (Aoun and Hornstein 1986)

subsumes (28), and explains why the LF-representation (29) is not allowed. Note that (28) is stated in terms of the content of the binder, and (30) in terms of the position of the binder.

Now, my analysis allows us to collapse (28) and (30) under the notion OPERATOR ANAPHOR. That is, given (25), repeated below:

(25)a. Operators can and must remain in A'-positions.
b. Non-operators must undergo Reconstruction.

LF is the level of grammar where only operators are found in A'-positions. In other words, A'-positions occupied at LF implies "operators"; therefore, another disjointness requirement on kare in the form (31):

(31) Kare must be operator-free.

collapses (28) and (30), and correctly filters out the LF-representation (29).

5. Other Binding Phenomena

In this section, I demonstrate other binding phenomena that are consistent with the raising analysis presented so far. First, raising anaphors zibun and zibun-zisin induce a distributive reading ("i&j"), as opposed to a group reading ("i+j"). Thus, (32) can only mean (33a), and not (33b):

(32) [John$_i$ to Bill$_j$]-ga zibun$_{i\&j/*i+j}$ -o semeta.
and zibun-zisin$_{i\&j/*i+j}$ DO blamed
'John and Bill blamed self.'

(33)a. John blamed himself, and Bill blamed himself.
b. John and Bill blamed John and Bill taken together as a set.

In order to achieve the interpretation (33b), among other interpretations, zibun-taci, a plural form of zibun, must be used[10]:

(34) [John$_i$ to Bill$_j$]-ga zibun-taci$_{*i\&j/i+j}$-o semeta.
and SB PL DO blamed

On the other hand, kare-zisin, as being [+singular], fails to be properly bound in the context of plural antecedents, and the intended binding is totally impossible:

(35) *[John$_i$ to Bill$_j$]-ga kare-zisin$_{i\&j/i+j}$-o semeta.
and SB DO blamed

I propose that the distributive reading observed in (32) may be a consequence of the possibility that the raising anaphors have entered into scope relations with the plural subjects. The subject-orientation and the distributive reading, which is a narrow scope reading in a sense, would follow, given that zibun necessarily raises to a position which is asymmetrically c-commanded by the subject position. This would also explain why kare in subject position escapes from being operator-bound by zibun; that is, unlike in (16a) and (17), the subject kare and zibun/zibun-zisin in (36) below can bear the same index:

(36) John$_i$-ga [kare$_i$-ga zibun$_i$ -no hahaoya-o
SB SB zibun-zisin$_i$ GN mother-DO
kare-zisin$_i$
semeta to] itta.
blamed that said
'John said that kare blamed zibun's mother.'

6. Universal Patterns in the Reflexive System

Applying the notion OPERATOR vs. NON-OPERATOR ANAPHOR crosslinguistically, we predict the following universal reflexive system:

(37)	[raising]	[local-raising]	[non-raising]
Japanese:	zibun	zibun-zisin	kare-zisin
Korean:	caki	caki-casin	ku-casin
Dutch:	zich	zich-zelf	'm-zelf
Chinese:	ziji		ta-ziji
English:			him-self

If my analysis is correct, some discriminant properties should be universally available for these three types of reflexives; (i) long-distance subject-orientation, (ii) local subject-orientation, and (iii) local with no particular orientation. Note that himself in English belongs to the third type. This means that the NIC effect induced by himself is not reducible to anaphor-raising, hence the ECP, contrary to what has been suggested in Chomsky (1986a). Further to be explained is the existence of gaps found in (37). I leave this issue open to future research.

7. Generalization of the Notion Operator Anaphor

As a conclusion of my analysis, I try to generalize the notion OPERATOR ANAPHOR, first in the operator system, and second in the nominal system.

7.1. Generalization in the Operator System

A characteristic difference between operators and non-operators can be seen in (38), where ?'s stand for underspecified values in the lexicon:

(38) [kare-zisin]	[zibun]	[who/ everyone]	[what/ everything]	[null-Op]
3rd person	?	?	?	?
singular	?	?	?	?
masculine	?	?	?	?
+human	+human	+human	-human	?
[-op]	[+op]	[+op]	[+op]	[+op]

In (38), non-operator expression kare-zisin has fixed feature values of [person, number, gender], while the corresponding feature values of operator expressions are underspecified in the lexicon. Such underspecified properties of operators can be expressed in terms of "semantic [range]". Operator anaphors and quantifer phrases have a closed range such as [+human] or [-human]; thus zibun can only refer to [+human] objects, who or everyone can pick only [+human] referents, and what or everything only [-human] referents. Null-operators have an open range; thus the

identifier can be either [+human] or [-human] as (39) shows:

(39)a. John$_i$ is hard [Op$_i$ [to please t$_i$]].
b. Rocks$_i$ are too hard [Op$_i$ [to swallow t$_i$]].

What distinguishes the standard quantifiers from operator anaphors is the ability to quantify by themselves. The standard quantifers have such an ability since they have their own semantic independence. This point can be seen by the fact that the WH-operator in (40) must be disjoint in an entire sentence:

(40)a. The men$_i$ wondered which men$_{*i/j}$ left yesterday.
b. The men$_i$'s mother wondered which men$_{*i/j}$ left.
c. Who$_i$ x$_i$ came and who$_{*i/j}$ x$_j$ had dinner?

