

Anti-reflexivity in Japanese*

Maki Kishida

LING 895

Last Modified: June, 20. 2009

Contents

1	Introduction	3
2	Background	6
2.1	Binding Theory: Chomsky (1981, 1986)	6
2.2	Reflexivity: Reinhart and Reuland (1993)	8
2.3	Condition R: Lidz (2001a,b)	14
3	Applicability of predicate-centered approaches to Japanese	19
3.1	Nominal-type approach	19
3.2	Reinhart and Reuland (1993)	20
3.3	Lidz (2001a,b)	21
4	Reflexivity of Japanese anaphors	25
4.1	Reflexivity of <i>Zibun</i>	25
4.2	Reflexivity of <i>Zibun-zisin</i>	26
4.2.1	Focus Operator anaphor in Chinese: Liu (2003)	27
4.2.2	Intensifier anaphor <i>Zibun-zisin</i>	29
4.2.3	<i>Zibun-zisin</i> as Non-Intensifier	30

*I would like to express my gratitude to my committee members; my advisor Norbert Hornstein, for his support, encouragement, and thoughtful discussions, and for reading my drafts. Howard Lasnik, for valuable comments and suggestions. Jeff Lidz, for answering my delicate questions, and above all, for publishing his interesting Condition R proposal. Some sections of this thesis are based on my work with Taisuke Nishigauchi (Nishigauchi and Kishida, 2008) and Yosuke Sato (Kishida and Sato, 2009). Discussions with them have been very helpful. I am also grateful to Jun Abe, Chizuru Nakao, Akira Omaki, Eri Takahashi and Masaya Yoshida for their fruitful comments and Japanese judgements.

4.3	Reflexivity of <i>Zi-</i> and <i>Ziko-</i>	31
4.4	Our Proposal in Other Languages	36
4.5	Section Summary	41
5	Predicate System in Japanese	42
5.1	Japanese vs.Dutch	43
5.2	Long-distance Binding and Reflexivity	45
5.3	Anti-Reflexive Predicates	47
5.4	Completing the System	51
5.5	Section Summary	52
6	Conclusion	54
	References	55

1 Introduction

It has been observed since the early days of generative grammar that the grammaticality of local binding of the reflexive element *zibun* in Japanese differs depending on the type of predicates that *zibun* cooccurs with. Ueda (1984, 1986), following Oshima (1979), notes that local binding of *zibun* is allowed with the predicates in (1a) but not with the predicates in (1b).¹

- (1) a. John_i-wa zibun_i-o { nikun-de-iru / seme-ta }.
John-Top self-Acc { hate-Prog-Pres / blame-Past }
'John_i { hates / blamed } himself_i.' (Ueda, 1984, 59b,60b)
- b. *John_i-wa zibun_i-o { nagut-ta / ket-ta }.
John-Top self-Acc { hit-Past / kick-Past }
*'John_i { hit / kicked } himself_i.' (Ueda, 1984, 61a,b)

In this paper, we apply the analyses of anaphor binding which focus on properties of predicates as well as anaphors: Reinhart and Reuland (1993) (hereafter, R&R) and Lidz (2001a,b), to Japanese and attempt to explain the contrastive acceptability of local *zibun* binding in (1). The analysis in Chomsky (1981, 1986b) focuses on the nominal type; anaphors should be bound in their binding domain while pronouns should be free in the same domain. This analysis does not seem to be able to account for the contrast in (1). For, in (1a), *zibun* behaves like an anaphor and allows local binding, but in (1b), it behaves like a pronoun that does not allow local binding. Instead, the analyses by R&R (1993) and Lidz (2001a,b) could give a more appropriate account for the contrast, because these analyses pay attention to properties of predicates. We call these approaches 'predicate-centered approaches,' compared to Chomsky's 'nominal-centered approach' that focuses on referential dependence of nominals. In this paper, we discuss how we can apply and extend the analyses by R&R (1993) and Lidz (2001a,b) to account for the contrast in (1), or more generally, anaphor binding in Japanese.

R&R (1993) claim that there are two ways to induce reflexive interpretation. We review their analysis in Section 2.2. One way is that a predicate is lexically specified as reflexive (lexically reflexive-marked predicates), and the other way is that a predicate itself does not have reflexivity but it is 'reflexivized' by its cooccurring 'reflexivizer' anaphor (syntactically reflexive-marked predicates). They classify anaphors into syntactic subclasses. In Section 3.2, we see if the contrast in (1) can be explained under R&R's approach. We predict that the application of this analysis explains the contrast as follows: in (1a), either one of the two ways to induce reflexivity is active so a reflexive reading is allowed, while in (1b), neither way of the two is operative so a reflexive reading is not available.

¹The following abbreviations are used in this paper: Acc = accusative, Asp = aspect marker, BA = disposal marker *ba* in Chinese, Cl = classifier, Comp = complementizer, Dat = dative, DE: verbal suffix or marker for modifying phrases in Chinese, DEC: Declarative, Gen = genitive, Neg = negation, Nom = nominative, Obj = object, Past = past tense, PP = participle, Pres = present, Prog = progressive, Refl = reflexive, Sub = subject, Top = topic.

Lidz (2001a,b) shows that the two ways to induce reflexivity that R&R propose have different semantics using two diagnostics: lexically reflexive-marked predicates induce ‘Pure reflexivity’ while syntactically reflexive-marked predicates induce ‘Near reflexivity’ as well as Pure reflexivity. In Section 2.3, we see Lidz’s claim that anaphors are specified in the lexicon as having a Near reflexive function (then, these anaphors are Near reflexive anaphors that referentially depend on their antecedents but are not necessarily identical with them) or not (Pure reflexive anaphors that require complete identity with their antecedents). ‘Condition R’ is proposed to regulate Pure reflexivity: when a predicate has semantic reflexivity, lexical reflexivity also has to be marked. If a predicate has lexical reflexivity, semantic reflexivity should be marked. The way of lexical reflexivity marking differs depending on language. For example, in Dutch, lexical reflexivity is marked on verbs in the lexicon: *gedraagt* ‘behave’ is reflexive, while *haat* ‘hate’ is not. In Kannada, it is marked by the affixal reflexive *koLLu* attached on verbs. In Section 3.3, we consider if Lidz’s approach explains the contrast in (1). If *zibun* is specified as a Pure reflexive in the lexicon, the contrast would be accounted for as follows. (1a) is accepted as Condition R is satisfied: *zibun* marks semantic reflexivity and the predicates are lexically marked as reflexive, as Dutch *gedraagt* ‘behave’ is. On the other hand, (1b) is not allowed as Condition R is violated: the predicates are not marked as reflexive, as Dutch *haat* ‘hate’ is not, and lexical reflexivity lacks.

We find that the application of these two predicate-centered approaches cannot give a straightforward account for the contrast in (1). However, we do not say that these approaches are not applicable to Japanese. We agree with Lidz (2001a,b) and claim that Pure reflexivity and Near reflexivity should be distinguished in Japanese as well. We show that Lidz’s (2001a,b) distinction: lexically reflexive-marked predicates induce Pure reflexivity while syntactically reflexive-marked predicates can induce both Pure and Near reflexivity, is true in Japanese. Morphologically reflexive marked predicates (known as *zi-/ziko*-verbs²) induce Pure reflexivity, while extrinsic reflexive verbs (verbs that induce reflexive interpretation by taking anaphors such as *zibun* in syntax) induce Near reflexivity as well as Pure reflexivity. We assume that the affixal reflexive anaphors *zi-/ziko-* of *zi-/ziko*-verbs mark both semantic and lexical reflexivity and Condition R regulates the reflexivity of these verbs. Under our analysis, all non-affixal anaphors, that is, free-morpheme anaphors, such as *zibun* and *zibun-zisin*, are categorized as Near reflexive anaphors. Our proposal has an apparent counterexample in that the free-morpheme anaphor *zibun-zisin* behaves like a Pure reflexive anaphor. We discuss that this apparent Pure reflexivity is due to the properties of this complex anaphor, following Liu’s (2003) ‘focus operator anaphor’ analysis of *ziji-benshen* ‘self-self’ in Chinese.

Though R&R’s analysis does not straightforwardly apply to Japanese, we agree with them that predicates have to be classified into types with respect to reflexivity. Drawing on an observation by Oshima (1979) and Ueda (1984, 1986), Aikawa (2001, 183-184) reports that “predicates that allow local binding of *zibun* involve abstract activities whereas those that preclude local binding of *zibun* involve physical activities.” In Section 5, we show that this distinction is not sufficient to

²As we will discuss in Section 4.3, there are two types of *zi-/ziko*-verbs: verbs that cannot occur with an object argument and ones that can. When we use *zi-/ziko*-verbs in this paper, we mean the first type of verb.

explain all cases in which local *zibun* binding is excluded. We claim that Japanese does not have ‘inherently reflexive predicates’ in R&R’s sense that can occur with anaphors. Inherently reflexive predicates in this language are only morphologically reflexive marked predicates: *zi*-verbs and *ziko*-verbs. Also, we do not think that Japanese has ‘non-reflexive predicates’ in R&R’s sense that can be reflexivized by a specific anaphor. Rather, we propose that Japanese has ‘anti-reflexive predicates’ that cannot felicitously participate in local *zibun* binding under Pure reflexive readings, by extending Lidz’s analysis of Near reflexivity. We suggest that the predicate in (1b) belongs to this class of verb so local reflexive binding is not allowed.

This paper is organized in the following way. In Section 2, we review three analyses of anaphor binding: Chomsky (1981, 1986b) that focuses on the nominal type and Reinhart and Reuland (1993) and Lidz (2001a,b) that pay attention to properties of predicate and nominal (especially anaphor). In Section 3, we apply the predicate-centered analyses to Japanese. We see if each analysis explains the contrast in (1), and more generally, anaphor binding in Japanese. Our conclusion is that R&R’s analysis does not straightforwardly apply to Japanese and does not account for the contrast in (1), but Lidz’s analysis is applicable to Japanese though the application gives an apparent contradiction. We extend these analyses and attempt to account for the contrast in (1) and anaphor binding in Japanese in the following sections. In Section 4, we extend Lidz’s (2001a,b) analysis and show that his distinction: lexically reflexive-marked predicates induce Pure reflexivity while syntactically reflexive-marked predicates induce both Pure and Near reflexivity, is true in Japanese. We propose that (a) all free-morpheme anaphors are Near reflexive anaphors, (b) Near reflexive interpretations are not induced by these anaphors if they have a specific function such as an intensifier function, and (c) bound-morpheme anaphors are Pure reflexive anaphors, in Japanese. We also show that this classification applies to anaphors in other languages such as Korean and Chinese. In Section 5, we argue that Japanese has neither inherently reflexive predicates that can occur with anaphors nor non-reflexive predicates that can be reflexivized by a specific anaphor. We claim that, instead, Japanese has ‘anti-reflexive predicates’ that cannot felicitously participate in local *zibun* binding under Pure reflexive readings, extending Lidz’s Near reflexivity and Pure reflexivity distinction. Section 6 is the conclusion.

2 Background

In this section, we review three analyses of anaphor binding: Chomsky (1981, 1986b), Reinhart and Reuland (1993) and Lidz (2001a,b). The seminal study of reflexives is the Binding Theory (Chomsky, 1981, 1986b): a theory of nominal types. Reinhart and Reuland (1993), instead, propose that reflexivity is a property of predicates and categorize anaphors into syntactic subclasses. Lidz (2001a,b) argues that anaphors should be categorized based on their semantics showing that different anaphors induce different reflexivity.

2.1 Binding Theory: Chomsky (1981, 1986)

The Binding Theory is one of the six subsystems of core grammar framework of the Government and Binding (hereafter GB) developed in Chomsky (1981). The Binding Theory is concerned with the relations of nominal expressions to possible antecedents. The antecedent binds a nominal, and this determines the interpretation of the nominal.

Within the GB framework, it is assumed that nominal expressions fall into some categories depending on the two features: [Anaphor] and [Pronominal]. An element marked [+Anaphor] functions referentially only in interaction with its antecedent in the same sentence; the reference of an element with [+Pronominal] may be, but is not always, determined by an antecedent. By the two properties, Chomsky classifies nominal expressions into some types. As in (2), anaphors are [+Anaphor] and [−Pronominal], and pronominals are [−Anaphor] and [+Pronominal]. The nominals that have [−Anaphor] and [−Pronominal] are R-expressions.

Chomsky (1981, 220) proposes the principles of binding that regulate the relation between nominals and their possible antecedents as in (3). The definition of *binding category* is given in (4). We can say that this is a theory of the syntactic properties of referential dependence.

- (2) (i) anaphors: [+Anaphor] and [−Pronominal]
- (ii) pronominals: [−Anaphor] and [+Pronominal]
- (iii) R-expressions: [−Anaphor] and [−Pronominal]

- (3) a. Principle A: An anaphor is bound in its binding category.
- b. Principle B: A pronominal is free in its binding category.
- c. Principle C: An R-expression is free.

- (4) β is a *binding category* for α if and only if β is the minimal category containing α and a SUBJECT accessible to α .
(Chomsky, 1981, 220)

These principles regulate the behavior of anaphors, pronouns and R-expression in (5)–(8) as follows. In (5), the BC of each *himself* and *him* is the whole sentence that contains the nominal and a SUBJECT accessible to it (in this case, Agr). *Himself* in (5a) is bound by the antecedent *John* in its BC, so Principle A rules in the anaphor. On the other hand, *him* in (5b) is not allowed. The pronoun *him* is bound by the antecedent *John* within its BC, so Principle B is not satisfied. The BCs in (6) are the embedded clauses. In (6a), Principle A rules out *himself*, and Principle B rules in *him* in (6b). (5) and (6) show the complementary distribution between anaphor and pronominal. The BCs of the anaphors in (7) are the whole sentences. In (7a), the anaphor *himself* is bound by the antecedent *Mary's father* within its BC, so Principle A allows the binding of the anaphor by the antecedent. In (7b) with the same antecedent *Mary's father* as (7a), the anaphor *herself* is not bound. Therefore, (7b) is ruled out by Principle A. In (7c), the antecedent *Mary's father* does not bind the pronoun *her* in the BC, so Principle B rules in (7c). (7d) and (8) illustrate the effect of Principle C. The R-expression *Mary* in (7d) is not bound by the pronoun *her*, so the binding does not violate Principle C, and (8) shows that the R-expression *Mary* must be free no matter whether their antecedents are outside or inside of their BC.

(5) a. John_i hates himself_i.

b. *John_i hates him_i.

(6) a. *John_i thinks that Mary hates himself_i.

b. John_i thinks that Mary hates him_i.

(Reuland and Everaert, 2001, 637 (9))

(7) a. [Mary_i's father]_j hates himself_j.

b. *[Mary_i's father]_j hates herself_i.

(Reuland and Everaert, 2001, 636 (8b))

c. [Mary_i's father]_j hates her_i.

d. [Her_i father]_j hates Mary_i.

(8) a. *Mary_i hates Mary_i.

b. *Mary_i hates Mary_i's father.

2.2 Reflexivity: Reinhart and Reuland (1993)

Arguing against Chomsky’s approach to the syntactic properties of referential dependencies, Reinhart and Reuland (1993) (R&R, hereafter) propose an alternative approach. They claim that there are two modules regulating the distribution of anaphors and pronominals: (i) the domain of reflexivization is defined over predicates without making reference to syntactic structure, (ii) configurational effects are due to chain formation. Under their analysis, a domain of reflexivization is a domain constituted by a predicate and its coarguments.

First of all, one of the characteristic points of R&R’s theory is their claim that there is no simple distinction between anaphors and pronouns. They describe two properties [SELF] and [R] that classify NPs into some groups. If an element is marked [+SELF], it is able to reflexivize the predicate. To put it another way, the element has a ‘reflexivizing function’ that imposes identity between coarguments of a predicate. We use the term ‘reflexivizer’ to refer to that kind of element with the reflexivizing function. When an element is marked [+R], ‘R’ represents ‘referentially independent,’ which means it is fully specified for phi-features.

R&R partition NPs into some classes by the [SELF] and [R] properties. They introduce two types of anaphors: SELF-anaphors and SE(Simple Expression)-anaphors. SELF-anaphors are morphologically complex anaphors such as *zichzelf* ‘selfself’ in Dutch or *sichselbst* ‘selfself’ in German. On the other hand, SE-anaphors are morphologically simple. *Zich* ‘self’ in Dutch or *sich* ‘self’ in German are SE-anaphors. These two anaphors show a difference regarding the two properties: [SELF] and [R]. SELF-anaphors are [+SELF, –R] and they can function as ‘reflexivizers,’ while SE-anaphors, with the [–SELF, –R] property, cannot function as reflexivizers. NPs with [–SELF, +R] properties are pronouns and R-expressions. In this paper, we focus on anaphors and pronouns, so we do not pay attention to R-expressions. Here, we should notice that R&R compare anaphors and pronouns with a three-way distinction: SELF-anaphors, SE-anaphors and pronouns. By contrast, the Principles in the Binding Theory distinguish them in only two way: anaphors and pronouns, as we have seen in (3). This contrast is one of the characteristics that cause the differences between R&R’s theory and the Binding Theory. (9) presents the distinction among the three kinds of anaphors and pronouns that R&R propose.

(9)

	SELF-anaphor	SE-anaphor	Pronoun
[SELF]	+	–	–
[R]	–	–	+

Now, let us observe the sentences in Dutch (10)-(14) that illustrate the distribution of SE-anaphors and SELF-anaphors.

- (10) Max_i gedraagt {zich_i / *zichzelf_i}. [Dutch]
 behaves {SE / *SELF}
 ‘Max behaves.’

- (11) Max_i haat {zichzelf_i / *zich_i}.
 hates {SELF / *SE}
 ‘Max hates himself.’
- (12) Max_i wast {zich_i / zichzelf_i}.
 washes {SE / SELF}
 ‘Max washes himself.’
- (13) Max_i legt het boek achter zich_i.
 puts the book behind SE
 ‘Max puts the book behind him.’
- (14) Max_i voelde [zich_i wegglijden].
 felt [SE slide away]
 ‘Max felt him slide away.’

