Parametric Variation in Classification of Reflexives

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1. Introduction
Several languages have more than one type of reflexive anaphors and those reflexives induce different kinds of reflexivity when locally bound: Lidz (2001a,b) distinguishes ‘Pure reflexivity’ and ‘Near reflexivity.’ Liu (2003) shows that there is another type of reflexivity: ‘Pure identity.’ We assume that there are only two types of anaphor: ‘Pure reflexive anaphors’ and ‘Near reflexive anaphors,’ and what looks like the third type of anaphor is a subcase of Near reflexive anaphor. We further propose that how anaphors are classified into the two types is parametric among languages and that this variation depends on how reflexivity marking occurs.

2. Lidz (1996, 2001a,b)
2.1. Two types of Reflexivity
Lidz (1996, 2001a,b) demonstrates that, when they are locally bound, reflexives in a language can induce different reflexivity using two diagnostics: (i) availability of statue readings in the Madame Tussaud context (Jackendoff, 1992) and (ii) availability of non-sloppy identity readings in comparative deletion constructions. First, let us see the Madame Tussaud context diagnostic, comparing the two expressions in Dutch. Imagine a situation in which Ringo Starr goes into a wax museum. He is standing in front of a statue that depicts him. The statue has a beard and he does not like that. If Ringo shaves
the statue, in Dutch, it is felicitous to say (1b) in which the anaphor zichzelf ‘selfself’ is used, but not (1a) with zich ‘self.’ On the other hand, if he shaves his face, it is fine to say either (1a) or (1b). Reinhart and Reuland (1993) claim that the predicate scheert ‘shaves’ in (1) is doubly specified in the lexicon: the predicate in (1a) is specified as reflexive and the predicate in (1b) is as non-reflexive. A reflexive interpretation is available in (1b), though the predicate is not lexically reflexive. Reinhart and Reuland account for this by assuming that the predicate itself lacks reflexivity but it gets reflexivity by taking a reflexivizer anaphor in their term, namely zichzelf, in syntax. Predicates that are specified as reflexive in the lexicon are called ‘lexically reflexive predicates,’ and predicates that get reflexivity in syntax are called ‘syntactically reflexive predicates.’ If we follow Reinhart and Reuland’s (1993) analysis, we can say that the syntactically reflexive predicate in (1b) induces an additional ‘statue’ reading, compared to the lexically reflexive predicate in (1a).

(1)  a. Ringo scheert zich (zich = Ringo, statue) [Dutch]
   Ringo shaves self
   ‘Ringo shaves himself.’

   b. Ringo scheert zichzelf (zichzelf = Ringo, statue)
      Ringo shaves selfself
      ‘Ringo shaves himself.’
      (Lidz, 2001a, (29))

   The other diagnostic is availability of non-sloppy identity interpretations in comparative deletion constructions. Compare the two expressions in (2). The sloppy identity reading (the deleted structure contains a local reflexive reading) is allowed in both cases. By contrast, the non-sloppy identity reading (the object of the deleted structure is the same one of the matrix clause) is available only in (2b). Here again, the syntactically reflexive predicate in (2b) has an additional reading.

(2) a. Zij verdedigde zich beter dan Peter
   she defended self better than Peter
   ‘She defended herself better than Peter defended himself’ (sloppy)
   ‘She defended herself better than Peter defended her’ (non-sloppy)

   b. Zij verdedigde zichzelf beter dan Peter
      she defended selfself better than Peter
      ‘She defended herself better than Peter defended himself’
      ‘She defended herself better than Peter defended her’
      (Lidz, 2001a, (30))

1 Jackendoff (1992, p.16) who first discusses ‘statue’ readings in the Madame Tussaud context restricts what an anaphor can refer to ‘physical representations’ such as pictures, statues, recordings and portraying actors, and excludes tales or legends (they are not physical) or cars (that are not representation).
Based on the results of these diagnostics, Lidz claims that lexically reflexive predicates and syntactically reflexive predicates have different semantics. He proposes that lexically reflexive predicates are ‘Pure reflexive predicates’ that have the semantics schematized in (3a). He calls what Pure reflexive predicate induces ‘Pure reflexivity.’ On the other hand, syntactically reflexive predicates are ‘Near reflexive predicates’ that have the semantics in (3b). Near reflexive predicates induce ‘Near reflexivity.’