On the other hand, operator anaphors cannot quantify by themselves; thus they must be identified by binding theory. In this respect, null-operators behave alike. This property may be characterized by the feature [anaphoric]. An overall picture of the operator system is now captured by (41), which shows that quantifiers are not synonymous to the expressions that have a semantic range:

(41) The Operator System

[QP/WH]	[Operator Anaphor]	[Null Operator]
closed range	closed range	open range
+quantifer	-quantifier	-quantifier
(-anaphoric)	A-anaphoric	A'-anaphoric[11]

( ) denotes redundancy with [+quantifier].

7.2. Generalization in the Nominal System

After conceptualizing the notion OPERATOR ANAPHOR, it is a natural consequence to generalize the notion in the entire nominal system. This implies that there exist OPERATOR vs. NON-OPERATOR NOMINALS, which further implies the existence of OPERATOR vs. NON-OPERATOR PRONOMINALS, as well as OPERATOR vs. NON-OPERATOR R-EXPRESSIONS. I leave this empirical justification open to future investigation.

Notes

*I wish to thank Joseph Aoun, Mürvet Enç, Hajime Hoji, Osvaldo Jaeggli, Audrey Li for valuable suggestions and criticisms. I have also benefitted from comments of the participants of NELS19 Conference and WCCFL7 Conference. All shortcomings are mine.

[1]Connectivity displayed by zibun is discussed in Muraki (1979).

[2]I wish to thank H. Hoji for this observation.

[3] To confirm the adequacy of (11), (i) and (ii) below show that none of the scrambled reflexives display Connectivity when they are quantified by mo (QE); the contrast between (7-8) and (i-ii) is quite clear:

(i) ?*Zibun$_i$ -mo [John$_i$-ga t$_i$ semeta.]
?*Zibun-zisin$_i$ QE(also) SB blamed
?*Kare-zisin$_i$ 'Self also, John blamed t.'

(ii) *Zibun$_i$ -mo [dareka$_i$-ga t$_i$ semeta.]
*Zibun-zisin$_i$ QE(also) someone-SB blamed
(*Kare-zisin$_i$) 'Self also, someone blamed t.'

[4]Kare-zisin shares the property (14), thus kare-zisin and a quantifier in (iii) must also be disjoint. (Note that Japanese does not observe the NIC effect, thus zibun can be bound by a quantifier in the same context.)

(iii) Dareka$_i$-ga [kare-zisin$_{*i}$-ga katta to] omotta.
someone-SB zibun$_i$ SB won that thought
'Someone thought that self won.'

[5]For counter judgements and analyses, see Lasnik (1986) and Hoji (in preparation).

[6]The fact that a subject cannot bind both kare and zibun in coordinate constructions is noted in Fukui (1984).

[7]In general, morphologically simplex anaphors are lexical and compound anaphors non-lexical.

[8]I wish to thank O. Jaeggli for his suggestions.

[9]An account for this reason is left unsolved.

[10]English presents contrastive facts; i.e., themselves in 'John and Bill blamed themselves.' achieves both readings (33a and b) (see Katada 1987).

[11]Aoun and Clark (1985) characterizes null-operators as an A'-anaphor, whose antecedent is in A'-positions.

References

Akmajian, A. (1970) Aspects of the Grammar of Focus in English, PhD Dissertation, MIT.
Aoun, J. and Clark, R. (1985) "On Non-Overt Operators," Gilligan, Mohammad, and Roberts (eds.) Southern Calif. Occasional Papers in Linguistics 10, 17-36. University of Southern California.
Aoun, J. and Hornstein, N.(1986) "Bound and Referential Pronouns,; ms., University of Southern California and University of Maryland.
Barss, A. (1985) "Chain Binding," ms., MIT.
Chomsky, N. (1981) Lectures on Government and Binding, Foris, Dordrecht.
Chomsky, N. (1986a) Knowledge of Language: Its Nature, Origin and Use, Praeger, New York.
Chomsky, N. (1986b) Barriers, MIT Press, Cambridge.
Fukui, N. (1984) "Studies in Japanese Anaphora I: The Adjunct Subject Hypothesis and zibun," ms., MIT.
Higgins, F.R. (1973) The Pseudo-Cleft Construction in English, PhD Dissertation, MIT.
Katada, F. (1987) "Split-Antecedent: Not a Deciding Property for Nominal Categories," ms., USC.
Katada, F. (1988) "LF-Binding of Anaphors," Proceedings of WCCFL 7, pp171-185.
Kitagawa, Y. (1986) Subject in Japanese and English. PhD Dissertation, University of Massachusetts.
Kurata, K. (1986) "Asymmetries in Japanese," ms., University of Massachusetts.
Lasnik, H. (1986) "On the Necessity of Binding Conditions," ms., University of Connecticut.
Lebeaux, D. (1983) "A Distributional Difference between Reciprocals and Reflexives," LI 14.4, 723-730.
May, R. (1977) The Grammar of Quantification, PhD Dissertation, MIT.
May, R. (1985) Logical Form: Its Structure and Derivation, The MIT Press, Cambridge.
Muraki, M. (1979) "On the Rule Scrambling in Japanese," in G. Bedell, et al., eds.
Nakamura, M. (1986) "Anaphora in Japanese," ms., MIT.
Pica, P. (1987) "On the Nature of the Reflexivization Cycle," Proceedings of NELS 1987, 483-499.
Saito, M. (1985) Some Asymmetries in Japanese and Their Theoretical Implications, PhD Dissertation, MIT.
Saito, M. and Hoji, H.(1983) "Weak Crossover and Move @ in Japanese," NLLT 1.2.