(Reuland and Everaert, 2001, 655-656)

SE-anaphors appear as a bound argument of a verb as in (10) and (12), a bound argument of a locative or directional PP as in (13), and a bound subject of an Exceptional Case-marking (ECM) construction as in (14). SELF-anaphors are allowed as a bound argument of a verb as in (11) and (12). What makes the contrastive distribution between SE-anaphors and SELF-anaphors in (10)-(12)?

As we have seen in (9), only the SELF-anaphor functions as a reflexivizer, and the SE-anaphor does not. In (10), only the SE-anaphor *zich* is permitted and the SELF-anaphor *zichzelf* is not. On the other hand, only the SELF-anaphor *zichzelf* is allowed and the SE-anaphor *zich* is not accepted in (11). These contrasting behaviors of SELF-anaphors and SE-anaphors lead us to predict that there are two types of predicates: reflexive and non-reflexive, depending on their inherent property. Predicates that are labeled as lexically reflexive require SE-anaphors as their arguments. These predicates have reflexivity inherently, so they call for anaphors that do not have the property to reflexivize a predicate. To the contrary, predicates that take SELF-arguments are inherently non-reflexive. They require SELF-anaphors that function as reflexivizers as their arguments to compensate for the lack of inherent reflexivity in the predicates. The inherently reflexive predicate *gedraagt* ‘behave’ in (10) needs the SE-anaphor *zich*, while the non-reflexive predicate *haat* ‘hate’ in (11) requires the SELF-anaphor *zichzelf*, a reflexivizer. *Zichzelf* reflexivizes the predicate. What gives rise to reflexivity is the property of predicates that is licensed inherently or such that it takes a SELF-anaphor as its argument. We refer to this licensing either by the inherent reflexive property of the predicate or by taking SELF-anaphors as ‘reflexive marking.’

As we have seen, the distribution of the two types of anaphors follows from the properties of predicates. Coindexing, however, also relates to the reflexivity. Coindexing does not cause a predicate to be semantically reflexive, as the ungrammatical cases in (10) and (11) show. Rather, coindexing just marks a pair or set of coindexed elements as ‘reflexive.’

R&R compose a set of definitions given in (15). These definitions contain the notions that we have studied: ‘reflexive’ in (15c) and ‘reflexive marked’ in (15d). Moreover, new notions ‘syntactic

predicate’ and ‘semantic predicate’ in (15a) and (15b) are also included. The distinction between ‘syntactic predicate’ and ‘semantic predicate’ is necessary to comprehend R&R’s analysis. We will see the distinction later with more concrete examples.

- (15) a. The *syntactic predicate* of (a head) P is P, all its syntactic arguments, and an external argument of P (subject). The *syntactic arguments* of P are the projections assigned theta-role or Case by P.
- b. The *semantic predicate* of P is P and all its arguments at the relevant semantic level.
- c. A predicate is *reflexive* iff two of its arguments are coindexed.
- d. A predicate (of P) is *reflexive-marked* iff either P is lexically reflexive or one of P’s arguments is a SELF-anaphor. (Reinhart and Reuland, 1993, 678)

With these conditions, we can now formulate R&R’s conditions on reflexive predicates as follows.

- (16) a. Condition A: A reflexive-marked syntactic predicate is reflexive.
- b. Condition B: A reflexive semantic predicate is reflexive-marked. (Reinhart and Reuland, 1993, 678)

Conditions A and B should be read as conditionals: equivalent to ‘If a syntactic predicate is reflexive-marked, then the predicate is reflexive’ and ‘If a semantic predicate is reflexive, then the predicate is reflexive-marked.’ As these are material implications, the whole statement holds true if the antecedent clause (if-clause) is not true, regardless of the truth of the consequent clause. If antecedent clauses are false, the Conditions vacuously rule in the whole sentences that contain the clauses. In other words, if a predicate is not reflexive-marked, then Condition A vacuously rules in the sentence that contains the predicate, and if a predicate is not reflexive, Condition B vacuously applies.

Let us reexamine the example sentences (10)-(14) with R&R’s Conditions. In (10), the predicate *gedraagt* ‘behaves’ is lexically reflexive, so it is reflexive marked as the definition (15d) says. Moreover, its arguments *Max* and *zich* are coindexed, so it is reflexive according to the definition (15c). Therefore, Conditions A and B are satisfied. The predicate *haat* ‘hates’ in (11) is reflexive marked if the SELF-anaphor *zichzelf* is chosen, as the condition (15d) states. *Zich* is not allowed because the predicate would then be reflexive but not reflexive marked. The predicate in (12) *wast* ‘washes’ has two properties with regard to reflexivity, it is either lexically reflexive or non-reflexive. R&R call these kind of predicates ‘doubly listed predicates.’ If such a predicate of that kind functions as inherently reflexive, it takes a SE-anaphor *zich*. If a predicate is taken as non-reflexive, a SELF-anaphor *zichzelf* is required. In (13), the predicate is the preposition *achter* ‘behind’. Prepositions of locative and directional PPs form their own predicates. The predicate in (14) is the embedded verb *weggliden* ‘slide away’. The predicates in (13) and (14) are not reflexive marked, so Condition A does not apply. Condition B does not apply either because their arguments are not coindexed and the predicates are not reflexive. Both Conditions vacuously rule in (13) and (14).

We have some problematic cases that Conditions A and B cannot account for. Condition B correctly rules out (17) and rules in (18a) and (19a), but it incorrectly rules in (18b) and (19b). In (18b), the predicate is reflexive marked and reflexive. In (19b), no predicate is reflexive marked or reflexive. Thus, the Conditions vacuously rule in the sentence, so it is predicted that all *zich*, *zichzelf*, and *hem* are allowed. What principle of grammar could be involved to explain the ungrammaticality of (18b) and (19b)?

(17) a. *Max_i haat zich_i.
hate SE

b. *Max_i haat hem_i.
him
'Max hates himself.'

(18) a. Max_i gedraagt zich_i.
behaves SE

b. *Max_i gedraagt hem_i.
him
'Max behaves.'

(19) a. Max_i voelde [{zich_i / zichzelf_i} wegglijden].
felt [{SE / SELF} slide away]

b. *Max_i voelde [hem_i wegglijden].
him
'Max felt him slide away.'

(Reuland and Everaert, 2001, 660-661)

A crucial difference between *zich* and *hem* is that the pronominal *hem* is fully specified for phi-features, whereas the anaphor *zich* is underspecified, that is, it lacks a specification for number and gender. To give an explanation for these puzzling cases, R&R accept the notion of a syntactic chain (20) following Chomsky (1986a,b). That can be extended so as to include any appropriate sequence of coindexation.

(20) Generalized Chain definition

$C=(\alpha_1, \dots, \alpha_n)$ is a chain iff C is the maximal sequence such that

- i. there is an index i such that for all j , $1 \leq j \leq n$, α_j carries that index, and
- ii. for all j , $1 \leq j \leq n$, α_j governs α_{j+1}

Under the definition, all syntactic domains in which a moved NP can bind its trace instantiate A-chains. R&R argue that A-chains must obey the condition that their tail is underspecified for at least one phi-feature. In other words, what grammatical A-chains have in common is that the tail consists of [-R] NPs. They propose the 'Condition on A-chains' as in (21) based on the definition (20). The Condition on A-chains is applied to the cases that Conditions A and B incorrectly rule in, and accounts for the ungrammaticality of these cases.

- (21) A maximal A-chain ($\alpha_1 \dots \alpha_n$) contains exactly one link $-\alpha_1-$ that is both +R and case-marked.
(Reinhart and Reuland, 1993, 696)

Here we return to the problematic cases (18) and (19) that Conditions A and B incorrectly rule in. The Condition on A-chains can rule them out properly. The predicate *gedraagt* 'behaves' in (18) is inherently reflexive, so it needs an NP with the [-SELF] property as its argument. Though both the SE-anaphor and the pronoun are [-SELF], the pronoun *hem* that has the [+R] property is ruled out due to the Condition on A-chains as in (18b), whereas the SE-anaphor *zich* with the [-R] is allowed in (18a). In (19b), the pronoun *hem* with [+R] is an A-chain tail position, so the Condition on A-chains rules it out. The condition does not apply to (19a) because the SE-anaphor is [-R].

Moreover, we have another case. R&R's version of Conditions A and B cannot explain the difference of the acceptability in (22).

- (22) a. Max_i criticized himself_i.
b. *Himself_i criticized {Max / him}_i. (Reinhart and Reuland, 1993, 713)

A reflexive anaphor is in the subject position in a simple sentence as in (22b), because Condition B rules it in. The coarguments of the predicate *criticized*: *himself* and *him*, are coindexed, so the predicate is reflexive. In addition, one of its arguments is SELF-anaphor, so the predicate is reflexive-marked. Therefore, (22b) is incorrectly ruled in. However, the Condition on A-chains correctly rules out (22b), because *her* is in the tail position of the chain. The Condition on A-chains is irrelevant to (22a). Condition B correctly rules it in. As the coarguments are coindexed and one of the arguments is a SELF-anaphor, the reflexive predicate is reflexive marked in (22a).

The Condition on A-chains can also account for the ungrammaticality of the sentences that contain [+R] non-head chains in so-called ECM and 'raising' constructions such as (23).

- (23) a. Max heard [himself criticize Lucie].
b. Max expects [himself to pass the exam]. (Reinhart and Reuland, 1993, (99)-(100))

The subject in ECM structures and small clauses is a syntactic argument of the matrix predicate, because it is assigned its case by the matrix predicate. In (23), *Max* and *himself* are coarguments of the matrix predicates. As they are coindexed, Condition A rules in the sentences. However, (23a) and (23b) are simultaneously ruled out by Condition A. The anaphors *himself* are also syntactic arguments of the embedded predicates and reflexive-mark the predicates, but the predicates are not

reflexive. R&R account for the grammaticality of (23) by proposing V-raising of the lower predicates as in (24).

- (24) a. Max [criticize_i-hear_j]_j [himself t_i Lucie]
b. Max [to-pass_i-expect_j]_j [himself t_i the exam]. (Reinhart and Reuland, 1993, (101)-(102))

In English, the V-raising occurs covertly in LF. The anaphor *himself* is no longer the syntactic argument, and it does not reflexive-mark a lower predicates. *Himself* is the argument of the new complex predicate. The anaphor is coindexed with the matrix subject *Max*, so Condition A is met.

- (25) a. *Lucie₁ considers [her₁ smart].
b. *Lucie₁ expects [her₁ to leave soon]. (Reinhart and Reuland, 1993, (106))

R&R explain the ungrammaticality of (25) in terms of the Condition on A-chains. They say that the ECM subject is not a semantic argument of the matrix predicate. Condition B vacuously rules in (25), but the Condition on A-chains correctly rules out (25). Both (25a) and (25b) contain [+R] non-head chains, so the two sentences are not allowed.

Further they propose that an anaphor that is in a coargument domain of a predicate is a reflexive anaphor but the one outside the domain is a ‘logophoric anaphor’ and that conditions for reflexive anaphors vacuously rule in logophoric anaphors.

- (26) a. Max saw a gun near himself/him. (Reinhart and Reuland, 1993, (7a))
b. Lucie saw a picture of herself/her. (Reinhart and Reuland, 1993, (8a))

In (26a), *Max* and *himself* are not coarguments of the predicate *saw*. *Himself* in (26b) is also not a coargument of the predicate. Condition A vacuously applies in these cases. These anaphors as well as pronouns are ruled in by this condition.

Three of the crucial differences of R&R’s theory from the Binding Theory are the distinction of anaphors, attention to properties of predicates, and the conditions on binding. R&R distinguish nominals into three-way: SE-anaphors, SELF-anaphors and pronouns, while there is a two-way distinction: anaphors and pronouns, in the Binding Theory. They also categorize predicates that occur with anaphor into types based on their properties: inherently reflexive, non-reflexive and doubly-listed as reflexive and non-reflexive. Binding Theory does not pay attention to properties of predicates. The third difference is that R&R define two alternative conditions on binding and anaphors as in (16). R&R’s conditions focus on the relation between a predicate and its coarguments. This is different from the Binding Theory idea that focuses on the relation of nominals.

2.3 Condition R: Lidz (2001a,b)

Lidz (2001a,b) gives an alternative version of predicate-centered approach, with the consideration of more intricate aspects of semantics of anaphor. He points out two major defects of R&R's (1993) analysis.

Lidz's first argument against R&R (1993) is that their analysis makes us predict that two types of reflexive-marked predicates (lexically reflexive-marked predicates and syntactically reflexive-marked predicates) should form a natural class since the definition of 'reflexive-marked' in R&R's theory given in (15d) is a disjunction. Lidz demonstrates the semantic differences of the two kinds of predicates using two diagnostics. The first diagnostic uses the Madame Tussaud context first discussed in Jackendoff (1992).³ (27a) is the example in which a lexically reflexive-marked predicate is used. The predicate is inherently specified as reflexive in the lexicon. (27b) is the instance with a syntactically reflexive-marked predicate. The predicate is inherently non-reflexive but reflexivized by taking a SELF anaphor.

- (27) a. Ringo scheert zich [Dutch]
 shaves self
 'Ringo shaves himself (=Ringo / *statue).'
- b. Ringo scheert zichzelf
 shaves selfself
 'Ringo shaves himself (=Ringo / statue).' (Lidz, 2001b, (9))

On one interpretation, Ringo can be understood as shaving one of the statues that portrays him in a wax museum. In this situation it is felicitous in Dutch to say (27b) but not (27a). If Ringo shaves his own face, then it is possible to say either (27a) or (27b). Lidz's point is that R&R's analysis fails to capture that additional 'statue reading' is available with a syntactically reflexive-marked predicate (27b).⁴

Comparative deletion construction is used as the second diagnostic. The lexically reflexive-marked predicate in (28a) allows only the sloppy reading, while the syntactically reflexive-marked predicate in (28b) allows both the sloppy and strict readings.

³The predicate in (27) is a doubly-listed predicate (as reflexive and non-reflexive) in R&R's term. It can take either an SE anaphor or a SELF anaphors depending on the usage.

⁴In this paper, we use the term 'statue interpretations' interchangeably with Near reflexive interpretations, and give examples with a reading like 'a statue that depicts him/her.' However, 'statues' need not to be a statue. If pictures and portraits are referentially dependent on their antecedents but not identical with them, we would call those interpretations 'statue interpretations' as well. Jeff Lidz (p.c.) says that even milk chocolate figures that depict agents or books written by agents can be 'statues,' so it is possible to say 'we can eat ourselves' and 'we can find ourselves in the book store.'

- (28) a. *Zij verdedigde zich beter dan Peter*
 she defended self better than
 ‘She defended herself better than Peter defended himself’
 *‘She defended herself better than Peter defended her’
- b. *Zij verdedigde zichzelf beter dan Peter*
 she defended selfself better than
 ‘She defended herself better than Peter defended himself’
 ‘She defended herself better than Peter defended her’ (Lidz, 2001b, (11))

Secondly, Lidz (2001a,b) proposes a different way of distinguishing anaphors, arguing against R&R’s way that depends on the morphological composition. Based on the results of the diagnostics above, Lidz claims that anaphors should be categorized depending on their semantic difference. SE anaphors in R&R’s term that induce only the real-identity (non-statue) reading in the Madame Tussaud context and function like a variable in comparative deletion constructions, such as *zich* ‘self’ in (27a), are called ‘Pure reflexive anaphors’ in Lidz’s analysis. Compared with this type, SELF anaphors in R&R’s term are called ‘Near reflexive anaphors.’ These anaphors are referentially dependent on their antecedents but not necessarily identical with them, as we have seen in (27b). (29a) and (29b) show the semantic representation of Pure reflexive predicates (predicates that take Pure reflexives as their arguments) and Near reflexive predicates, respectively. When the Near reflexive function returns the input itself, a Pure reflexive interpretation is induced. That is, Pure reflexivity is a subcase of Near reflexivity. Condition R in (30) regulates Pure reflexivity. It states that if a predicate is semantically reflexive, it must be lexically reflexive, and vice versa. The left side of the formula indicates the semantics of reflexivity, and the right side shows the θ -grid of lexically reflexive predicate. The two thematic roles of a lexically reflexive predicate must be coindexed.⁵

⁵Burzio (1994) also observes that two types of anaphors induce different readings. He calls morphologically complex anaphors ‘strong anaphors’ and simplex anaphors ‘weak anaphors.’ He proposes ‘Weak Anaphor Principle’ given in (i). This principle says that inherent coreference (similar notion to ‘Pure reflexivity’ in Lidz (2001a,b)) requires weak(er) anaphors, and weak anaphors induce inherent coreference. He proposes that morphologically simpler anaphors such as Italian reflexive clitic *si* ‘self’ or morphologically simple anaphor *sé* are ‘weaker’ than morphologically complex anaphor *se stesso* ‘self-same.’ Only weaker anaphors can induce coreference (or identity between anaphor and its antecedent).

- (i) Weak Anaphor Principle
 Inherent coreference ↔ weak anaphora
 (semantics) (morphology) (Burzio, 1994, (3))

(29) a. $\lambda x [P(x,x)]$ (semantic / pure reflexive)

b. $\lambda x [P(x,f(x))]$ (near reflexive) (Lidz, 2001b, (13))

(30) *Condition R*

$\lambda x [P(x,x)] \leftrightarrow (\theta 1 = \theta 2)$
 semantics θ -grid (Lidz, 2001b, (16))

Lidz's analysis accounts for the contrasts in (27) and (28) as follows: In (27a), Condition R is satisfied because the semantic reflexivity is induced by the Pure reflexive anaphor *zich* and the lexical reflexivity is induced by the predicate (it is inherently marked as reflexive in the lexicon). In contrast, in (27b), Condition R is not operative. The Near reflexive anaphor *zichzelf* does not induce the semantic reflexivity. Also, the lexical reflexivity is not induced because the predicate here is not lexically reflexive. Here, *zichzelf* is a function that takes *Ringo* as input and returns the 'statue of Ringo' that is representationally related to the input. In the comparative deletion construction, the Pure reflexive anaphor *zich* functions as a variable and only the sloppy identity interpretation is allowed in (28a), while (28b) allows the non-sloppy identity reading as the anaphor is not a variable.