(3)  
  a. $\lambda x \left[P(x,x)\right]$ (semantic / pure reflexive)  
  b. $\lambda x \left[P(x,f(x))\right]$ (near reflexive)  

Further, Lidz categorizes anaphors into types. Anaphors that occur with lexically reflexive predicates, such as *zich ‘self’ in (1a), are ‘Pure reflexive anaphors’ that require complete identity with their antecedents. This type of anaphor functions as a variable (the second argument of the formula $x$ in (3a)). By contrast, anaphors that occur with syntactically reflexive predicates, such as *zichzelf ‘selfself’ in (1b), are ‘Near reflexive anaphors’ that are referentially dependent on their antecedents but are not necessarily identical with them. This type of anaphor introduces the ‘Near reflexive function’ (the second argument $f(x)$ in (3b)) that takes the antecedent (the first argument $x$) as input and returns an entity that is representationally related to that argument, such as ‘a statue of Ringo’ in (1b). When the Near reflexive function returns the input itself, namely, the antecedent itself, Pure reflexive reading is induced. That is, Pure reflexivity is a subcase of Near reflexivity. Lidz (2001a,b) claims that individual anaphor is lexically specified as introducing the Near reflexive function or not. If an anaphor is specified as introducing the function, it can refer to an extension of the antecedent and Near reflexivity is induced. To regulate Pure reflexivity, he proposes ‘Condition R’ given in (4).

(4) Condition R:  
  $\lambda x \left[P(x,x)\right] \leftrightarrow (\theta_1 = \theta_2)$  

The left side of the condition shows the semantics of reflexivity, and the right side indicates the theta-grid of lexically reflexive predicate. The two thematic roles of a lexically reflexive predicate must be coindexed. Condition R says that if a predicate is semantically reflexive, it must be lexically reflexive. Also, if a predicate is lexically reflexive, it must be semantically reflexive.²

²Burzio (1994) also notices that different types of anaphor induce different reflexivity. Under his analysis, morphologically complex anaphors are called as ‘strong anaphors’ and simplex anaphors are called as ‘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
2.2. Reflexivity Marking

In this subsection, we see how lexical and semantic reflexivity is marked on verbs. In Lidz’s (2001a,b) discussion, there is only one way to mark semantic reflexivity among languages: a verb is semantically reflexive when it takes a Pure reflexive anaphor. By contrast, there seem to be three ways that lexical reflexivity is marked on verbs. A first way of lexical reflexivity marking is that verbs are inherently specified as reflexive in the lexicon. This way is observed in Dutch. Recall (1). The predicate *scheert* ‘shaves’ in (1a) is specified as reflexive in the lexicon, and lexical reflexivity is marked. The verb occurs with the Pure reflexive anaphor *zich*, so semantic reflexivity is also marked. In (1a), Condition R is satisfied and only a Pure reflexive reading is induced. By contrast, the predicate in (1b) is specified as non-reflexive. Lexical reflexivity is not marked. Semantic reflexivity is not marked either, because the verb occurs with a Near reflexive anaphor *zichzelf*. Condition R does not operate, so a Near reflexive interpretation is allowed.

A second way is to attach a verbal reflexive marker on verbs (see Lidz, 1995). Kannada takes this way: as in (5b), the verbal reflexive marker *-koND* is attached on verb to mark lexical reflexivity. The predicate in (5a) is semantically reflexive since it takes a Pure reflexive anaphor *tann*, but it lacks lexical reflexivity on the verb. The sentence is excluded due to the violation of Condition R. By contrast, the condition is satisfied in (5b) since the predicate is now marked lexical reflexivity by *-koND*. In (5c), the condition vacuously applies: the predicate is neither semantically nor lexically reflexive marked.

\[
\text{(5) a.} \text{ Hari tann-annu hoDe-d-a } [\text{Kannada}]
\]
\[
\begin{align*}
\text{Hari} & \text{ self-Acc hit-Past-3sm} \\
\text{‘Hari} & \text{ hit himself}.' \quad (\text{tann = Hari})
\end{align*}
\]
\[
\text{b.} \text{ Hari tann-annu hoDe-du-koND-a } \\
\text{Hari self-Acc hit-PR-Refl.Past-3sm} \\
\text{‘Hari} & \text{ hit himself}.' \quad (\text{tann = Hari, statue})
\]
\[
\text{c.} \text{ Hari tann-annu-taane hoDe-d-a } \\
\text{Hari self-Acc-self hit-Past-3sm} \\
\text{‘Hari} & \text{ hit himself}.' \quad (\text{tannu-tanne = H, statue}) \quad (\text{Lidz, 2001a, (12)})
\]

A third way is observed in Russian: a Pure reflexive anaphor marks lexical reflexivity as well as semantic reflexivity. In (6a), only a Pure reflexive reading is induced. Condition R is operative. Even though the same verb is used, the additional statue reading is available in (6b). So, we reason that the verb morphologically simpler anaphors such as Italian reflexive clitic *si* ‘self’ or morphologically simplex anaphor *se* are ‘weaker’ than morphologically complex anaphor *se stesso* ‘self-same.’

\[
\text{(i) Weak Anaphor Principle} \\
\text{Inherent coreference} \quad \leftrightarrow \quad \text{weak anaphora} \\
\text{(semantics)} \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad
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in (6) lacks any reflexivity and that the anaphor -sja in (6a) is Pure reflexive and it marks both semantic and lexical reflexivity. We regard sebja in (6b) as a Near reflexive anaphor.

(6) a. Yeltsin zastrelil-sja. [Russian]
   Yeltsin shot-self
   ‘Yeltsin shot himself.’ (-sja = Yeltsin, statue)

b. Yeltsin zastrelil sebja.
   Yeltsin shot self
   ‘Yeltsin shot himself.’ (sebja = Y, statue) (Lidz, 2001a, (26))


Arguing about the two-type distinction of anaphor proposed in Lidz (2001a,b), Liu (2003) claims that Pure reflexivity and Near reflexivity are not the only options that are induced in the Madame Tussaud context. (7) illustrates that two types of anaphors in Chinese: ziji ‘self’ and ta-ziji ‘him-self,’ can refer to statues, but another type ziji-benshen ‘self-self’ cannot.

(7) a. Jiang Jie-Shi henhen-de da-le ziji yi-xia.
   Jiang Jie-Shi furiously hit-Asp self one-Cl
   ‘Jiang Jie-Shi hit himself, furiously.’ (ziji = JJS, 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 hit himself, furiously.’ (ta-ziji = JJS, 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 hit himself, furiously.’ (ziji-benshen = JJS, statue) (Liu, 2003, (11))

Liu claims that what looks like Pure reflexivity in (7c) is ‘Pure identity’ between the anaphor and its antecedent. His claim is that this anaphor is not a Pure reflexive anaphor but a ‘focus operator anaphor.’ While Pure reflexivity in Lidz’s (2001a,b) sense is as a consequence of Condition R, Pure identity arises as a consequence of the semantic composition of the anaphor ziji-benshen: (a) the Near reflexive function of ziji ‘self,’ (b) a focus function of -benshen ‘-self,’ and (c) the operator status of the anaphor ziji-benshen. (8) shows that the suffix -benshen functions as a focus marker that involves a notion of scalarity with respect to the expectations of the speaker (see Rooryck and Vanden Wyngaerd (1998)). The speaker of the sentence has not expected that the subject NP (zongtong ‘president’) did the action, but he/she actually did. What was done was beyond the speaker’s expectation. Thus, the focus marker is attached to the subject NP. Without the focus marker, the sentence sounds pragmatically odd.
For-Asp reinforce two-state between DE friendship president self
yao dao jichang lai yingjie meiguuo guowuqing.
want arrive airport 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))

Liu explains how Pure identity reading is induced in the Madame Tussaud
context, such as (7), as follows. There is a set of what the Near reflexive func-
tion of ziji denotes (referential extensions of the antecedent or the elements
that could be construed as the antecedent, including the antecedent itself) and
the focus marker -benshen picks out an element that is highest on the scale
among the set. As a consequence, the antecedent itself is selected as the refer-
ence of the anaphor. Pure identity does not necessarily imply Pure reflexivity
but not vice versa. So, Pure reflexivity is a subcase of Pure identity.