Further, Lidz (2001a,b) gives data from Kannada and shows that lexical reflexivity is not only intrinsically marked on verbs but also marked on verbs by taking a verbal reflexive marker (Cf. Lidz, 1995). Compare the unacceptable example (31a) and the acceptable example (31b). Only in the latter, the predicate is marked as reflexive by the verbal reflexive marker *koND* (past tense form of *koLLu*). Lexical reflexivity is marked only in the latter case, and then the sentence does not induce a Near reflexive reading. *Tann*, a Pure reflexive anaphor, marks the semantic reflexivity on the predicate. Condition R is satisfied in (31b) and the sentence is allowed. By contrast, Condition R is violated in (31a) because the Pure reflexive anaphor *tann* induces the semantic reflexivity but the the predicate lacks the lexical reflexivity. *Tannu-taane* in (31c) is a Near reflexive anaphor, and the Near reflexive reading as well as the Pure reflexive reading are available in the sentence. Condition R is not operative in this case because neither semantic reflexivity (*tannu-taane* does not induce) nor lexical reflexivity (the verb does not take the verbal reflexive marker *koND*) is induced.

(31) a. * Hari tann-annu hoDe-d-a. [Kannada]
 Hari self-Acc hit-Past-3sm
 'Hari hit himself.' (= Hari)

b. Hari tann-annu hoDe-du-koND-a
 Hari self-Acc hit-PP-Refl.Past-3sm
 'Hari hit himself.' (= Hari, *statue)

c. Hari tann-annu-taane hoDe-d-a
 Hari self-Acc-self hit-Past-3sm
 'Hari hit himself.' (= Hari, statue)

(Lidz, 2001a, (12) with modification)

As we have seen in section 2.2, R&R (1993) classify anaphors based on their morphological composition: morphologically complex anaphors function as reflexivizer, and simplex ones lack the function. Apparently, from the above data in Dutch and Kannada, we can say that morphologically complex anaphors are Near reflexive anaphors and simplex ones are Pure reflexive anaphors. However, this classification is not the case. As Lidz reports, the morphologically simplex anaphor *ziji* ‘self’ in Chinese allows Near reflexive interpretations as well as Pure reflexive interpretations in the Madame Tussaud context, as illustrated in (32). Further, Liu (2003) shows that the morphologically complex anaphor ‘pronoun+*ziji*’ (for example, *ta-ziji* ‘him-self’) in this language also allows both Pure and Near reflexive interpretations as in (33).

(32) Mao Ze-Dong ba *ziji* qiangbi le. [Chinese]

BA self shot

‘Mao Ze-Dong shot himself.’ (*ziji* = Mao Ze-Dong / statue) (Lidz, 1996, 158; Liu, 2003, (3))

(33) Zai *ziji*-de tongxiang qian, Jiang Jie-Shi yong qunzi da-le ta-*ziji* yi-xia
at self-DE statue before use cane hit-Asp himself one-Cl

‘In front of his statue, Jiang Jie-Shi uses a cane to hit himself.’ (*ta-ziji* = Jiang Jie-Shi / statue)

(Liu, 2003, (4))

Lidz further shows that the free-morpheme anaphor *sebja* ‘self’ in Russian, that seems to be morphologically simplex, allows Near reflexive interpretations as well as Pure reflexive interpretations. In this language, the affixal reflexive anaphor *sja-* ‘self’ allows only Pure reflexive interpretations. That is, Condition R is operative only in (34b). It is predicted that this affixal reflexive anaphor marks not only semantic reflexivity (as Kannada *tannu-tanne* does) but also lexical reflexivity because the predicate itself lacks lexical reflexivity. For, in (34a), the same predicate does not mark lexical reflexivity as Condition R is not operative and the Near reflexive reading is available.

(34) a. Yeltsin zastrelil *sebja*. [Russian]

Yeltsin shot self

‘Yeltsin_i shot himself_i.’ (*sebja* = Yeltsin, statue)

b. Yeltsin zastrelil-*sja*.

Yeltsin shot-Ref

‘Yeltsin_i shot himself_i.’ (-*sja* = Yeltsin, *statue) (Lidz, 2001a, (26))

English has just one type of anaphor such as *himself* or *herself*. In this language, predicates that occurs with these anaphors induce a Near reflexive interpretation. That is, predicates that extrinsically mark reflexivity are Near reflexive predicates. See (35b). By contrast, inherently reflexive predicates such as *dress* and *wash* that occur without reflexive object allow only a Near reflexive interpretation, in accordance with Condition R. Consider (35a). Both semantic and lexical reflexivity is inherently marked on verbs. They are Pure reflexive predicates.

(35) a. Reagan dressed in the museum. (Reagan, *statue)

b. Reagan dressed himself in the museum. (Reagan, statue)

(Lidz, 2001a, (22) with modification)

The data from Chinese, Russian and English shows that the morphological composition of anaphor does not distinguish the function or property of anaphors, contrary to R&R's (1993) classification. Lidz's (2001a,b) analysis, on the other hand, says nothing about the morphological form of anaphors. Under the analysis, individual anaphors are lexically specified as introducing the Near reflexive function or not. Further, Condition R makes an interesting prediction given in (36).

(36) If an anaphor can be bound by a coargument (in the absence of lexical reflexivity), then that anaphor is a Near-reflexive. (Lidz, 2001a, 237)

As we have observed above, Dutch *zichzelf*, Kannada *tannu-taane*, Chinese *ziji* and *ta-ziji*, Russian *sebja*, and English *himself* all allow coargument binding without lexical reflexivity and allow statue interpretations in the Madame Tussaud context. These anaphors are all Near-reflexive anaphors. Some of them are morphologically complex and some are simplex. The morphological composition of anaphor does not distinguish the property of anaphors.

Lidz's (2001a,b) way to classify anaphors based on their semantics: anaphors that purely function as variable (Pure reflexive anaphors) and anaphors that can contribute something to interpretation (Near reflexive anaphors), gives a better account for the behavior and properties of anaphors in languages than R&R's one based on their morphological composition. He proposes that individual anaphors are lexically specified as a Near reflexive anaphor or not. This analysis is consistent with the crosslinguistic facts that even morphologically simplex anaphors, such as Chinese *ziji* 'self,' allow coargument binding and induce Near reflexivity.

3 Applicability of predicate-centered approaches to Japanese

In this section, we apply the predicate-centered approaches to anaphor binding: Reinhart and Reuland (1993) and Lidz (2001a,b), to Japanese. Before that, we briefly explain why the Binding Theory approach (Chomsky, 1981, 1986b), a traditional theory of reflexivity, is not enough to account for anaphor binding in Japanese and we need an alternative account in Section 3.1. Then, we apply Reinhart and Reuland (1993) and Lidz (2001a,b) to Japanese in Sections 3.2 and 3.3.

3.1 Nominal-type approach

As we have seen in (1), the possibility of local binding of *zibun* ‘self’ differs depending on properties of cooccurring predicates. Local binding is allowed with some verbs as in (1a), but not allowed with other verbs as in (1b). If the sentences in (1) are embedded, long-distance (LD) binding of *zibun* is allowed in both sentences, as (37) indicates. If *zibun* is an anaphor, Binding Principle A given in (3a) fails to regulate (1b) and the LD binding in (37b). If *zibun* is a pronoun, Binding Principle B in (3b) fails to regulate (1a) and the local binding in (37a).⁶ We have seen in (5) and (6) that Binding Principles A and B capture the complementary distribution of the English anaphor and pronoun. However, it seems that they cannot capture the behavior of *zibun* in (1) and (37): the anaphor-like behavior of *zibun* bound by *John* and the pronoun-like behavior bound by *Mary*, unless we say that *zibun* is lexically ambiguous and classified as both anaphoric and pronominal. We also have to explain why *zibun* behaves like an anaphor when it occurs with predicates such as *semeru* ‘blame’ in (37a), while it behaves like a pronoun with predicates such as *keru* ‘kick,’ as the unacceptability of the local binding in (37b).

- (37) a. Mary-ga [John-ga zibun-o seme-ta] to omot-ta.
Mary-Nom John-Nom self-Acc blame-Past -Comp think-Past
‘Mary_i thought that John_j blamed self_{i/j}.’
- b. Mary-ga [John-ga zibun-o ket-ta] to omot-ta.
Mary-Nom John-Nom self-Acc kick-Past -Comp think-Past
‘Mary_i thought that John_j kicked self_{i/*j}.’

In addition, although Chomsky’s theory is based on the observation in English, which has only one type of anaphor (pronoun+‘self’), Japanese has more than one type of anaphor: *zibun* ‘self,’ *zibun-zisin* ‘self-self,’ pronoun+*-self* (such as *kare-zisin* ‘himself’) and affixal reflexives *zi-/ziko-* ‘self.’⁷

⁶ It has been debated in the literature whether *zibun* is a pronoun (Fukui, 1984, Ueda, 1984, 1986, Sportiche, 1986) or an anaphor (Katada, 1988, 1991, Aikawa, 1993, Abe, 1997, Hara, 2002, Nishigauchi, 2005, Kishida, 2005, Shimada, 2006, Nishigauchi and Kishida, 2008, Nishigauchi, 2009).

⁷ Though Hoji (1991) argues that *kare* does not correspond to *he* in English, we call *kare* as a pronoun in Japanese in this paper.

R&R (1993) mainly observe West Germanic languages that have more than one kind of reflexive anaphor such as Dutch and German. For example, Dutch has three kinds of anaphors: *zich* ‘self,’ *zichzelf* ‘self-self,’ and *‘m zelf* ‘himself.’ Lidz (2001a,b) also observes languages that have several types of anaphor such as Kannada, Chinese and Russian. We believe that the application of those analyses could give a better account than Chomsky’s analysis to anaphor binding in Japanese.

3.2 Reinhart and Reuland (1993)

How anaphors in Japanese are classified under R&R’s (1993) approach has been discussed. Many studies (Aikawa, 1993, Hara, 2002, Kishida, 2005, Nishigauchi and Kishida, 2008) do not regard *zibun* as the reflexivizer anaphor in Japanese, but Shimada (2006, 64) claims that *zibun* is a reflexivizer based on the following observation. The predicate *semeru* ‘blame’ can occur with a non-reflexive object *Mary* in (38a) but also with a reflexive anaphor *zibun* in (38b). Her claim is that *zibun* converts a transitive predicate into a reflexive verb, so it is a reflexivizer.

- (38) a. John-ga Mary-o seme-ta
 John-Nom Mary-Acc blame-Past
 ‘John blamed Mary.’
- b. John-ga zibun-o seme-ta (=(1a))
 John-Nom self-Acc blame-Past
 ‘John blamed self.’

We, however, do not think that this claim is compatible with R&R (1993). The definition of reflexivizer anaphor under their theory says that reflexivizers should be morphologically complex. *Zibun* is, however, morphologically simplex. Japanese have a morphologically complex anaphor *zibun-zisin* ‘self-self.’ So, if we strictly follow R&R’s definition, *zibun-zisin* is categorized as the reflexivizer anaphor and *zibun* as a non-reflexivizer anaphor in Japanese (Cf. Aikawa, 1993, Kishida, 2005).

If this is the case, the application of R&R’s analysis would explain the contrastive acceptability of local *zibun* binding in (1), repeated here as (39) with only one of the verbs, as follows. If the predicate in (39a) is inherently marked as reflexive in the lexicon, then it is lexically reflexive-marked. The non-reflexivizer anaphor *zibun* can be used. On the other hand, the predicate in (39b) is non-reflexive. In the example, the predicate takes the non-reflexivizer anaphor. The predicate is not reflexive-marked, so (39b) is excluded.

- (39) a. John-ga zibun-o seme-ta (=(1a))
 John-Nom SE-Acc blame([+ref])-Past
 ‘John_i blamed self_i.’

- b. *John-ga zibun-o ket-ta (= (1b))
 John-Nom SE-Acc kick([-ref])-Past
 ‘John_i kicked self_i.’

Then, the application of R&R’s analysis makes us predict that the predicate can be reflexivized by taking a reflexivizer anaphor, *zibun-zisin* and then it is reflexive-marked. See (40) in which the predicates used in (39) occur with the reflexivizer anaphor *zibun-zisin*.

- (40) a. John-ga zibun-zisin-o seme-ta
 John-Nom SELF-Acc blame([+ref])-Past
 ‘John_i blamed self-self_i.’
 b. */??John-ga zibun-zisin-o ket-ta
 John-Nom SELF-Acc kick([-ref])-Past
 ‘John_i kicked self-self_i.’

Contrary to the prediction, (40b) is still not good.⁸ The acceptability of local anaphor binding in (40b) does not improve compared with the one in (39b), so we conclude that *zibun-zisin* is not a reflexivizer anaphor in R&R’s sense. It seems that Japanese anaphors and pronouns cannot be classified based on the [SELF] and [R] properties. For, both *zibun* and *zibun-zisin* are [-SELF], as they cannot reflexivize a predicate. The two types cannot be distinguished by the property.

As we will see the detail in Section 5, we claim that the predicate system in Japanese with respect to reflexivity differs from the one in Dutch that R&R observe. In Japanese, the predicate *semeru* ‘blame’ in (39a) and (40a) can occur with *zibun* as well as *zibun-zisin*, while the predicate *keru* ‘kick’ in (39b) and (40b) can occur with neither *zibun* nor *zibun-zisin*. On the other hand, in Dutch, inherently reflexive predicates can occur with only the non-reflexivizer anaphor *zich* and not with the reflexivizer anaphor *zichzelf*. Non-reflexive predicates require the reflexivizer anaphor.

3.3 Lidz (2001a,b)

To see if Lidz’s (2001a,b) approach is applicable to Japanese, we apply the two diagnostics to distinguish Pure reflexive anaphors from Near reflexive anaphors to Japanese reflexives: *zibun*, *zibun-zisin* and affixal *zi-/ziko-* in this subsection. (cf. Shimada, 2006, Miura, 2008).⁹

Before that, we should note that there are two usages of *zibun-zisin*. Mihara and Hiraiwa (2006, 78) discuss that if the *-zisin* part of *zibun-zisin* has an accent as (41a), this *zibun-zisin* functions as an

⁸In (40b), if *zibun-zisin* induces a contrastive reading such as ‘John (accidentally) kicked HIMSELF, though he was supposed to kick the ball,’ the acceptability of local anaphor binding of the sentence improves a little bit. With this reading, the sentence is not so infelicitous, so the sentence has two question marks.

⁹Japanese has one more type of anaphor that consists of a pronoun and *-zisin* such as *kare-zisin* ‘him-self’ and *kanojo-zisin* ‘her-self.’ This type of anaphor is rarely used by Japanese speakers, so we exclude this type of anaphor from the discussion in this section. We focus on only feature-unspecified anaphors.

intensified form of *zibun*. By contrast, *zibun-zisin* functions as a reflexive anaphor if it does not have an accent on that part as in (41b). We call the former type ‘the stressed *zibun-zisin*’ and the latter ‘the flat *zibun-zisin*.’

- (41) a. *zibun-zísin*
 b. *zibunzisin* (Mihara and Hiraiwa, 2006, 78 (49))

The suffix *-zisin* can attach to several kinds of [+ human] elements as an ‘intensifier’ of the noun that it attaches to: it can attach to the anaphor *zibun* ‘self’ as in (41a), pronouns such as *kare* ‘him’ as *kare-zisin* ‘he himself’ in (42a) and a proper noun as in (42b).¹⁰ We talk about *zibun-zisin* with the intensifier usage in the diagnostics in (43) and (44).

- (42) a. *Kare-zisin-ga sono mondai-o toi-ta.*
 he-self-Nom the problem-Acc solve-Past
 ‘He himself solved the problem.’
 b. *Mary-ga John-zisin-o hihansi-ta*
 Mary-Nom John-self-Acc criticize-Past
 ‘Mary criticized John himself, not anybody related to him.’ (Nakamura, 1989, 206 (1a))

Now, let us apply the two diagnostics utilized in Lidz (2001a,b). In (43), the availability of statue reading in the Madame Tussaud context is tested. *Zibun* induces a Near reflexive reading, while *zibun-zisin* and *zi-/ziko-* allow only Pure reflexive readings.

- (43) a. *John_i-wa zibun_i-o hihan-si-ta.*
 John-Top self-Acc criticism-do-Past
 ‘John criticized self.’ (*zibun* = John, statue)
 b. *John_i-wa zibun-zibun_i-o hihan-si-ta.*
 John-Top self-self-Acc criticism-do-Past
 ‘John criticized self-self.’ (*zibun-zisin* = John, *statue)

¹⁰*Kare-zisin* ‘him-self’ is generally regarded as an anaphor (see Footnote9). However, as Nakamura (1989) reports, this has another usage: an intensified form of pronoun. In (i), if *kare-zisin* is used as an anaphor, it has to take the subject *John* as its antecedent. The index *i* indicates the reading. If it is used as an intensified form of pronoun, we get the reading in which the pronoun *kare* ‘him’ refers to a certain male, not *John*, and this pronoun is intensified. The reading is indicated with the index *j*. We add the indices and the translations to the original example.