Liu notes that ziji-benshen shows a different behavior compared with the
other anaphors in a comparative deletion construction as well observing (9).
While ziji in (9a) allows both sloppy and non-sloppy identity readings, ziji-
benshen in (9b) allows only sloppy identity reading. Liu accounts for this by
claiming 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.

(9) a. Zhangsan xianzai bi Lisi guoqu geng quanxin ziji-de liyi
Zhangsan now compare Lisi past more care-about self-DE benefit
‘Zi cares about hisi benefit more than Li cared about hisj benefit.’
‘Zi cares about hisi benefit more than Li cared about hisj benefit.’
b. Z xianzai bi L guoqu geng quanxin ziji-benshen-de liyi
Z now compare L past more care-about self-self-DE benefit
‘Zi cares about hisi benefit more than Li cared about hisj benefit.’
*‘Zi cares about hisi benefit more than Li cared about hisj benefit.’
(Liu, 2003, (32))

He assumes that the operator ziji-benshen undergoes an LF movement,
namely, adjunction to VP (cf. Huang and Tang, 1991). Under his analysis,
the deleted structure of (9b) has the LF representation like (10). The anaphor
constitutes an Operator-variable relation with its trace (cf. Heim and Kratzer,
1998): Ziji-benshen adjoins to VP, and the trace of it can be bound only by
the local subject Lisi because the anaphor is subject to predication or strong
binding by an appropriate local subject (cf. Chomsky, 1986).

(10) [[ Lisi1 ] [ VP ziji-benshen1 [ VP . . . ti . . . ] ] ]
(Liu, 2003, Footnote 26)
Further, he claims that *ziji-benshen* is not a Pure reflexive anaphor from the viewpoint of the semantic contents of anaphor. Pure reflexive anaphors (e.g. *zich* ‘self’ in Dutch) are variables without any content, while the focus operator anaphor has richer semantic/pragmatic contents as a focus marker.

It seems that there are three types of anaphor in languages: Pure reflexive anaphors, Near reflexive ones and ones with a special function. Liu (2003)’s claim is that there are two ways to induce Pure identity reading in languages: Pure reflexivity as a consequence of Condition R and Pure identity as a consequence of the properties of anaphor. He proposes that a language disjunctively selects one of the two ways. For instance, Dutch selects the first way: it has the Pure reflexive anaphor *zich* as well as the Near reflexive anaphor *zichzelf*. On the other hand, Chinese selects the second way: it has the focus operator anaphor *ziji-benshen* as well as Near reflexive anaphors *ziji* and *ta-ziji*. Then, we wonder what decides a language select the first or second way as a way to induce Pure identity reading. At the same time, we have another question: do the two ways need to be disjunctive?

4. Proposal

We claim that a language can have both of the two ways to induce Pure identity reading: Pure reflexivity and Pure identity, contrary to Liu’s (2003) claim. Further, we propose that there are only two types of anaphor: Pure reflexives and Near reflexives, and that what looks like a third type; e.g. an anaphor with a focus function, is a subcase of Near reflexive anaphor. Our assumption is that when a Near reflexive anaphor has a special function, its Near reflexive anaphor status is counteracted by the special function and Near reflexive readings are not induced. These claims are based on the observations in Japanese in Section 4.1. Further, we propose that there is parametric variation among languages in the two-type classification of anaphor as in (11).

(11) a. morphologically simplex anaphor = Pure reflexive anaphor
    morphologically complex anaphor = Near reflexive anaphor

b. bound-morpheme anaphor = Pure reflexive anaphor
    free-morpheme anaphor = Near reflexive anaphor

In languages like Dutch, Kannada and Malayalam, the morphological composition of anaphor distinguishes Pure and Near reflexive anaphors: morphologically simplex anaphors are Pure reflexive anaphors (e.g. *zich* ‘self’ in Dutch), while complex ones are Near reflexives (*zichzelf* ‘self-self’). On the other hand, another anaphor *tan* ‘self’ in (ii) can be bound by its coargument and induce a statue interpretation. This anaphor

3 We regard Malayalam as the language in which the morphological composition of anaphor distinguishes types of anaphor. However, the language does not mark lexical reflexivity on verbs and coargument binding of the anaphor *tan* ‘self’ is always excluded by Condition R as in (i). We would not regard this anaphor Pure reflexive. On the other hand, another anaphor *tan-tanne* ‘self-self’ in (ii) can be bound by its coargument and induce a statue interpretation. This anaphor
hand, in languages like Russian and Japanese, a bound-morpheme anaphor is a Pure reflexive anaphor and a free-morpheme anaphor is a Near reflexive anaphor. We attribute this proposal to a predication made in Lidz’s Condition R analysis given in (12).

(12) 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)

Although Lidz refers to only Near reflexive anaphors, we can paraphrase this as ‘an anaphor is bound by a coargument in the presence of lexical reflexivity, then that anaphor is Pure-reflexive.’ As we have reviewed above, there are several ways to mark lexical reflexivity: a verb is marked as reflexive in the lexicon (e.g. Dutch), a verb takes a verbal reflexive marker (Kannada) and a verb takes a Pure reflexive anaphor (Russian). Semantic reflexivity is, on the other hand, marked on verbs by a Pure reflexive anaphor in all languages. We assume that if lexical reflexivity marking occurs independently from semantic reflexivity marking as in Dutch and Kannada, a Pure reflexive anaphor is a free-morpheme. By contrast, if lexical reflexivity marking occurs simultaneously with semantic reflexivity marking as in Russian, a Pure reflexive anaphor is a bound-morpheme that has to be morphologically incorporated into verbs. Our proposal is that how anaphors are classified into types in a language depends on how reflexivity marking occurs. In section 4.2, we see that our proposal is compatible with the data from several languages.

4.1. Japanese

In this subsection, we discuss why we claim that there are only Near reflexives and Pure reflexives and that what looks like the third type of reflexivity is a subcase of Near reflexive. We examine three types of anaphor in Japanese that lack phi-feature specification: zibun ‘self,’ zibun-zisin ‘self-self’ and bound-

\[ \text{zibun} \]

\[ \text{zibun-zisin} \]

\[ \text{bound-} \]

\[ \text{is a Near reflexive anaphor.} \]

(i)*Raaman \ tan-ne \ kshauram \ ceytu
Raaman self-Acc shaving did
‘Raaman shaved’

(ii)Raaman \ tan-ne-tanne \ kshauram \ ceytu
Raaman self-Acc-self shaving did
‘Raaman shaved himself.’ (tan-tanne = Raaman, statue) (Lidz, 2001a, (32))
morpheme anaphor \( z_{i}/z_{iko} \)- used in Sino-Japanese complex verbs.\(^4\)

Recall the prediction made by Condition R in (12). The verb \( hihan-suru \) ‘criticize’ in (13) lacks an overt object argument, and the sentence induces a transitive reading but not a reflexive reading. In (14), the same verb overtly takes an object \( Mary \), and the sentence is perfect. Based on (13) and (14), we reason that this verb lacks lexical reflexivity and it is transitive in nature. Now, in (15), each \( zibun \) and \( zibun-zisin \) can be bound by its coargument \( John \) though the verb lacks lexical reflexivity. So, following the prediction in (12), we regard \( zibun \) and \( zibun-zisin \) as Near reflexive anaphors in Japanese.

(13) \( John-ga \) hihan-si-ta.
\( John-Nom \) criticism-do-Past
‘\( John \) criticized \{someone / something / *himself \}.’