- (i) *John_j-ga [kare_j-zisin]_i-o hihan-si-ta.*
 John-Nom him-self-Acc criticism-do-Past
 ‘John_i criticized self_j, / John_j criticized HIM (not someone else).’ (Nakamura, 1989, (2c,b))

- c. John-wa ziko-hihan-si-ta.
 John-Top self-criticism-do-Past
 ‘John_i criticized himself_i.’ (*ziko-* = John, *statue)

In (44), the availability of non-sloppy identity reading in comparative deletion construction is tested. *Zibun* induces non-sloppy identity reading as well as sloppy identity reading. On the other hand, *zibun-zisin* and *zi-/ziko-* induce only sloppy identity readings.

- (44) a. Mary-ga John yorimo hagesiku zibun-o hihan-si-ta.
 Mary-Nom John than severely self-Acc criticism-do-Past
 ‘Mary criticized herself more severely than John criticized {himself / her}.’
- b. Mary-ga John yorimo hagesiku zibun-zisin-o hihan-si-ta.
 Mary-Nom John than severely self-self-Acc criticism-do-Past
 ‘Mary criticized herself more severely than John criticized {himself / *her}.’
- c. Mary-ga John yorimo hagesiku ziko-hihan-si-ta.
 Mary-Nom John than severely self-criticism-do-Past
 ‘Mary criticized herself more severely than John criticized {himself / *her}.’

The results of the diagnostics are summarized in (45).

- (45) a. *Zibun* is a Near reflexive anaphor.
 b. *Zibun-zisin* is a Pure reflexive anaphor.
 c. The affixal reflexives *zi-/ziko-* are Pure reflexive anaphors.

If we follow the prediction given in (36) that Condition R makes, however, both *zibun* and *zibun-zisin* are categorized as Near reflexive anaphors since both can be bound by coarguments in the lack of lexical reflexivity in (46a) and (46b). The reason that we claim that (46) lacks lexical reflexivity is the following: in (43a), *zibun* can induce a Near reflexive anaphor, then, Condition R is not operative in the example. So, we can say that *zibun* does not mark lexical reflexivity and semantic reflexivity, and that the predicate in (46a) does not have lexical or semantic reflexivity. Then, the predicate in (46b) also lacks both reflexivity. Thus, we conclude that both *zibun* and *zibun-zisin* are bound by a coargument in the lack of lexical reflexivity in (46). Both are specified as having the Near reflexive function in the lexicon.

- (46) a. John_i-wa zibun_i-o hihan-si-ta. (=(43a))
 John-Top self-Acc criticism-do-Past
 ‘John criticized self.’

- b. John_i-wa zibun-zisin_i-o hihan-si-ta. (=43b))
 John-Top self-self-Acc criticism-do-Past
 ‘John criticized self-self.’

Here, we, however, have a contradiction. *Zibun-zisin* is a Pure reflexive anaphor in the classification in (45), but predicted as a Near reflexive anaphor by (36). Lidz’s approach is apparently not applicable to Japanese. Nevertheless, we claim that his approach applies to Japanese and accounts for the behavior of Japanese anaphors: *zibun*, *zibun-zisin* and *zi-/ziko-*. In the next section, we attempt to dispense with this apparent contradiction extending Lidz’s (2001a,b) analysis and Liu’s (2003) analysis of Chinese anaphor *ziji-benshen* ‘self-self.’

We need to mention that the application of Lidz’s (2001a,b) analysis to Japanese offers a new direction in studies of anaphor binding in Japanese. As we have been discussing, local *zibun* binding is allowed with some verbs but not with other verbs, as the contrastive availability of local binding in (1) shows. However, under Near reflexive interpretation, this contrast disappears. Local binding of *zibun* becomes acceptable with both types of verb as in (47).

- (47) a. John_i-wa zibun_i-o { nikun-de-iru / seme-ta }.
 John-Top self-Acc { hate-Prog-Pres / blame-Past }
 ‘John_i { hates / blamed } the statue that depicts him_i.’
- b. John_i-wa zibun_i-o { nagut-ta / ket-ta }.
 John-Top self-Acc { hit-Past / kick-Past }
 ‘John_i { hit / kicked } the statue that depicts him_i.’

We will discuss in Section 5 that the finding that local binding of *zibun* is always available under Near reflexive interpretations sheds light on explanation of the contrast in (1).

4 Reflexivity of Japanese anaphors

In this paper, we propose that free-morpheme anaphors *zibun* ‘self’ and *zibun-zisin* ‘self-self’ are Near reflexive anaphors, while bound-morpheme anaphors *zi-* and *ziko-* ‘self’ are Pure reflexive anaphors in Japanese and some other languages such as Korean and Chinese. We assume that there is parametric variation and some languages distinguishes the two types of reflexives based on the morphological composition of anaphors. For example, in languages such as Dutch and Kannada, the morphological composition distinguishes the two types of reflexives: Morphologically complex anaphors are Near reflexives while simplex ones are Pure reflexives. Recall the contrast in (27) and (28) for Dutch and (31) for Kannada.

Zibun and *zibun-zisin* are both Near reflexives since both can be bound by a coargument in the lack of lexical reflexivity as predicted by (36). Bound-morpheme anaphors are Pure reflexive anaphors like Spanish *se*-clitic (Cf. Shimada, 2006). However, we face a contradiction: *zibun-zisin* does not behave like a Near reflexive anaphor in (43) and (44). To dispense with the apparent contradiction that *zibun-zisin* yields, we claim that *zibun-zisin* is a Near reflexive anaphor but it behaves like a Pure reflexive anaphor as it has a special function as an intensifier. Following Liu (2003)’s ‘focus operator anaphor’ analysis of Chinese anaphor *ziji-benshen* ‘self-self,’ we propose that *zibun-zisin* functions as an ‘intensifier operator anaphor’ and the intensifier function counteracts its Near reflexive anaphor status. What looks like a ‘Pure reflexive reading’ in (43b) is actually a ‘Pure identity reading,’ as Chinese *ziji-benshen* induces.

In the following subsections, we consider reflexivity of the three types of anaphor in Japanese: *zibun*, *zibun-zisin* and *zi-/ziko-*morphemes. Our claim is that Lidz’s (2001a,b) distinction: lexically reflexive-marked predicates induce Pure reflexivity while syntactically reflexive-marked predicates induce both Pure and Near reflexivity, is true in Japanese. Lidz’s Condition R, given in (30) and repeated here as (48), is operative to regulate the third type of anaphor.

(48) *Condition R*

$$\lambda x[P(x,x)] \leftrightarrow (\theta 1 = \theta 2)$$

semantics θ -grid

4.1 Reflexivity of *Zibun*

If we follow (36), the prediction made under Lidz’s (2001a) analysis, the availability of coargument binding in (46a) shows that *zibun* is a Near reflexive anaphor. This is consistent with the results of the diagnostics in (43a) and (44a), repeated here as (49a) and (49b).

- (49) a. John_i-wa zibun_i-o hihan-si-ta. (=(43a))
 John-Top self-Acc criticism-do-Past
 ‘John criticized self.’ (*zibun* = John, statue)

- b. Mary-ga John yorimo hagesiku zibun-o hihan-si-ta. (=44a)
 Mary-Nom John than severely self-Acc criticism-do-Past
 ‘Mary criticized herself more severely than John criticized {himself / her}.’

Zibun induces the Near reflexive reading as well as the Pure reflexive reading in the Madame Tussaud context, and it induces the non-sloppy identity reading as well as the sloppy identity reading. In the lexicon, *zibun* is specified as having the Near reflexive function: $f(x)$, the second argument in the formula (50b).

$$(50) \lambda x [P(x, f(x))] \quad (\text{near reflexive}) \quad (=29b)$$

Zibun refers to what the function returns taking an antecedent x as its input. Pure reflexive is a subcase of Near reflexive: if the function takes x as its input and returns x , the anaphor refers to x , the antecedent itself. So, in (49a), both the Near reflexive reading and the Pure reflexive reading are acceptable. *Zibun* can bear own index as it is not a variable. Thus, the non-sloppy identity reading is also available in (49b).

4.2 Reflexivity of *Zibun-zisin*

Zibun-zisin ‘self-self’ is also categorized as a Near reflexive anaphor because the anaphor can be bound by the coargument antecedent *John* in the lack of lexical reflexivity, as seen in (46b). However, as we have seen in (43b) and (44b), repeated here as (51a) and (51b), *zibun-zisin* (the stressed *zibun-zisin*) does not behave like a Near reflexive anaphor. The status as a Near reflexive anaphor contradicts with the unavailability of Near reflexive readings and non-sloppy identity readings.

- (51) a. John_i-wa zibun-zibun_i-o hihan-si-ta. (=43b)
 John-Top self-self-Acc criticism-do-Past
 ‘John criticized self-self.’ (*zibun-zisin* = John, *statue)
- b. Mary-ga John yorimo hagesiku zibun-zisin-o hihan-si-ta. (=44b)
 Mary-Nom John than severely self-self-Acc criticism-do-Past
 ‘Mary criticized herself more severely than John criticized {himself / *her}.’

To dispense with this apparent contradiction, we propose that *zibun-zisin* functions as an ‘intensifier operator anaphor,’ following Liu’s (2003) ‘focus operator anaphor’ analysis of *ziji-benshen* ‘self-self’ in Chinese. We propose that the intensifier function of *zibun-zisin* counteracts its Near reflexive anaphor status. We review Liu’s analysis first and then apply the analysis to *zibun-zisin*.

4.2.1 Focus Operator anaphor in Chinese: Liu (2003)

We have seen in section 2.3 that the Chinese anaphors *ziji* ‘self’ and *ta-ziji* ‘him-self’ behave as Near reflexive anaphors. Liu (2003) reports that another anaphor *ziji-benshen* ‘self-self’ in the same language behaves like a Pure reflexive anaphor. Compare the three sentences in (52).

- (52) a. Jiang Jie-Shi henhen-de da-le ziji yi-xia.
Jiang Jie-Shi furiously hit-Asp self one-Cl
‘Jiang Jie-Shi_i hit himself_i furiously.’ (*ziji* = Jiang Jie-Shi, statue)
- b. Jiang Jie-Shi henhen-de da-le ta-ziji yi-xia.
Jiang Jie-Shi furiously hit-Asp him-self one-Cl
‘Jiang Jie-Shi_i hit himself_i furiously.’ (*ta-ziji* = Jiang Jie-Shi, statue)
- c. Jiang Jie-Shi henhen-de da-le ziji-benshen yi-xia.
Jiang Jie-Shi furiously hit-Asp self-self one-Cl
‘Jiang Jie-Shi_i hit himself_i furiously.’ (*ziji-benshen* = Jiang Jie-Shi, *statue)

(Liu, 2003, (11))

Liu (2003) analyzes what looks like Pure reflexivity in Lidz’s (2001a,b) sense in (52c) as actually ‘Pure identity’ between the anaphor and its antecedent. Under his theory, Pure identity between the focus anaphor *ziji-benshen* and its antecedent arises as a consequence of the three properties of the anaphor: (i) the semantic composition of the near reflexive function of *ziji* ‘self,’ (ii) a focus function of *-benshen* ‘self,’ and (iii) the operator status of the anaphor. He suggests that *ziji-benshen* is a focus anaphor that selects the best representation of the antecedent of *ziji*, consequently the actual person, from the set of what the near reflexive function of *ziji* denotes. Thus, Pure identity does not imply Pure reflexivity, but Pure reflexivity does imply Pure identity. Also, he claims that *ziji-benshen* is not a Pure reflexive anaphor from the viewpoint of the semantic contents of anaphor. Pure anaphors (e.g. *zich* ‘self’ in Dutch) are variables without any content, while focus anaphors (*ziji-benshen* ‘self-self’ in Chinese) have rich semantic/pragmatic contents as focus markers. He claims that there are typologically two ways to induce pure identity between anaphors and antecedent: (i) Pure reflexivity induced as a consequence of Condition R (Lidz, 2001a,b) and (ii) Pure identity induced as a consequence of focus function of anaphors. Languages like Dutch and Kannada select the first way, and languages like Chinese use the second way.

Now, let us see why Liu regards the suffix *-benshen* ‘-self’ as a focus marker and the complex *ziji-benshen* as a focus operator anaphor. Following Rooryck and Wyngaerd (1998), Liu proposes that *-benshen* is ‘a focus marker that involves a notion of scalarity with respect to the expectations of the speaker’ (Liu, 2003, 33). He compares *-benshen* ‘-self’ with the focus maker *zhiyou* ‘only’ in the language. In (53), the focus marker *zhiyou* ‘only’ expresses the fact that the person receiving the U.S. Secretary of State is lower on the scale than the one the speaker expected. In (54), *-benshen* ‘self’

expresses the fact that the person receiving the U.S. Secretary of State is higher on the scale than the one the speaker expected. Thus, Liu regards *-benshen* as a focus marker.

- (53) Wei-le tuxian liang-guo jian cunzai de jinzhang guanxi, zhiyou wai-jiao-bu
 For-Asp highlight two-state between exist DE tense relation only foreign-ministry
 ci-zhang dao jichang yingjie lai-fang de meiguo guowuqing.
 assistant-minister arrive airport welcome come-visit DE United States Secretary of State

‘In order to highlight the tension between the two countries, only the Assistant Foreign Minister came to the airport to welcome the U.S. Secretary of State.’ (Liu, 2003, (26))

- (54) Wei-le jiaqiang liang-guo jian de bangyi, zongtong benshen yao dao jichang
 For-Asp reinforce two-state between DE friendship president self want arrive airport
 lai yingjie meiguo guowuqing.
 come welcome United States Secretary of State

‘In order to reinforce the diplomatic relationship between the United States and us, the president himself will come to the airport to welcome the U.S. Secretary of State.’ (Liu, 2003, (27))

When this suffix is attached to the Near reflexive anaphor *ziji*, the focus marker suffix *-benshen* selects the best representation, or the highest one on the scale, from the range of the Near reflexive function of *ziji*. So, in (52c), the best representation, the actual person *Jiang Jie-Shi*, is selected as the reference of the anaphor *ziji-benshen*.

Liu (2003) further proposes that *ziji-benshen* functions as an operator because this anaphor has a ‘semantic range,’ namely the range of the Near reflexive function of *ziji* (Cf. Katada, 1991). The possession of ‘semantic range’ is a property shared by other operators such as quantifiers, wh-words, and null operators. To support this proposal, he shows the contrast illustrated in (55). In (55a), the Near reflexive anaphor *ziji* allows the non-sloppy reading as well as the sloppy reading. In contrast, in (55b), the focus operator anaphor *ziji-benshen* allows only the sloppy reading. The object of the deleted predicate in (55b) can depend on only the embedded subject. Based on this observation, Liu assumes that the deleted structure involves an operator-variable relation and that the *ziji-benshen* is a focus operator anaphor that adjoins to VP at LF, as illustrated in (56). Under his analysis, the fact that only sloppy identity reading is allowed in (55b) in comparative deletion constructions is accounted for by assuming that the anaphor is an operator that undergoes LF movement leaving a trace.

- (55) a. Zhangsan zianzai bi Lisi guoqu geng quanxin ziji-de liyi
 Zhangsan now compare Lisi past more care-about self-DE benefit
 i. ‘Zhangsan_i cares about his_i benefit more than Lisi_j cared about his_j benefit.’
 ii. ‘Zhangsan_i cares about his_i benefit more than Lisi_j cared about his_i benefit.’

- b. Zhangsan zianzai bi Lisi guoqu geng quanxin ziji-benshen-de liyi
 Zhangsan now compare Lisi past more care-about self-self-DE benefit
 i. ‘Zhangsan_i cares about his_i benefit more than Lisi_j cared about his_j benefit.’
 ii.*‘Zhangsan_i cares about his_i benefit more than Lisi_j cared about his_i benefit.’

(Liu, 2003, (32))

(56) [[Lisi] [_{VP} ziji-benshen_i [_{VP} ... t_i ...]]] (Liu, 2003, (33b))

Based on the discussion above, Liu concludes that *ziji-benshen* is a focus operator anaphor, not a Pure reflexive anaphor in Lidz’s (2001a,b) sense. The anaphor induces Pure identity between the anaphor and its antecedent as a consequence of the three properties of the anaphor: (i) the semantic composition of the Near reflexive function of *ziji*, (ii) a focus function of *-benshen*, and (iii) the operator status of the anaphor.

4.2.2 Intensifier anaphor *Zibun-zisin*

Following Liu’s (2003) analysis, we propose that *zibun-zisin* (the stressed *zibun-zisin*) in Japanese is an intensifier operator anaphor. The suffix *-zisin* ‘self’ functions as an intensifier as in (57). We assume that intensifiers, like focus markers, have ‘semantic range’ and the element that is most intensified is selected from the range. So, we think that intensifier anaphors function are operators.

- (57) Mary-ga John-zisin-o hihan-si-ta. (=42b)
 Mary-Nom John-self-Acc criticism-do-Past
 ‘Mary criticized John himself, not anybody related to him.’

We propose that what looks like Pure reflexivity in (51a) is actually Pure identity between the anaphor and its antecedent as a consequence of the three properties of the anaphor: the semantic composition of the Near reflexive function of *zibun* ‘self,’ an intensifier function of *-zisin* ‘-self,’ and the operator status of the anaphor *zibun-zisin* ‘self-self.’ Like the focus operator anaphor *ziji-benshen* in Chinese, *zibun-zisin*, an intensifier anaphor, selects the best representation of the antecedent of *zibun* from the set of what the Near reflexive function of *zibun* denotes. The actual person, the antecedent itself, is selected. Then, the statue reading is excluded in (51a). The assumption that *zibun-zisin* is an operator that undergoes LF movement explains the unavailability of the non-sloppy identity reading in (51b), repeated here as (58a). The deleted clause in (58a) is assumed to have the LF structure given in (58b), and the trace of *zibun-zisin* can be bound by only the subject of the deleted clause. The trace must be bound by *John* and only the sloppy identity reading is allowed in (51b).