(14) \( John-ga \) Mary-o hihan-si-ta.
\( John-Nom \) Mary-Acc criticism-do-Past
‘\( John \) criticized \( Mary \).’

(15) \( John-ga \) \{zibun / zibun-zisin\} -o hihan-si-ta.
\( John-Nom \) self-Acc / self-self -Acc criticism-do-Past
‘\( John \) criticized \{self / self-self\}.’

In (16), the same verb occurs with the bound-morpheme anaphor \( ziko \). This anaphor is bound by its coargument \( John \), and a reflexive interpretation is exclusively induced. We assume that if an anaphor marks lexical reflexivity by incorporating to a verb root, the verb root gains semantic reflexivity too.

\(^4\) Verbs that incorporate the bound-morphemes \( z_{i}/z_{iko} \)- are called \( z_{i}-verbs \) / \( z_{iko}-verbs \). Following Kishida and Sato (2009), we assume that these morphemes are incorporated into verbal nouns (VNs) such as \( satu \) ‘killing’ in (i) and \( hihan \) ‘criticism’ in (16) in syntax and that these complexes are supported by the light verb \( suru \) ‘do’ as \( z{i-satu-suru} \) ‘do self-killing, kill oneself’ and \( ziko-hihan-suru \) ‘do self-criticism, criticize oneself.’ Our assumption is that \( z_{i} \)- and \( ziko \)- are object arguments of the complex predicate (\( satu-suru \) ‘do killing’ and \( hihan-suru \) ‘do criticism’). For, as in (ii), the \( z_{i} \)-verb cannot take an object argument.

(i) \( John-ga \) zi-satu-si-ta.
\( John-Nom \) self-killing-do-Past
‘\( John \) killed himself .’

(ii) *\( John-ga \) zibun-o zi-satu-si-ta.
\( John-Nom \) self-Acc self-killing-do-Past
‘\( John \) killed himself .’

\(^5\) Japanese has one more type of anaphor that is phi-feature specified and composed of a pronoun and the \( -zisin \) ‘self’ suffix such as \( kare-zisin \) ‘him-self’ and \( kanojo-zisin \) ‘her-self.’ This type of anaphor is, however, rarely used, so we exclude this type from our examination.

(i) \( John-ga \) kare-zisin-o hihan-si-ta.
\( John-Nom \) him-self-Acc criticism-do-Past
‘\( John \) criticized himself .’
So, we regard this anaphor as a Pure reflexive anaphor.

    John-Nom self-criticism-do-Past
    ‘John criticized { self / *someone / *something }.’

Our prediction based on the observations above is that Japanese anaphors are classified as listed in (17).

(17) a. zibun ‘self’ = Near reflexive anaphor
    b. zibun-zisin ‘self-self’ = Near reflexive anaphor
    c. bound-morpheme zi-/ziko- ‘self-’ = Pure reflexive anaphor

Now, to see if the classification in (17) is correct, we apply the two diagnostics that distinguish Near and Pure reflexives proposed in Lidz (2001a,b): availability of statue readings in the Madame Tussaud context in (18) and availability of non-sloppy identity readings in comparative deletion constructions in (19).6

    John-Top self-Acc criticism-do-Past
    ‘John criticized self.’ (zibun = John, statue)

    John-Top self-self-Acc criticism-do-Past
    ‘John criticized self-self.’ (zibun-zisin = John, *statue)

    John-Top self-criticism-do-Past
    ‘John criticized self.’ (ziko- = John, *statue)

(19) a. Mary-wa John yorimo hagesiku zibun-o hihan-si-ta.
    Mary-Top John than severely self-Acc criticism-do-Past
    ‘Mary criticized herself more severely than John criticized himself.’
    ‘Mary criticized herself more severely than John criticized her.’

b. Mary-wa John yorimo hagesiku zibun-zisin-o hihan-si-ta.
    Mary-Top John than severely self-self-Acc criticism-do-Past
    ‘Mary criticized herself more severely than John criticized himself.’
    ‘Mary criticized herself more severely than John criticized her.’