- (58) a. Mary-ga John yorimo hagesiku zibun-zisin-o hihan-si-ta. (=44b)
 Mary-Nom John than severely self-self-Acc criticism-do-Past
 ‘Mary criticized herself more severely than John criticized {himself / *her}.’

b. [_{IP} John [_{VP} *zibun-zisin*_i [_{VP} . . . t_i hihan-si . . .]] ta]

(Based on Liu, 2003, (33b))

As a support of our claim that intensifier anaphors do not behave like Near reflexive anaphors, we show the following example from English. The intensifier function of *-zisin* in Japanese is similar to *himself* in ‘he himself’ in English.¹¹ *Himself* and *he himself* behave parallel to *zibun* and *zibun-zisin*. In (59a), the statue reading of *himself* is available. On the other hand, in (59b), only the Pure reflexive reading in which *he himself* refers to *John* is available, but the sentence sounds senseless. (60) induces only a sloppy identity reading.

(59) a. John believes himself to be made of alabaster.

b. # John believes he himself is made of alabaster.

(60) John believes that he himself would win more fervently than Bill did.

So, we conclude that *zibun-zisin* is a Near reflexive anaphor that can be bound by coargument in the lack of lexical reflexivity, but its status as a Near reflexive is counteracted by its function as an intensifier. This intensifier operator anaphor *zibun-zisin* does not allow Near reflexive readings in the Madame Tussaud context and non-sloppy identity readings in comparative deletion constructions.

4.2.3 *Zibun-zisin* as Non-Intensifier

As we have mentioned, there are two usages of *zibun-zisin* (Mihara and Hiraiwa, 2006): we call them the stressed *zibun-zisin* and the flat *zibun-zisin*. Under our analysis, *zibun-zisin* is classified as a Near reflexive anaphor as it is a free-morpheme anaphor. We have discussed in the last subsection that the stressed *zibun-zisin* functions as an intensifier operator anaphor due to its intensifier function of the *-zisin* part, but its Near reflexive anaphor status is counteracted. We predict that the flat *zibun-zisin* functions as a Near reflexive anaphor, as it does not have the intensifier function. This prediction is borne out, as (61) indicates.

(61) a. John_i-wa zibun-zisin_i-o hihan-si-ta.

John-Top self-self-Acc criticism-do-Past

‘John criticized self-self.’ (*zibun-zisin* = John, statue)

b. Mary-ga John yorimo hagesiku zibun-zisin-o hihan-si-ta.

Mary-Nom John than severely self-self-Acc criticism-do-Past

‘Mary criticized herself more severely than John criticized {himself / ?her}.’

The flat *zibun-zisin* allows a Near reflexive reading as well as a Pure reflexive reading in (61a). The acceptability of non-sloppy identity reading in (61b) improves, compared with the one in (51b) with the stressed *zibun-zisin*.

¹¹I thank Norbert Hornstein for pointing this out.

4.3 Reflexivity of *Zi-* and *Ziko-*

Finally, we consider the reflexivity of bound-morpheme (affixal) reflexives: *zi-* ‘self’ and *ziko-* ‘self’ used in Sino-Japanese complex predicates, known as ‘*zi*-verbs’ and ‘*ziko*-verbs,’ such as *zi-ritu-suru* ‘support oneself’ and *ziko-hihan-suru* ‘criticize oneself’ in (62). These predicates consist of three parts: (a) the reflexive morpheme *zi-/ziko-*, (b) Sino-Japanese origin verbal nouns (e.g. *ritu* ‘support’ in (62a) and *hihan* ‘criticism’ in (62b)), and (c) the light verb *suru* ‘do’ (Grimshaw and Mester, 1988). As noted in Tsujimura and Aikawa (1996, 1999), there are two types of *zi-/ziko*-verbs: verbs that cannot occur with an object argument as in (63) and ones that can occur with an object argument as in (64). In this paper, ‘*zi*-verbs and *ziko*-verbs’ refer to verbs of the first type that cannot occur with an object argument (as in (62) and (63)).

- (62) a. John-ga *zi-ritu-si-ta*.
 John-Nom self-support-do-Past
 ‘John_i supported himself_i.’
- b. John-ga *ziko-hihan-si-ta*.
 John-Nom self-criticism-do-Past
 ‘John_i criticized himself_i.’
- (63) a. * John-ga {*zibun / zibun-zisin / sigoto*}-o *zi-ritu-si-ta*.
 John-Nom {self / self-self / his job }-Acc self-support-do-Past
 ‘John supported {self / self-self / his job }.’
- b. */?? John-ga { *zibun / zibun-zisin / sakuhin* }-o *ziko-hihan-si-ta*.
 John-Nom { self / self-self / his work }-Acc self-criticism-do-Past
 ‘John criticized {self / self-self / his work }.’
- (64) a. John-ga { *musuko / sigoto* }-o *zi-man-si-ta*.
 John-Nom { son / job }-Acc by self-boast-do-Past
 ‘John boasted about { his son / his job } by himself.’
- b. John-ga { *kiroku / menkyo* }-o *ziko-sinsei-si-ta*.
 John-Nom { record / licentiate }-Acc self-application-do-Past
 ‘John applied { his record / his licentiate } by himself.’

Here, let us review previous studies on *zi*-verbs and *ziko*-verbs, and after that, we introduce our analysis and explain why we consider *zi-/ziko-* as a Pure reflexive anaphor.

Tsujimura and Aikawa (1999) propose as an analysis of *zi*-verb: the *zi-* morpheme is incorporated into a verbal noun in the lexicon and the surface subject is originally the internal argument of this *zi*-verbal noun complex. Under their analysis, (62a) has the derivation given in (65). They assume that *zi-* is stored as a part of the verbal noun in the lexicon.

(65) [TP John_i-ga [_{VP} ··· [_{VP} ··· [_{VNP} t_i zi-ritu] si] ···] ta]

Elsewhere, Aikawa proposes an analysis of *ziko*-verbs (Aikawa, 1993). Under her analysis, the *ziko*-morpheme is a reflexive clitic that absorbs Theme and it is a ‘pseudo-argument.’ Pseudo-argument she means is an element that looks like an argument but cannot syntactically function as an argument. She claims that *ziko*-verbs can be used as transitive verbs taking *zibun* ‘self,’ *zibun-zisin* ‘self-self’ and pronouns as their object and that the three expressions in (66) mean the same and are equally acceptable. However, many Japanese speakers, including myself, do not think all the expressions sound natural. When the verb occurs with *zibun* or *zibun-zisin*, the expressions sound redundant. The reading in which *kare* ‘him’ refers to *John* is unacceptable (Binding Principle B violation).

(66) John-ga { *zibun* / *zibun-zisin* / *kare* }-o *ziko*-hihan-si-ta. (Based on Aikawa, 1993, 76)
 John-Nom { self / self-self / him }-Acc self-criticism-do-Past.

Aikawa (1993) claims that Sino-Japanese predicate (verbal noun+*suru* ‘do’) that can take the *ziko*-morpheme are doubly listed in the lexicon as [+/- reflexive] (in R&R’s (1993) sense), while predicates that cannot take the *ziko*-morpheme are intrinsically non-reflexive. In (67a), the predicate *bengo-suru* ‘defend’ can take the *ziko*-morpheme. The predicate is marked as [+/- reflexive]. The predicate can occur with either the reflexive anaphor *zibun* ‘self’ in (67b) or the non-reflexive object *Mary* in (67c). On the other hand, the predicate *sidoo-suru* ‘guide’ in (68) cannot take the *ziko*-morpheme. It is a non-reflexive verb and cannot occur with *zibun* in (68b). The *ziko*-morpheme is not a part of complex verbs, but it is attached to verb stems in syntax.

- (67) a. John-ga *ziko*-bengo-suru.
 John-Nom self-defense-do
 ‘John defends self.’
- b. John-ga *zibun*-o bengo-suru.
 John-Nom self-Acc defense-do
 ‘John defends self.’
- c. John-ga *Mary*-o bengo-suru.
 John-Nom *Mary*-Acc defense-do
 ‘John defends *Mary*.’

- (68) a. *John-ga *ziko*-sidoo-suru.
 John-Nom self-guide-do
 ‘John guides self.’

b. *John-ga zibun-o sidoo-suru
 John-Nom self-Acc guide-do
 ‘John guides self.’

c. John-ga Mary-o sidoo-suru
 John-Nom Mary-Acc guide-do
 ‘John guides Mary.’

Shimada (2006) proposes an alternative analysis of *zi*-verbs and *ziko*-verbs, comparing these verbs with Spanish reflexive verbs that occur with *se*-clitic. She shows that the clitic induces only a Pure reflexive reading as in (74).

(69) El zorro se lavó. [Spanish]
 The zorro Refl washed
 ‘Zorro washed himself.’ (*se* = Zorro / *statue) (Shimada, 2006, 60)

Her analysis is that the *zi*-morpheme is lexically stored as a part of verbal noun and *zi*-verbs are just like inherent reflexive verbs in Dutch (these verbs take *zich*) and in Spanish (they incorporate the *se* clitic: see (70)), while the *ziko*-morpheme may attach in syntax to verbs that are stored as non-reflexive and reflexivize the predicate.

Spanish *se*-clitic has two usages. In the first usage, *se* occurs with intransitive verbs like *comparse* ‘behave.’ These verbs obligatorily take *se* to induce a reflexive interpretation, as (70) indicates. If the predicate lacks *se* as in (71a), the sentence is ill-formed. As this predicate is intransitive, an object argument is not allowed as in (71b). Shimada claims that *se* in this usage is similar to *zi*- in Japanese. *Zi*- is obligatorily required as in (72).

(70) Miguel se comportó.
 Miguel Refl behaved
 ‘Miguel behaved’

(71) a. *Miguel comportó.
 Miguel behaved

b. *Miguel comportó Pablo.
 Miguel behaved Pablo

(Shimada, 2006, 58)

(72) John-ga *(zi-) ritu-suru.
 John-Nom self- support-do
 ‘John supports self.’

The second usage of *se* is as a reflexivizer. When it occurs with transitive verbs like *odiar* ‘hate,’ it reflexivizes the predicates. Compare (73) and (74). The non-reflexive predicate *odiaba* is reflexivized in (74) by taking the *se* clitic. Shimada says that this usage of *se* is analogous to the function of *ziko*-observed in (67a).

(73) Miguel odiaba patatas.
 Miguel hated potatoes
 ‘Miguel hated potatoes.’

(74) Miguel se odiaba.
 Miguel Refl hated
 ‘Miguel hated himself.’

(Shimada, 2006, 58)

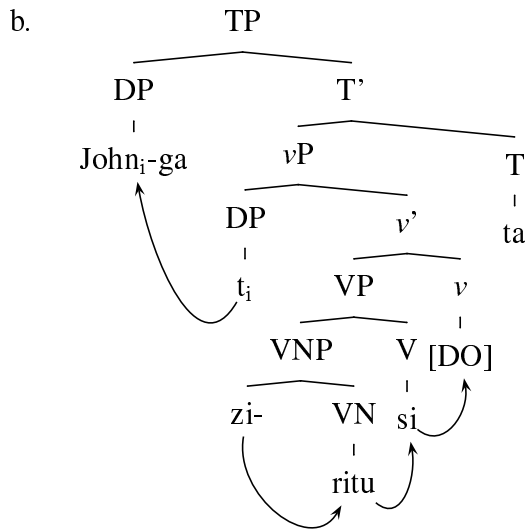
Shimada’s claim is that the behavior of Japanese *zi*- and the one of Spanish *se* that occurs with intransitive verb are the same, and the behavior of *ziko*- and *se* that occurs with transitive verb are the same. Following Reinhart and Sioni (2005), she assumes that Spanish *se* (in both usages) is a Pure reflexive anaphor that functions as a variable. So, under her analysis, Japanese bound-morpheme anaphors are also classified as Pure reflexive anaphors that function as variables.¹²

As reviewed above, these studies assume that *zi*- and *ziko*- show different syntactic behavior. We, however, claim that *zi*- and *ziko*- are both anaphoric internal arguments of verbal nouns and these anaphors have to be incorporated into them due to their bound morpheme nature.¹³ Both *zi*-verbs and *ziko*-verbs show the same syntactic behavior. Under our analysis, (75a) has the syntactic derivation given in (75b).

(75) a. John-ga zi-ritu-si-ta. (=(62a))
 John-Nom self-support-do-Past
 ‘John_i supported himself_i.’

¹²We agree with Shimada (2006) about the analysis of bound-morpheme anaphors as bound variables. However, there are two points that we do not agree with her. First, Shimada misunderstands Lidz’s (2001a,b) analysis. Though Lidz does not say that the morphological composition of anaphor corresponds to semantic difference of anaphor, she repeats that Lidz’s classification: SE anaphors (morphologically simplex anaphors such as Dutch *zich*) are Pure reflexive anaphors and SELF anaphors (morphologically complex anaphors such as Dutch *zichzelf*) are Near reflexive anaphor, partitions the reflexive expression in Japanese the wrong way, and she concludes that Lidz’s account is not applicable to Japanese and proposes an alternative account. Second, as Shimada also notices, there is a big difference between Japanese bound-morpheme reflexive and Spanish *se*: the productivity. There are not so many Sino-Japanese predicates (verbal noun+*suru* ‘do’) that the affixal reflexive can attach to. By contrast, in Spanish, many verbs allow the attachment of *se* onto them. So, it seems that we cannot simply categorize Spanish *se* and Japanese *zi*-/*ziko*- in the same class.

¹³We assume that the *zi*- and *ziko*-morphemes used with *zi*-/*ziko*-verb that cannot occur with an object argument such as *zi-ritu-suru* ‘support oneself’ in (63) are internal arguments of verbal nouns and they are reflexive anaphors. By contrast, the *zi*- and *ziko*-morphemes used *zi*-/*ziko*-verb that can occur with an object argument such as *zi-man-suru* ‘boast about oneself’ and *ziko-sinsei-suru* ‘apply by oneself’ in (64) are adjunct arguments that refer to ‘by oneself.’ See Kishida and Sato (2009) for the detailed discussion.



The reflexive morpheme *zi-* is base-generated as the internal argument of the verbal noun *ritu* ‘support,’ whereas the other argument *John* is merged directly in [Spec, vP] as an external argument of the *v* head. The *zi-* morpheme undergoes successive syntactic incorporation through the verbal noun and the light verb *suru* ‘do’ into the *v* head to create the complex predicate, as indicated by the arrows in the derivation. The external argument *John* undergoes movement from [Spec, vP] into [Spec, TP] to receive nominative case. The reflexive morpheme is assigned accusative case by the verbal noun. We assume that verbal nouns are not specified with respect to reflexivity, unlike Aikawa’s analysis that the predicate *bengo-suru* ‘defend’ in (67) is reflexive while the predicate *sidoo-suru* ‘guide’ in (68) is non-reflexive. We assume a verbal noun itself is transitive, but the derived verbal complex has reflexivity.

Our claim that both *zi-* and *ziko-* are an internal argument of a verbal noun is consistent with the fact in (63) that the occurrence of these verbs in combination with *zibun* and *zibun-zisin* as object argument is low in acceptability. The internal argument positions of verbal noun are filled with these bound-morphemes, so *zibun* and *zibun-zisin* cannot get case and theta-role.

Let us go back to the reflexivity of these bound-morpheme anaphors, finally. As we have seen in (43c) and (44c), repeated here as (76a) and (76b), *ziko-*verbs induce only Pure reflexivity in the Madame Tussaud context and non-sloppy identity readings are not available in comparative deletion constructions.

- (76) a. John-ga ziko-hihan-si-ta. (=(43c))
 John-Nom self-criticism-do-Past
 ‘John_i criticized himself_i.’ (*ziko-* = John, *statue)
- b. Mary-ga John yorimo hagesiku ziko-hihan-si-ta. (=(44c))
 Mary-Nom John than severely self-criticism-do-Past
 ‘Mary criticized herself more severely than John criticized {himself / *her}.’

We claim that what is induced in (76a) is Pure reflexivity in Lidz’s (2001a,b) sense, not Pure identity, and that the bound-morpheme reflexives *zi-/ziko-* ‘self’ are Pure reflexive anaphors (Cf. Shimada’s (2006) claim reviewed above). Our proposal is that the *zi-/ziko-*-morpheme is a Pure reflexive anaphor that marks both semantic and lexical reflexivity, as the Russian bound-morpheme reflexive *sja-* in (34b) does.

(77) $\lambda x [P(x,x)]$ (= (29a))

The anaphor *zi-/ziko-* is the second *x* in the formula. Then, the results of the diagnostics in (76a) and (76b) can be straightforwardly accounted for as follows: in (76a), the anaphor *ziko-* *x* and the antecedent *x* must be completely identical, and the statue reading is not available. In (76b), the anaphor functions as a variable *x*, so the non-sloppy identity reading is not available. Lidz’s Condition R in (48), is operative to regulate *zi-/ziko-*-verbs.

We have to notice the semantic difference between Pure identity readings (what the intensifier anaphor *zibun-zisin* induces) and Pure reflexivity readings (what the Pure reflexive anaphor *zi-/ziko-* induces). *Zibun-zisin* has richer semantic/pragmatic contents as an intensifier than *zi-/ziko-* that just functions as a variable without any content. (78a) has the meaning like ‘John criticized HIMSELF, not anyone else,’ while (78b) just means ‘John criticized himself.’

(78) a. John_i-wa zibun-zibun_i-o hihan-si-ta. (=(51a))

John-Top self-self-Acc criticism-do-Past

‘John criticized self-self.’ (*zibun-zisin* = John, *statue)

b. John-ga ziko-hihan-si-ta. (=(76a))

John-Nom self-criticism-do-Past

‘John_i criticized himself_i.’ (*ziko-* = John, *statue)

4.4 Our Proposal in Other Languages

Before closing this section, let us briefly consider if our claim apply to other languages. We have proposed that free-morpheme anaphors are Near reflexive anaphors and bound-morpheme anaphors are Pure reflexive anaphors in some languages. In this subsection, we attempt to show that our proposal is true in Korean, Russian, Chinese, English, Spanish and Italian.