* ‘Mary criticized herself more severely than John criticized her.’

c. Mary-wa John yorimo hagesiku ziko-hihan-si-ta.
    Mary-Top John than severely self-criticism-do-Past
    ‘Mary criticized herself more severely than John criticized himself.’
    ‘Mary criticized herself more severely than John criticized her.’

* ‘Mary criticized herself more severely than John criticized her.’

6 We share the judgements in (18) and (19) with Shimada (2006) and Miura (2008) who also apply the diagnostics to Japanese, though their accounts differ from ours.
In (18), *zibun* can refer to a statue of the antecedent, but each *zibun-zisin* and *ziko-* refers to only its antecedent. If *zibun* is a Near reflexive anaphor and *ziko-* is a Pure reflexive anaphor as in the proposed classification in (17), the (un)availability of statue reading in (18a) and (18c) can be straightforwardly accounted for. The Near reflexive anaphor *zibun* introduces the Near reflexive function and it takes the antecedent John as its input and returns ‘statue of John,’ and the Pure reflexive anaphor *ziko-* excludes the statue reading and only the reading in which it refers to its antecedent is allowed. However, there seems to be a contradiction in (18b). *Zibun-zisin* is categorized as Near reflexive in (17b), but it does not induce a statue reading in (18b).

In (19), only *zibun* induces a non-sloppy identity reading as well as a sloppy identity reading. *Zibun-zisin* and *ziko-* induce only sloppy identity readings. The explanation for (19a) and (19c) is straightforward. While *ziko-* is a variable so it can bound only by the local subject John, *zibun* not being a variable can have its own index and it can induce a non-sloppy identity reading. Here again, we notice the same contradiction: why doesn’t the Near reflexive anaphor *zibun-zisin* behave like a Near reflexive in (19b)?

To dispense with this contradiction, we claim that *zibun-zisin* functions as a focus operator anaphor, following Liu’s (2003) analysis of *ziji-benshen* ‘self-self’ reviewed in Section 3. *Zibun-zisin* also consists of two parts: the Near reflexive anaphor *zibun* ‘self’ and the suffix -zisin ‘self.’ The suffix -zisin functions as a focus marker and involves a notion of scalarity with respect to the expectations of the speaker, as (20) illustrates.

(20) Amerika to wagakuni-no gaikoo kankei-o kyouka-suru kyooka-suru Amerika and our country-Gen diplomatic relation-Acc reinforce kyouka-suru syusyoo-zisin-ga Amerika-no kokumutyookan-o kuukou to president-self-Nom America-Gen secretary of state-Acc airport e mukaeni it-tta.

‘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.’

What is induced in (18b) is Pure identity as a consequence of the semantic composition of *zibun-zisin*: the focus function of -zisin selects one element that is highest on the scale of these elements that could be construed as the antecedent from the set of what the Near reflexive function of *zibun* denotes. As a consequence, the antecedent itself is selected. From the viewpoint of semantics and pragmatics as well, what is induced by *zibun-zisin* in (18b) and what is induced by *ziko-* in (18c) are different. *Zibun-zisin* functions as a focus marker and has richer semantic/pragmatic contents, and the sentence
means ‘John criticized HIMSELF, not anyone else.’ By contrast, ziko- is just a variable without any content. (18c) does not mean the same with (18b).

We account for the unavailability of non-sloppy identity reading in (19b) by saying that zibun-zisin is an operator anaphor since it has the semantic range, namely the range of the Near reflexive function of zibun. Following Liu (2003), we assume that zibun-zisin undergoes an operator movement at LF as in (21) and it is subject to strong binding so only the local subject John can be the reference of zibun-zisin.

\[(21) \quad [\text{John}] [\text{VP, zibun-zisin, VP, . . . t, . . . } ] \] (the elided part of (19b))

The observations above show that Japanese has both Pure reflexivity induced by ziko- and Pure identity induced by zibun-zisin. Therefore, we claim that the two ways to induce Pure identity readings are not disjunctive in a language. Though zibun-zisin is a Near reflexive anaphor being a free-morpheme anaphor, its Near reflexive anaphor status is counteracted by its special function as a focus. So, zibun-zisin does not behave similarly with zibun.