In Korean, the free-morpheme anaphor *caki* ‘self’ allows both Near and Pure reflexive readings, while the bound-morpheme anaphor *caki-* ‘self’ allows only a Pure reflexive reading, as (79) shows.¹⁴

¹⁴I really thank Sunyoung Lee for providing me Korean data and judgements. The references on Korean anaphor binding that she gave me help me a lot to develop a part of this paper. *Ca/caki-*verbs can be used without an accusative case marker on the *ca/caki-*-morphemes as in (79b). However, for some native speakers, those expressions sound somehow childish. Despite this, we use those verbs without accusative markers in this section to make (81a) and (81c) in Korean parallel to (43a) and (43c) in Japanese.

- (79) a. John-nun caki-lul pange-ha-yss-ta. [Korean]
 John-Nom self-Acc protection-do-Past-Dec
 ‘John_i protected himself_i.’ (*caki* = John, statue)
- b. John-nun caki-pange-ha-yss-ta.
 John-Nom self-protection-do-Past-Dec
 ‘John_i protected himself_i.’ (*caki-* = John, *statue)

(80) indicates that *caki* induces a non-sloppy identity reading as well as a sloppy identity reading, while the affixal *caki-* induces only a sloppy identity reading.

- (80) John-nun Bill pota te silalhakey caki-piphan-ha-yss-ta.
 John-Top Bill than more severely self-criticism-do-Past-Dec
- ‘John_i criticized himself_i more severely than Bill_j criticized himself_j (sloppy)
 ‘John_i criticized himself_i more severely than Bill_j criticized him_i.’ (* non-sloppy)

Here is an interesting fact. Korean has another type of free-morpheme anaphor that is morphologically simplex: *casin* ‘self.’ Though both *caki* and *casin* are free-bound morphemes, they show different acceptability with respect to Near reflexive interpretations. The Near reflexive reading ‘Chelswu blew up the statue that depicts him’ is allowed only in (81a) in which *caki* is used. The expression in (81b) with *casin* is low in acceptability with the reading. (81c) in which the affixal anaphor *ca-* is used does not induce that reading.

- (81) a. Chelswu-ka caki-lul phokphahayssta
 Chelswu-Nom self-Acc blew up
 ‘Chelswu exploded self.’ (*caki* = Chelswu / statue)
- b. Chelswu-ka casin-lul phokphahayssta
 Chelswu-Nom self-Acc blew up
 ‘Chelswu exploded self.’ (*casin* = Chelswu / ?statue)
- c. Chelswu-ka caphokphahayssta
 Chelswu-Nom self-blew up
 ‘Chelswu exploded self.’ (*caki-* = Chelswu / *statue) (Kang, 2001, (18) with modification)

The contrast between (81a) and (81c) is consistent with our claim. However, the contrastive acceptability of Near reflexive reading in (81a) and (81b) has to be explained. For, under our analysis, both *caki* and *casin* are classified as Near reflexive anaphors. The two types of anaphor have many different properties in addition to the (un)availability of Near reflexive reading: (i) *caki* has a person restriction on its antecedent and only third-person can be its antecedent, while *casin* does not have such a

restriction, (ii) both *caki* and *casin* allow long-distance binding, but ‘blocking effects’ are observed only with *casin*, not with *caki* (Cole et al., 1990), (iii) preferred readings for *caki* are long-distance binding, while for *casin*, local binding (Park, 1988, Kim, 1993, Kang, 2001), (iv) *caki* does not felicitously occur with ‘physical activity verbs’ (in Yoon’s (1989) term) such as *hit*, while *casin* does as in (82), etc.¹⁵ We will not dwell further into the discussion on *caki* and *casin* for the purposes of this paper. We tentatively say that *casin* has a special function, as it has many different properties from *caki*, and its Near reflexive anaphor status is counteracted.

- (82) a. John_i-un { *caki*_i / *casin*_i }-ul salanghan-ta.
 John-Top { self / self }-Acc love-Dec
 ‘John loves self’
- b. John_i-un {*??caki*_i / *casin*_i }-ul ttayliess-ta
 John-Top { self / self }-Acc hit-Dec
 ‘John hits self’ (Kim, 1993, (21))

Let us see more data from other languages. As Lidz (2001a,b) reports, the free-morpheme anaphor *sebja* ‘self’ in Russian allows a Near reflexive reading, but the bound-morpheme anaphor *-sja* ‘self’ does not, as (83) shows.

- (83) a. John zastrelil sebja. [Russian]
 John shot self
 ‘John_i shot himself_i.’ (*sebja* = John, statue)
- b. John zastrelil-sja.
 John shot-Ref
 ‘John_i shot himself_i.’ (*-sja* = John, *statue)

Chinese free morpheme anaphors *ziji* ‘self’ and *ta-ziji* ‘him-self’ allow Near reflexive readings, as (84a) and (84b) show. *Ziji-benshen* in (84c) has a special function as a focus marker, so its Near reflexive anaphor status is counteracted and Near reflexive readings are excluded. As in (85), the bound-morpheme *zi-* ‘self’ allows only a Pure reflexive reading.

¹⁵When *caki* can felicitously occur with verbs like *kick*, if the sentence is read as inducing a Near reflexive reading, as (i) shows. We have made a similar observation in Japanese: the expression in which *zibun* occurs with verbs like *kick* is accepted only under a Near reflexive reading, as seen in (47).

- (i) Chelswu-ka { *caki*-lul/**casin*-lul } pallo chassta.
 Chelswu-Top { self-Acc/self-Acc } with-foot kicked
 ‘Chelswu kicked the statue that depicts him with his foot’ (Kang, 2001, (17) with modification)

As in (82b), if *casin* occurs with this class of verb, only Pure reflexive interpretations are induced and Near reflexive interpretations are not available. From the observations above, it seems that Korean can use separate anaphors depending on types of predicate: *caki* for ‘abstract activity verbs’ and *casin* for ‘physical activity verbs.’ Japanese, on the other hand, lacks these separate usages of anaphor. Some verbs are not compatible with *zibun*, so the contrast in (1) is observed.

- (84) a. Jiang Jie-Shi henhen-de da-le ziji yi-xia. (= (52))[Chinese]
 Jiang Jie-Shi furiously hit-Asp self one-Cl
 ‘Jiang Jie-Shi_i hit himself_i furiously.’ (*ziji* = Jiang Jie-Shi, statue)
- b. Jiang Jie-Shi henhen-de da-le ta-ziji yi-xia.
 Jiang Jie-Shi furiously hit-Asp him-self one-Cl
 ‘Jiang Jie-Shi_i hit himself_i furiously.’ (*ta-ziji* = Jiang Jie-Shi, statue)
- c. Jiang Jie-Shi henhen-de da-le ziji-benshen yi-xia.
 Jiang Jie-Shi furiously hit-Asp self-self one-Cl
 ‘Jiang Jie-Shi_i hit himself_i furiously.’ (*ziji-benshen* = Jiang Jie-Shi, *statue)
- (85) John zuihou zi-jin-le.
 John finally self-killing-Asp
 ‘John finally killed himself.’ (*zi-* = John, *statue)

Different from the languages above, English has just one form of reflexive: free-morpheme anaphors such as *himself* and *herself*. As we have seen in (35) in Section 2.3, *himself* functions as a Near reflexive anaphor.

- (86) Reagan dressed himself in the museum. (*himself* = Reagan, statue) (= (35b))

Interestingly, unstressed forms of these anaphors exclude Near reflexive readings.¹⁶ Compare (87) with (86). Even they are unstressed, these anaphors are free-morphemes. Then, the unavailability of Near reflexive readings would be problematic for our proposal. We would explain this by saying that only free-morpheme anaphors in full form can function as Near reflexive anaphors.

- (87) Reagan dressed 'mself in the museum. (*'mself* = Reagan, *statue)

Spanish and Italian have bound-morpheme reflexives (reflexive clitics): *se* and *si*, respectively.¹⁷ As we have seen in (74), repeated here as (88), in Section 4.3, the Spanish reflexive clitic *se* allows only a Pure reflexive interpretation. The *si* in Italian also allows only a Pure reflexive reading (Cf. Burzio, 1994, Lidz, 1996, Giorgi, 2007).

- (88) El zorro se lavó. (= (74)) [Spanish]
 The zorro Repl washed
 ‘Zorro washed himself.’ (*se* = Zorro / *statue)

¹⁶This contrast is pointed out by Norbert Hornstein.

¹⁷I give my thanks to Tonia Bleam, Laia Mayol, Leticia Pablos and Juan Uriagereka for providing me Spanish judgements and the data. I also thank Jeff Lidz for pointing out the Italian data.

- (89) Gianni si lava. [Italian]
 Gianni SI-washes
 ‘Gianni washes himself / *his statue.’ (Giorgi, 2007, (15))

Italian has another form to express a reflexive reading: *se stesso* that literally means ‘self-same.’¹⁸ This is a free-morpheme reflexive, so we predict that this element induces a Near reflexive reading as well as a Pure reflexive reading. This prediction is borne out as in (90).¹⁹

- (90) Gianni lava se stesso.
 Gianni washes self-same
 ‘Gianni washes himself / his statue.’ (Giorgi, 2007, (18))

All the data are compatible with our claim: free-morpheme anaphors are Near reflexive anaphors and bound-morpheme anaphors are Pure reflexive anaphors in some languages and the Near reflexive anaphor status of free-morpheme anaphor is counteracted if the anaphor has a special function. So, we believe that these data supports our proposal.

¹⁸Spanish also has an expression *a sí mismo/a* that literally means ‘he-same, her-same.’ These elements cannot occur by themselves and obligatorily require the *se* clitic as in (i). The Italian *se stesso* does not occur with the clitic reflexive, as (90) indicates. We regard *se stesso* in Italian as a free-morpheme reflexive but not *sí mismo/a* in Spanish. Whether a Near reflexive reading is allowed in (i) is subtle: I asked several Spanish speakers but the judgements are not clear.

- (i) El zorro se lavó a sí mismo.
 The zorro Refl washed himself
 ‘Zorro washed himself = Zorro / *statue.’

¹⁹Italian has another type of free-morpheme reflexive *sé* and this does not have a Near reflexive reading as in (i).

- (i) Ringo cadde su di sé
 Ringo fell on of self
 ‘Ringo fell on himself/*his statue.’ (Giorgi, 2007, (5))

This is apparently a counterexample to our proposal since this free-morpheme anaphor does not function as a Near reflexive anaphor. However, we believe that Italian *sé* is exempt from our proposal. For, this anaphor behaves differently from free-morpheme anaphors that we have observed such as Japanese *zibun*, Korean *caki* or Dutch *zich* etc.: Italian *sé* cannot appear as a direct object argument and it is always embedded in a PP. Compare (ii) and (iii). *Sé* appears in more restricted circumstances than *se stesso*. Our proposal applies to only *se stesso*, as discussed in (90).

- (ii) Gianni ama se stesso / *sé
 Gianni loves self-same /*self
- (iii) Gianni parla di ?se stesso / sé
 Gianni talks about?self-same / self (Giorgi, 2007, Footnote 6)

4.5 Section Summary

In this section, we have proposed that free-morpheme anaphors *zibun* ‘self’ and *zibun-zisin* ‘self-self’ are Near reflexive anaphors, while bound-morpheme anaphors *zi-* and *ziko-* ‘self’ are Pure reflexive anaphors in Japanese. With respect to *zibun-zisin*, this classification causes an apparent contradiction. This anaphor is classified as a Near reflexive anaphor as a free-morpheme anaphor, but it does not allow Near reflexive readings in the Madame Tussaud context. Under our proposal, this contradiction is dispensed with as follows. *Zibun-zisin* functions as an intensifier anaphor and the intensifier function of *-zisin* selects the best reference from the set of what the Near reflexive function of *zibun* induces. The intensifier function of *zibun-zisin* counteracts its Near reflexive anaphor status.

In Japanese, lexically (morphologically) reflexive-marked predicates (*zi-/ziko-*verbs) are Pure reflexive predicates, while syntactically (extrinsically) reflexive-marked predicates that occur with *zibun* or *zibun-zisin* are Near reflexive predicates. So, we conclude that Lidz’s (2001a,b) claim that lexically reflexive marked predicates and syntactically reflexive marked predicates do not form a natural class is true in Japanese and his approach is applicable to Japanese. His Condition R is operative to regulate reflexivity of *zi-/ziko-*verbs.

As Lidz (2001b, 134) mentions, Condition R regulates just the distribution of Pure reflexive anaphor in the coargument position. The distribution of Near reflexive anaphor and that of Pure reflexive anaphor outside the coargument domain cannot be explained. So, he claims that a syntactic theory is still required. Two possible theories are the classical binding theory Chomsky (1981, 1986b) and the predicate-centered theory Reinhart and Reuland (1993). We would like to take the former and claim that the Near reflexive anaphors *zibun* and *zibun-zisin* are subject to the Binding Principle A (recall the principles given in (3)).²⁰ We have seen that Principle A regulates *zibun* in (1a) but not *zibun* in (1b). We attribute this to the property of predicate that takes *zibun* as we will discuss in the next section. It has been discussed whether *zibun* is an anaphor or a pronominal as mentioned in Footnote 6, but we believe that *zibun* is an anaphor.

In some languages like Dutch and Kannada that R&R (1993) and Lidz (2001a,b) observe, the morphological composition distinguishes Near reflexives and Pure reflexives: morphologically complex anaphors are Near reflexive anaphors and simplex ones are Pure reflexives. However, as Lidz illustrates using the data from Russian, Chinese and English, the morphological composition of anaphor does not classify anaphors into semantic subclasses. The data in Subsection 4.4 shows that our proposal that free-morpheme anaphors are Near reflexives regardless of the morphological complexity of anaphor while bound-morpheme anaphors are Pure reflexives in some languages is correct not only in Japanese but also in other languages like Korean, Russian, Chinese, English, Spanish and Italian. In those languages, some free-morpheme anaphors do not behave like Near reflexive anaphors if they have a special function, for example as a focus (e.g. Chinese *ziji-benshen*) or as an intensifier (Japanese *zibun-zisin*), because they induce Pure identity as a consequence of properties of anaphor.

²⁰Here, we refer to *zibun* and *zibun-zisin* that are locally bound. Whether locally bound anaphors and long-distance bound ones can be regulated by the same syntactic conditions has been discussed (see Section 5.2). We are not claiming that LD bound *zibun* and *zibun-zisin* are subject to the Binding Principle A.

5 Predicate System in Japanese

In Section 1, we have seen that local binding of *zibun* is allowed with some predicates as in (91a) but not allowed with others as in (91b).

- (91) a. John_i-wa zibun_i-o { nikun-de-iru / seme-ta }. (=1)
 John-Top self-Acc { hate-Prog-Pres/ blame-Past}
 ‘John_i { hates / blamed } himself_i.’
- b. *John_i-wa zibun_i-o { nagut-ta / ket-ta }.
 John-Top self-Acc { hit-Past / kick-Past}
 *‘John_i { hit / kicked } himself_i.’

Now that we distinguish Pure reflexivity and Near reflexivity following Lidz (2001a,b), we can shed new light on explanation for the contrastive acceptability of local *zibun* binding. As we have seen in (47) in Section 3.3, both (91a) and (91b) become acceptable under Near reflexive interpretations as in (92). The contrastive acceptability is observed only under Pure reflexive readings.

- (92) a. John_i-wa zibun_i-o { nikun-de-iru / seme-ta }.
 John-Top self-Acc { hate-Prog-Pres / blame-Past}
 ‘John_i { hates / blamed } the statue that depicts him_i.’
- b. John_i-wa zibun_i-o { nagut-ta / ket-ta }.
 John-Top self-Acc { hit-Past / kick-Past}
 ‘John_i { hit / kicked } the statue that depicts him_i.’

The predicates *nikumu* ‘hate’ and *semeru* ‘blame’ in (91a) and (92a) induce both Pure reflexive and Near reflexive readings, while the predicates *naguru* ‘hit’ and *keru* ‘kick’ in (91b) and (92b) induce only Near reflexive readings.

In this section, we explore the predicate system in Japanese considering local and long-distance (LD) binding of *zibun*.²¹ We examine the properties of predicates that cannot felicitously participate in local *zibun* binding in (91b) and discuss how they differ from predicates such as *nikumu* ‘hate’ and *semeru* ‘blame’ in (91a). Our final goal is to explain the apparent contrastive acceptability in (91).

²¹In this section, we pay attention only to *zibun*, not to *zibun-zisin* and *zi-/ziko*-morphemes, because (a) we attempt to account for the contrastive availability of local *zibun* binding in (91), and (b) only *zibun* allows LD binding among anaphors in Japanese, as (i)-(iii) show.

- (i) John-ga Mary-ga zibun-o hihan-si-ta to omot-ta.
 John-Nom Mary-Nom self-Acc criticism-do-Past Comp think-Past
 ‘John_i thought that Mary_j criticized self_{i/j}.’
- (ii) John-ga Mary-ga zibun-zisin-o hihan-si-ta to omot-ta.
 John-Nom Mary-Nom self-self-Acc criticism-do-Past Comp think-Past
 ‘John_i thought that Mary_j criticized self-self_{*i/j}.’

5.1 Japanese vs. Dutch

We claim that the predicate system in Japanese is very different from the one in Dutch that R&R (1993) and Lidz (2001a,b) observe: Japanese does not have inherently reflexive verbs that can occur with anaphors and lacks non-reflexive predicates that can be reflexivized by taking a reflexivizer anaphor. As we have seen in Section 2.2, some verbs in Dutch are positively marked in the lexicon, such as *gedraagt* ‘behaves’ in (93). ‘Inherently reflexive’ type verbs in R&R’s sense are lexically positively marked with respect to reflexivity and induce only Pure reflexivity. As (93) shows, these verbs can occur with only non-reflexivizer anaphor *zich*. By contrast, Japanese seems to lack such verbs. We find verbs that induce both Pure reflexivity and Near reflexivity as in (92a) and verbs that induce only Near reflexive interpretation as in (92b), but we have not been successful in finding verbs that induce only Pure reflexive readings in combination with *zibun* or *zibun-zisin*. *Zi*-verbs and *ziko*-verbs induce only Pure reflexivity, as observed in Section 4.3. These verbs, however, cannot felicitously occur with *zibun* and *zibun-zisin*, as (94) shows.

(93) Inherently reflexive predicate in Dutch

Max_i *gedraagt* { *zich*_i / **zichzelf*_i / **hem*_i }.

Max behaves { SE / **himself* / **him* }

‘Max behaves himself.’

(Reuland and Everaert, 2001, (54))

(94) Inherently reflexive predicate in Japanese

John-ga (*{ *zibun* / *zibun-zisin* }-o) *ziko-hihan-si-ta*

John-Nom ({ *self* / *self-self* }-Acc) self-criticism-do-Past

‘John criticized himself.’

Dutch has non-reflexive verbs that lexically lack reflexivity but can be reflexivized by taking the reflexivizer anaphor in syntax, as (95) illustrates. Japanese does not have such verbs either. Verbs that cannot felicitously occur with *zibun* cannot be reflexivized by cooccurring with the morphologically complex anaphor *zibun-zisin*, as the low acceptability of (96) shows.

(95) Non-reflexive predicate in Dutch

Max_i *haat* { *zichzelf*_i / **zich*_i / **hem*_i }.

Max hates { *zichzelf*_i / *SE / **him* }

‘Max hates himself.’

(Reuland and Everaert, 2001, (55a))

-
- (iii) John-ga Mary-ga *ziko-hihan-si-ta* to *omot-ta*.
John-Nom Mary-Nom self-criticism-do-Past Comp think-Past
‘John_i thought that Mary_j criticized self_{*i/j}.’

- (96) John-ga { *zibun / *??? zibun-zisin }-o nagut-ta.
 John-Nom { self / self-self }-Acc hit-Past
 ‘John hit { self / self-self }.’

We propose that these verbs such as *naguru* ‘hit’ in (96) belong to the verb category called ‘anti-reflexive’ because these predicates cannot felicitously participate in a local reflexive binding under a Pure reflexive interpretation as in (91b). We will introduce the detail of our analysis in Section 5.3. (97) is the list of anti-reflexive predicates.

- (97) Anti-reflexive predicates:

naguru ‘hit,’ *keru* ‘kick,’ *arau* ‘wash,’ *korosu* ‘kill,’ *damasu* ‘deceive,’ *gomakasu* ‘cheat,’ *sagasu* ‘search,’ *miusinau* ‘lose sight of’ etc.

Japanese has quite a few predicates that allow both Pure reflexive and Near reflexive interpretations of *zibun*. They are ‘Near reflexive predicates’ in Lidz’s (2001a,b) term. Other examples of this class of verb are *nikumu* ‘hate,’ *semeru* ‘blame’ (both are in (91a)), *bengo-suru* ‘defend,’ and *hihan-suru* ‘criticize.’

- (98) John-ga zibun-o home-ta.
 John-Nom self-Acc praise-Past
 ‘John_i praised self_i. / John_i praised the statue that depicts him_i.’

We believe *zibun* that occurs with these verbs allows both Pure reflexive and Near reflexive interpretations in both local and LD binding circumstances. Consider (99) in which the predicate *homeru* ‘praise’ is used. This sentence has four possible interpretations.²² The discussion of *zibun* binding in the literature has utilized these verbs.

- (99) Mary-wa [John-ga zibun-o home-ta] to omot-ta
 Mary-Top John-Nom self-Acc praise-Past -Comp think-Past
- a. ‘Mary thought that John_i praised himself_i.’ (local Pure reflexive reading)
 - b. ‘Mary thought that John_i praised the statue that depicts him_i.’ (local Near reflexive reading)
 - c. ‘Mary_i thought that John praised her_i.’ (LD Pure reflexive reading)
 - d. ‘Mary_i thought that John praised the statue that depicts her_i.’ (LD Near reflexive reading)

In the following subsections, we propose that Japanese has two more classes of predicate that have to be considered when *zibun* is discussed: anti-reflexive predicates allow only Near reflexive interpretations in local binding but allow Pure as reflexive well as Near reflexive interpretations in LD binding. Also, there is a class of predicate that allow only Near reflexive interpretations in both local and LD binding.

²²In (c), the Pure reflexive reading would not be regulated by Condition R (Lidz, 2001a,b) as the condition is to regulate anaphors that are coarguments of their antecedents. How Pure reflexive interpretations are induced in LD binding circumstances should be worked out.

5.2 Long-distance Binding and Reflexivity

Before examining the predicate system in Japanese, we consider the relation between LD binding of anaphor and reflexivity first. Giorgi (2006, 2007) claims that LD bound anaphors do not allow Near reflexive interpretations showing data from Italian, as in (100), and Chinese. She says that a Near reflexive reading is allowed if the anaphor *proprio* ‘self’s’ in Italian is locally bound as in (100a), while it is not allowed if it is LD bound as in (100b). So, she concludes that the possibility of being interpreted as a Near reflexive anaphor cannot be considered as a property of certain anaphor per se, against Lidz’s (2001a,b) claim that an anaphor is lexically specified if it has the Near reflexive function.

- (100) a. Ringo ammirò il proprio viso [Italian]
Ringo admired self’s face
‘Ringo admired his face / the face of his statue’ (Giorgi, 2006, (62))
- b. Ringo temeva che i visitatori danneggiassero il proprio viso
Ringo feared that the visitors might.damage self’s face
‘Ringo feared that visitors might damage his face /*the face of his statue’
(Giorgi, 2006, (63))

We, however, think that *zibun* in Japanese allows LD Near reflexive interpretations as in (99c,d).²³ Many Japanese speakers in fact agree with us. We believe that LD bound anaphors can have a Near reflexive reading, at least in Japanese, and that the LD bound anaphor in this language, namely *zibun*, would be specified as having a Near reflexive function in the lexicon, following Lidz (2001a,b).

Though we do not agree with Giorgi (2006, 2007) on her claim that LD bound anaphors do not allow Near reflexive interpretations, we accept another claim of hers that LD anaphors obligatorily induce ‘*de se*’ interpretations (Lewis, 1979, Chierchia, 1989, among others). The notion of *de se* belief can be illustrated by a sentence such as (101).

- (101) John_i believes he_i is a war hero. (Giorgi, 2006, (35))

If (101) is interpreted as representing John’s belief about himself, where the content of his thought might be rephrased as a first personal statement ‘I am a war hero,’ this interpretation is referred to as the *de se* belief. The identity between the matrix subject *John* and the pronoun *he* is part of the belief ascribed to *John*. (101) has another reading: *John* does not realize that the hero is himself and his thought is rephrased as ‘that guy is a war hero.’ On this interpretation, the identity is part of the information supplied by the speaker of the sentence. Such an interpretation is referred to as the *de re* belief. Only when the referent of anaphor is conscious of the described event/thought, the *de se* reading is available.

²³Lidz (2001b, 133) mentions that nothing in his theory prevents a Near reflexive anaphor being a LD anaphor. This is borne out in Lidz (2001a).

Now, compare the two Italian sentences in (102). Many speaker accept (102a) but reject (102b). Note that the *de se* reading is allowed in the former example but disallowed in the latter. For, the latter sentence cannot represent a *de se* belief, because *the unhappy young woman* cannot be conscious of her murder as she is dead. Only the *de se* belief holder can be the antecedent of LD anaphor.

- (102) a. La sventurata fanciulla reteneva che il proprio fidanzato fosse un gentiluomo
 the unhappy young.woman believed that self's sweetheart was a gentleman
- b. La sventurata fanciulla reteneva che il proprio assassino fosse un gentiluomo
 the unhappy young.woman believed that self's murderer was a gentleman
- (Giorgi, 2006, (46)-(47))

A similar contrast is observed in LD bound *zibun* in Japanese. Compare the two sentences in (103). (103a) is allowed: *John* can be conscious of the event that the man tried to kill him, since he is still alive. On the other hand, (103b) is excluded: *John* is dead and cannot be conscious of having been killed. Only in (103a), can *John* be the *de se* belief holder.

- (103) a. John-wa [zibun-o korosoo-to -sita] sono otoko-to mae-ni atta koto-ga atta. [Japanese]
 John-Top self-Acc kill tried the man-with before had met
 ‘John_i had before met the man who tried to kill self_i.’
- b. *John-wa [zibun-o korosita] sono otoko-to mae-ni atta koto-ga atta.
 John-Top self-Acc killed the man-with before had met
 ‘John_i had before met the man who killed self_i.’ (Abe, 1997, (5) with modification)

Many studies in the Japanese literature have attributed the unacceptability of (103b) to ‘awareness’ (Kuno, 1972, 1973, Abe, 1997), ‘empathy’ (Kuno and Kaburaki, 1977, Kuno, 1978, Oshima, 2006), ‘logophoricity’ (Clements, 1975, Kameyama, 1984, Sells, 1987), and ‘point-of-view’ (Nishigauchi, 2005, Nishigauchi and Kishida, 2008, Nishigauchi, 2009). For example, Abe (1997) claims that LD bound *zibun* is not a reflexive anaphor but a logophoric pronoun and that the referent of *zibun* is a logophoric person who has one of the three roles in Sells’s (1987) logophoric hierarchy briefly defined in (104). Nishigauchi (2009) proposes a different analysis: LD bound *zibun* is also an anaphor, but his approach also refers to Sells’s logophoric hierarchy. Under his analysis, what appears to be LD binding of *zibun* consists of two relations: control and local binding. He assumes that the controller has one of the roles in the logophoric hierarchy. We do not argue about which approach is better here, but it seems that the referent of *zibun* has to be a logophoric person who has one of the roles in the logophoric hierarchy.

- (104) a. Source: The one who makes the report.
- b. Self: The one whose ‘mind’ is being reported.

- c. Pivot: The one from whose point of view the report is made.

Actually, what we called the *de se* belief holder in each (101) and (102a) has one of the roles in (104): *John* and *the unhappy young woman* are Source. Let us call person who has one of these roles (including the *de se* belief holder) ‘logophoric person,’ utilizing Abe’s (1997) term. We claim that only logophoric person can be the antecedent of LD bound anaphor. Consider (99) again. The LD binding cases should represent Mary’s *de se* beliefs: ‘John praised me’ in (c) and ‘John praised the statue that depicts me’ in (d). *Mary* is the logophoric person (Source in the logophoric hierarchy in (104)).²⁴ We do not think that *de se* interpretations and Near reflexive interpretations are incompatible. Nothing prevents logophoric person from being input of the Near reflexive function.

5.3 Anti-Reflexive Predicates

We call predicates that cannot felicitously participate in local *zibun* binding under Pure reflexive reading anti-reflexive predicates. *Zibun* that cooccurs with anti-reflexive predicates induces only Near reflexive interpretations in local binding, as demonstrated in (105). Other examples of this class of predicate are *keru* ‘kick,’ *arau* ‘wash,’ and *tuneru* ‘pinch’ (and also see the list in (97)).

- (105) John_i-ga zibun_i-o nagut-ta
 John-Nom self-Acc hit-Past
 ‘*John_i hit himself_i. / John_i hit the statue that depicts him_i.’

If it is LD bound, *zibun* can felicitously occur with anti-reflexive predicates under Pure reflexive interpretation as well as Near reflexive interpretation. That is, (106) possibly allows three readings in (b)-(d). Only the local Pure reflexive reading in (a) is excluded.

- (106) Mary-wa [John-ga zibun-o nagut-ta] to omot-ta
 Mary-Top John-Nom self-Acc hit-Past -Comp think-Past
 a. *‘Mary thought that John_i hit self_i.’ (local Pure reflexive reading)
 b. ‘Mary thought that John_i hit the statue that depicts him_i.’ (local Near reflexive reading)

²⁴In local binding circumstances, the logophoric person restriction applies only under Pure reflexive interpretations. Under that reading, (i) is weird: *John* should be conscious of the event when he praises himself. On the other hand, this restriction is not operative under Near reflexive interpretations. That is, the *de re* reading is allowed. Assume the following situation: The statue ‘John’ in a wax museum did not resemble *John*, so *John* did not notice that the statue depicted him. He just liked the statue and praised it. In this situation, (i) is allowed, and the identity between *John* and *zibun* is part of the information supplied by the speaker of the sentence.

- (i) John-ga soo-to-wa sirazu zibun-o home-ta.
 John-Nom not knowing self-Acc praise-Past
 John_i unknowingly praised self_i.’ (*zibun* = *John / statue)

- c. ‘Mary_i thought that John hit self_i.’ (LD Pure reflexive reading)
- d. ‘Mary_i thought that John hit the statue that depicts her_i.’ (LD Near reflexive reading)

In (106), *Mary* in the LD binding cases has to be the logophoric person. *Mary* has the belief ‘John hit me’ in (c) and the belief ‘John hit the statue that depicts me’ in (d). The reading (a) is excluded just because the embedded clause is bad under that reading as in (105).

As we have mentioned above, Aikawa (2001), following Oshima (1979) and Ueda (1984, 1986), reports that predicates that preclude local binding of *zibun* involve physical activities. We, however, find that ‘physical activity verbs’ are not the only case in which local Pure reflexive reading of *zibun* is excluded. Japanese has verbs that induce idiomatic readings in combination with *zibun*, and these verbs also exclude local Pure reflexive readings of *zibun*. We propose that an idiomatic reading of *zibun* is an instance of Near reflexive interpretation. One of these idioms is the expression *zibun-o korosu* ‘kill oneself (literal translation)’ in (107). If this expression is used in a simplex sentence, it can never be understood as saying ‘someone committed suicide.’ Rather, it means ‘someone controlled him/herself, suppressed his/her feeling, desire,’ etc., as (108) illustrates.

- (107) John_i-wa zibun_i-o korosi-ta.
 John-Top self-Acc kill-Past
 *‘John_i killed self_i.’ (literal reading) / ‘John_i controlled self_i.’ (idiomatic reading)

- (108) John-wa zibun-o koros-ite kaisya-no tame-ni hatarai-ta.
 John-Top self-Acc kill and company-Gen favor-Dat worked
 ‘John controlled self and worked hard for his company.’

We have excluded the predicate *korosu* ‘kill’ from our examples in (1b) and (91b) on purpose, though the original sentence by Oshima (1979) includes this verb. For, *zibun-o korosu* (literally ‘kill oneself’) used in a simplex clause can never be understood as a physical activity. To mean ‘commit suicide,’ the *zi*-verb *zi-satu-suru* ‘self-killing-do’ is used in Japanese.

These idiomatic meanings disappear when these expressions are embedded in a complement clause and the reflexive is bound LD. (109) is ambiguous: when the reflexive is bound locally by the complement subject *John*, the complement clause has only the idiomatic meaning on which *John* is going to control himself, and when *zibun* is bound LD, the resulting interpretation has to do with the boss’s fear that *John* will kill him. The boss has to be Source who has the *de se* belief ‘John is going to kill me.’²⁵

²⁵(109) has only the two readings: (a) local Near reflexive (idiom) reading and (b) LD Pure reflexive reading. Local Pure reflexive reading is excluded because of the reason mentioned above. LD Near reflexive reading is not allowed because idiomatic readings are available only when *zibun* is bound locally. Apart from this reason, such a reading is not possible because the verb *korosu* ‘kill’ is not compatible with any ‘statue-like’ objects due to its semantic restriction. Other anti-reflexive predicates allow LD Near reflexive readings of *zibun* that occur with them, as (106d) shows.

(109) Syatyoo-wa [John-ga zibun-o koros-oo to si-te iru] to omow-ta.
 president-Top John-Nom self-Acc kill do is that thought

a. ‘The boss thought John is going to control himself.’

b. ‘The boss thought John is going to kill him.’

Other idioms of this type involve verbs *damasu* ‘deceive, cheat,’ *gomakasu* ‘cheat,’ *osaeru* ‘control, suppress,’ etc., and they yield similar meanings associated with self-control. Another set of verbs which yield idiomatic meanings in combination with *zibun* are related to vision or sight: *sagasu* ‘search,’ *mitukeru* ‘find,’ *miusinau* ‘lose sight of’ etc. Some verbs used in idioms denote verbal activities (*damasu* ‘deceive’ etc.) and perception (*mitukeru* ‘find’ etc.). So, no general characterization of the basis of the nature of activities designated by the predicates appears to be available. Instead, we propose a new category named ‘anti-reflexive.’

We suggest (110) based on the fact that these verbs can allow only Near reflexive interpretations not Pure reflexive interpretations of *zibun* when they occur with the anaphor.

(110) Anti-reflexive predicates are ‘f(x)≠x’ verbs.

In the literature, it has been claimed that only physical activity verbs cannot participate in local *zibun* binding: **zibun-o V* [_{physical activity}]. Verbs that induce idiomatic readings in combination with *zibun* have not been paid attention to. We think this is because the latter type of verb can occur with *zibun*: *zibun-o V* (e.g. *korosu* ‘kill’ as in (107)), unlike the former type of verb. The two types of verb apparently behave differently. However, we categorize both types of verb in the same class: anti-reflexive verbs that follow (110).

We propose that *zibun* used in idioms is not a direct object of the verb, but the possessor of (phonologically covert) direct object. For example, *zibun* in the idiom *zibun-o korosu* ‘control self’ in (111) refers to not *John* (*himself*) but *John’s feeling, thought* etc. That is, *zibun* is the Near reflexive function that takes the subject *John* as input and returns *John’s feeling, thought*.

(111) John_i-wa zibun_i-o korosi-te hatarai-ta
 John-Top self-Acc kill-and work-Past
 ‘John_i controlled self_i and worked hard.’

Zibun in the idiom in (111) would be represented as f(j) in the formula $\lambda j[P(j, f(j))]$ (recall Lidz’s proposal in (29b)). As these verbs have the restriction (110), the Near reflexive function cannot return the input itself: f(j) cannot be j. If the function f(j) referred to *John*, the idiomatic meaning cannot be induced. The verb means ‘kill’ (the literal meaning). However, ‘John kills himself, John committed suicide’ is expressed by using the *zi*-verb: *zi-satu-suru* ‘self-killing-do, kill oneself.’ So, the Pure reflexive reading of *zibun-o korosu* ‘kill self’ is excluded.

(111) can be paraphrased as (112a). In that case, *zibun* is used as the possessor of the object argument. (112b) is also the paraphrase of (111). In the example, the possessor of the object argument in (112a)

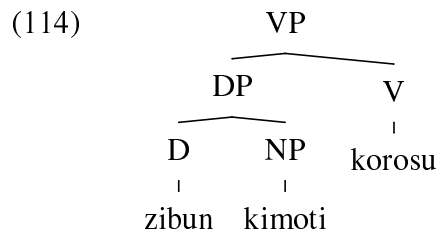
is not overtly realized, but the readings are identical. Now, consider (112c) in which only the possessor is realized. This sentence is also the paraphrase of (112a) and (112b), and this is exactly the idiomatic phrase (111). That is, *zibun* used in idioms is the realization of the possessor of object argument, not the object argument itself.

- (112) a. John_i-wa [zibun_i-no kimoti] -o korosi-te hatarai-ta.
 John-Top self-Gen feeling -Acc kill-and work-Past
 ‘John_i controlled his_i feeling and worked hard.’
- b. John_i-wa [ϕ kimoti] -o korosi-te hatarai-ta.
 John-Top feeling -Acc kill-and work-Past
- c. John_i-wa [zibun ϕ] -o korosi-te hatarai-ta.
 John-Top self -Acc kill-and work-Past

(114) is the structure of the relevant verb phrase (idiom) part of (111)/(112). There are possibly three ways to express object argument:

- (113) a. the possessor *zibun* + object argument (DP in (114))
- b. object argument (N) only
- c. the possessor *zibun* (D) only

We believe that if the third way (113c) is available, *zibun* can induce a Near reflexive reading that denotes the phonologically covert object.



Now, let us consider physical activity verbs. Assume the situation in which John was standing in front of the statue that depicts him in a wax museum. As (115) indicates, all the three ways to express object argument are allowed. Each expression means ‘John hit the statue.’²⁶

²⁶(115b) requires a proper context (such as a wax museum context) to induce the statue interpretation. If a context lacks, the action is dominantly interpreted as a transitive action.

- (115) a. John_i-wa [zibun_i-no zou] -o nagut-ta.
 John-Top self-Gen statue -Acc hit-Past
 ‘John_i hit his_i statue.’
- b. John_i-wa [ϕ zou] -o nagut-ta.
 John-Top statue -Acc hit-Past
- c. John_i-wa [zibun_i ϕ] -o nagut-ta.
 John-Top self -Acc hit-Past

Our explanation for the apparent unacceptability of (1b) is that the predicate is anti-reflexive and has the restriction (110): the anaphor *zibun* cannot refer to the referent itself. So, Pure reflexive interpretations are excluded. However, unless the third way to express an object argument, namely (113c), is not available, Near reflexive interpretations are available.²⁷

5.4 Completing the System

We have seen that there are two types of predicates occurring with the reflexive *zibun*. First type, call it type A, allows its object *zibun* to be bound locally or LD and to induce either Pure- or Near reflexive interpretation, as observed in (99). The second type, call it type B, also labeled anti-reflexive predicates, does not allow its object *zibun* to induce local Near reflexive readings. To complete the system, we consider a third type of predicates, call it type C, listed in (116).

(116) Type C predicates:

kowasu ‘break, destroy,’ *daku* ‘hold,’ *hakobu* ‘carry,’ *umeru* ‘bury,’ *moyasu* ‘burn’ etc.

These predicates have not been considered in the relevant discussion of anaphor binding because of semantic selection: these predicates typically select non-human objects, while the reflexive *zibun* is normally considered human. However, if we take Near reflexive interpretation of *zibun* in our view, as in Lidz (2001a,b), these predicates merit some examination.

As in (117), predicates of type C yield only Near reflexive reading of *zibun*.

- (117) John-ga zibun-o { kowasi-ta / hakon-da }.
 John-Nom self-Acc { broke / carried }
 ‘John_i { broke / carried } the statue that depicted him_i.’ /* ‘John_i { broke / carried } himself_i.’

These predicates look similar to what we called the anti-reflexive predicates in that they do not allow Pure reflexive readings in a simplex clause. However, these predicates contrast with the anti-reflexive predicates when the clause is embedded. Consider (118). When these predicates are used, only Near reflexive interpretations are allowed. So, the sentence has only two possible readings: (b) and (d).

²⁷If Japanese has this class of verb, it would be very difficult for children to learn the restriction: $f(x) \neq x$. For, evidence for that is not available for them. How children acquire this class of verb should be worked out.

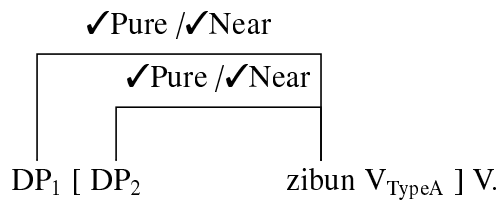
- (118) Mary-wa [John-ga zibun-o { kowasi-ta / hakon-da }] to omow-ta.
 Mary-Top John-Nom self-Acc broke / carried that thought
- a. *‘Mary thought John_i { broke / carried } himself_i.’ (local Pure reflexive reading)
- b. ‘Mary thought John_i { broke / carried } the statue that depicts him_i.’
 (local Near reflexive reading)
- c. *‘Mary_i thought John { broke / carried } her_i.’ (LD Pure reflexive reading)
- d. ‘Mary_i thought John { broke / carried } the statue that depicts her_i.’ (LD Near refl. reading)

Semantic weirdness excludes Pure reflexive interpretations: (a) and (c), but nothing excludes Near reflexive interpretations: (b) and (d). The sentence (d) represents Mary’s *de se* belief ‘John broke the statue that depicts me.’

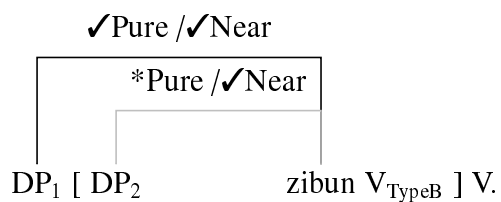
5.5 Section Summary

Let us summarize our observations so far:

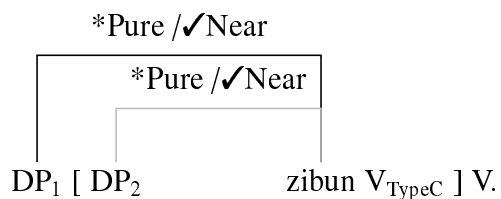
- (119) 1. Type A predicates: for example *homeru* ‘praise’ and *nikumu* ‘hate’ etc.



2. Type B predicates (anti-reflexive predicates): for example *keru* ‘kick’ and *sagasu* ‘seek’ etc.



3. Type C predicates: for example *kowasu* ‘break, destroy’ and *daku* ‘hold’ etc.



The research of anaphor binding in Japanese has paid attention only to Pure reflexive interpretations of anaphor in Lidz's (2001a,b) sense. Now that we take Near reflexive interpretations into consideration, we can account for the apparent contrastive acceptability of local *zibun* binding in (1) (or (91)) as follows: local *zibun* binding under Pure reflexive interpretation (as conventionally discussed) is allowed if it occurs with Type A predicates but disallowed with Type B and Type C predicates. The gray lines in the diagrams show the apparent unavailable cases of local *zibun* binding. Local *zibun* binding in (1b) (under Pure reflexive interpretation) is excluded because the predicates are specified as anti-reflexive in the lexicon.

6 Conclusion

In this paper, we applied the analyses of anaphor binding which focus on properties of predicates as well as anaphors: Reinhart and Reuland (1993) (hereafter, R&R) and Lidz (2001a,b), to Japanese. We attempted to explain the contrastive acceptability of local binding of *zibun* ‘self’: local *zibun* binding is allowed with some verbs but disallowed with other verbs, applying these analyses. We found that the application of these analyses does not give a straightforward account for the contrastive acceptability.

We, however, believe that the application and extension of these analyses shed new light on the study of anaphor binding in Japanese. We propose that

1. Lidz’s (2001a,b) distinction that lexically reflexive-marked predicates induce Pure reflexivity while syntactically reflexive-marked predicates can induce both Pure and Near reflexivity is true in Japanese. Morphologically reflexive marked predicates, known as *zi-/ziko*-verbs, induce Pure reflexivity, while extrinsic reflexive verbs (verbs that induce reflexive interpretation by taking anaphors such as *zibun* in syntax) induce Near reflexivity as well as Pure reflexivity.
2. Bound-morpheme anaphors *zi-* and *ziko-* are Pure reflexive anaphors while free-morpheme anaphors *zibun* and *zibun-zisin* are Near reflexive anaphors in Japanese. When *zibun-zisin* functions as an intensifier operator anaphor, its Near reflexive anaphor status is counteracted by the special function and Near reflexive interpretations are excluded.
3. Japanese has neither reflexive predicates that can occur with anaphors nor non-reflexive predicates that can be reflexivized by a specific anaphor in R&R (1993)’s sense. Instead, the language has ‘anti-reflexive predicates’ that cannot felicitously participate in local *zibun* binding under Pure reflexive interpretations. We classify predicates into types based on the availability of Pure reflexive readings in both local and long-distance binding circumstances.

References

- Abe, Jun. 1997. The Locality of Zibun and Logophoricity. In *Technical report 08 ce1001*, 595–626. Kanda University of International Studies, Tokyo, Japan.
- Aikawa, Takako. 1993. Reflexivity in Japanese and LF-analysis of Zibun-Binding. Ph.D. dissertation, Ohio State University, Columbus OH.
- Aikawa, Takako. 2001. Reflexives. In *The Handbook of Japanese Linguistics*, 154–190. Blackwell.
- Burzio, Luigi. 1994. Weak anaphora. In *Paths toward Universal Grammar: Studies in honor of Richard Kayne*, 59–84. Washington, D.C.: Georgetown University Press.
- Chierchia, Gennaro. 1989. Anaphora and attitudes *de se*. In *Semantics and contextual expression*, ed. R. Bartsch, J. van Benthem, and P. van Emde Boas, 1–30. Dordrecht: Foris.
- Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht.
- Chomsky, Noam. 1986a. *Barriers*. MIT Press.
- Chomsky, Noam. 1986b. *Knowledge of Language: Its Nature, Origin and Use*. Praeger.
- Clements, George. 1975. The Logophoric Pronoun in Ewe: Its Role in Discourse. *Journal of West African Language* 2:141–177.
- Cole, Peter, Gabriella Hermon, and Li-May Sung. 1990. Principle and Parameters of Long-Distance Reflexives. *Linguistic Inquiry* 21:1–22.
- Fukui, Naoki. 1984. Studies on Japanese Anaphora I: the adjunct subject hypothesis and zibun. Ms, MIT.
- Giorgi, Alessandra. 2006. From temporal anchoring to long distance anaphors. *Natural Language and Linguistic Theory* 24:1009–1047.
- Giorgi, Alessandra. 2007. On the nature of long-distance anaphors. *Linguistic Inquiry* 38:321–342.
- Grimshaw, Jane, and Armin Mester. 1988. Light verbs and θ -marking. *Linguistic Inquiry* 19:205–232.
- Hara, Takaaki. 2002. Anaphoric Dependencies in Japanese. Ph.D. dissertation, Utrecht institute of Linguistics OTS.
- Hoji, Hajime. 1991. Kare. In *Interdisciplinary approaches to language: Essays in honors of S.-Y. Kuroda*, ed. C. Georgopoulos and R. Ishihara, volume 13, 287–304. Dordrecht: Kluwer Academic Publishers.

- Jackendoff, Ray. 1992. Mme Tussaud meets the binding theory. *Natural Language and Linguistic Theory* 10:1–31.
- Kameyama, Megumi. 1984. Subjective/logophoric bound anaphor zibun. *CLS* 20:228–238.
- Kang, Beom-Mo. 2001. The Grammar and Use of Korean Reflexives. *Informational Journal of Corpus Linguistics* 6(1):134–150.
- Katada, Fusa. 1988. LF-binding of Anaphors. In *Proceeding of the West Coast Conference of Formal Linguistics*, volume 7.
- Katada, Fusa. 1991. The LF representation of Anaphors. *Linguistic Inquiry* 22:287–314.
- Kim, Haewon. 1993. Some Notes on Reflexives and Pronominals in Korean. In *Harvard studies in korean linguistics*, 459–470.
- Kishida, Maki. 2005. Binding and Reflexives in English and Japanese. M.A. thesis, Kobe Shoin Graduate School, Kobe, Japan.
- Kishida, Maki, and Yosuke Sato. 2009. Zi-verbs in Japanese: Description and explanation. Ms. University of Maryland, College Park and University of British Columbia.
- Kuno, Susumu. 1972. Pronominalization, Reflexivization and Direct Discourse. *Linguistic Inquiry* 3:161–196.
- Kuno, Susumu. 1973. *The Structure of Japanese Language*. MIT Press.
- Kuno, Susumu. 1978. *Danwa no bunpoo (Grammar of Discourse)*. Tokyo: Taishukan.
- Kuno, Susumu, and Etsuko Kaburaki. 1977. Empathy and Syntax. *Linguistic Inquiry* 8:627–672.
- Lewis, David. 1979. Attitudes *De Dicto* and *De Se*. *Philosophical Review* 88:513–543.
- Lidz, Jeffrey. 1995. Morphological Reflexive Marking: Evidence from Kannada. *Linguistic Inquiry* 26:705–710.
- Lidz, Jeffrey. 1996. Dimensions of Reflexivity. Ph.D. dissertation, University of Delaware.
- Lidz, Jeffrey. 2001a. Anti-Antilocality. In *Long Distance Reflexives: Syntax and Semantics 33*, ed. G. Hermon P. Cole and J. C.-T. Huang, 227–254. Academic Press.
- Lidz, Jeffrey. 2001b. Condition R. *Linguistic Inquiry* 32:123–140.
- Liu, Chen-Sheng Luther. 2003. Pure Reflexivity, Pure Identity, Focus and Chinese *Ziji-Benshen*. *Journal of East Asian Linguistics* 12:19–58.

- Mihara, Ken-ichi, and Ken Hiraiwa. 2006. *Shin Nihongo-no Toogokoozoo (New Japanese syntactic structures)*. Syoohakusya, Tokyo, Japan.
- Miura, Hidematsu. 2008. Grammatical Relations, Reflexives and Pseudo-Raising in Japanese. Ph.D. dissertation, State University of New York at Buffalo.
- Nakamura, Masaru. 1989. Reflexives in Japanese. *Gengo Kenkyu* 95:206–230.
- Nishigauchi, Taisuke. 2005. ‘Point of View’ and the Logophoric Anchor. *Theoretical and Applied Linguistics at Kobe Shoin* 8:107–132.
- Nishigauchi, Taisuke. 2009. The Awareness Condition and the POV Projections. *Theoretical and Applied Linguistics at Kobe Shoin* 12:37–50.
- Nishigauchi, Taisuke, and Maki Kishida. 2008. Reflexive Binding and Attitude *de se*. *Theoretical and Applied Linguistics at Kobe Shoin* 11:67–89.
- Oshima, David. 2006. Perspectives in Reported Discourse. Ph.D. dissertation, Stanford University.
- Oshima, Shin. 1979. Conditions on Rules: Anaphora in Japanese. In *Explonations in Linguistics: Papers in Honor of Kazuko Inoue*, 423–448. Tokyo: Kenkyuusha.
- Park, Kabyong. 1988. Reflexive Anaphora in Korean. *Proceedings of ICKL* 6.
- Reinhart, Tanya, and Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24:657–720.
- Reinhart, Tanya, and Tal Sioni. 2005. The Lexicon-Syntax Parameter: Reflexivizaion and Other Arity Operations. *Linguistic Inquiry* 36:389–436.
- Reuland, Eric, and Martin Everaert. 2001. Deconstructing Binding. In *The handbook of contemporary syntax*, ed. M. Baltin and C. Collins, 634–669. Blackwell.
- Rooryck, Johan, and Guido Vanden Wyngaerd. 1998. The self as other: A minimalist approach to zich and zich-zelf in dutch. *Proceedings of NELS* 28 359–373.
- Sells, Peter. 1987. Aspects of Logophoricity. *Linguistic Inquiry* 18:445–479.
- Shimada, Masako. 2006. Reflexives in Competition. M.A. thesis, University of Calgary.
- Sportiche, Dominique. 1986. Zibun. *Linguistic Inquiry* 17:369–374.
- Tsujimura, Natsuko, and Takako Aikawa. 1996. Intrinsic Reflexivity and Inalienable Possession in Japanese. In *Formal Approaches to Japanese Linguistics 2: MIT Working Papers in Linguistics*, ed. M. Koizumi and H. Ura, volume 29, 276–282. Cambridge MA: MIT Press.

- Tsujimura, Natsuko, and Takako Aikawa. 1999. Two Types of *Zi*-verbs in Japanese. In *The Journal of Association of Teachers of Japanese*, volume 33, 26–43.
- Ueda, Masanobu. 1984. On The Japanese Reflexive *Zibun*. Ms, University of Massachusetts, Amherst.
- Ueda, Masanobu. 1986. Notes on a Japanese (reflexive) pronoun *zibun*. University of Massachusetts Occasional Papers in Linguistics.
- Yoon, Jeong-Me. 1989. Long-distance Anaphors in Korean and their cross-linguistic Implications. *CLS* 25:1:479–495.