The summary of the classification of Japanese anaphors under our proposal is in (22).

\[\text{Zibun ‘self’ and zibun-zisin ‘self-self’ are Near reflexive anaphors as they are free-morphemes, but the latter one has a special function as a focus so its Near reflexive anaphor status is counteracted by the function. The bound-morpheme anaphors zi- and ziko- are Pure reflexive anaphors.}\]

\[(22) \quad \text{a. zibun ‘self’ = Near reflexive anaphor}\]
\[\quad \text{b. zibun-zisin ‘self-self’ = Near reflexive → Focus operator anaphor}\]
\[\quad \text{c. bound-morpheme zi-/ziko- ‘self-’ = Pure reflexive anaphor}\]

4.2. Chinese

Liu (2003) discusses that Chinese is a language that uses a focus operator anaphor to get a Pure identity reading. However, this language also has a Pure reflexive anaphor zi- ‘self’ that functions as a variable as in (23). This anaphor is regarded as a Pure reflexive because, unlike ziji-benshen, it has no semantic/pragmatic contents.

\[\text{There is a case in which zibun-zisin semantically does not function as a focus as in (i). In that case, zibun-zisin can be used interchangeably with zibun that lacks the -zisin part as in (ii). I would have to say that there are two types of zibun-zisin: one with a focus meaning and the other without it. I leave this for future research. Thanks to Yoshihisa Kitagawa for pointing out this.}\]

(i) Dare-ga zibun-zisin-o hihan-si-ta no. who-Nom self-self-Acc criticism-do-Past Q
‘Who criticized himself?’

(ii) Dare-ga zibun-o hihan-si-ta who-Nom self-Acc criticism-do-Past Q
‘Who criticized himself?’
(23) Xiang-Yu zuihou zi-jin-le. 
Xiang-Yu finally self-killing-Asp 
‘X finally killed himself’ (zi- = X, *statue) (Liu, 2003, Footnote 30 (ii))

Then, the classification under our proposal holds true in this language. As we have seen in (7), free-morpheme anaphors *ziji ‘self’ and *ta-ziji ‘him-self’ are Near reflexives that can refer to statues. Ziji-benshen ‘self-self’ is also Near reflexive being a free-morpheme, but it refers only to the antecedent as a consequence of the semantic composition of the anaphor.

4.3. Other Languages

Our proposal: in some languages, bound-morpheme reflexives are Pure reflexive anaphors and free-morpheme ones are Near reflexive, and a Near reflexive anaphor with a special function does not behave like a Near reflexive anaphor, is compatible with the data below from other languages.

In Russian, as seen in (6), the bound-morpheme anaphor -sja ‘self’ behaves like a Pure reflexive anaphor, while the free-morpheme anaphor sebja ‘self’ behaves as a Near reflexive.

In Korean, as in (24), the bound-morpheme caki- ‘self’ is Pure reflexive that excludes a Near reflexive interpretation, while the free-morpheme caki ‘self’ is Near reflexive and can induce a statue reading.

   Chelswu-Nom self-criticism-do-Past-Dec 
   ‘Chelswu criticized himself.’ (caki- = Chelswu, *statue)

b. Chelswu-ka caki-lul piphan-ha-yss-ta. 
   Chelswu-Nom self-Acc criticism-do-Past-Dec 
   ‘Chelswu criticized himself.’ (caki = Chelswu, statue) 
   (based on Kang, 2001, (18))

In Italian, as in (25), the bound-morpheme (clitic) si- ‘self’ is Pure reflexive and does not refer to a statue, while the free-morpheme se stesso ‘self-same’ is Near reflexive and a statue reading is available.

(25) Gianni {sì-lava / lava se stesso}. 
    Gianni {self-washes / washes self-same} 
    ‘Gianni washes himself.’ (si- = G, *statue) (se stesso = G, statue) 
    (Giorgi, 2007, (15)(18))

In Spanish, the bound-morpheme anaphor se- ‘self’ cannot be used to induce a Near reflexive reading as in (26).

(26) El zorro se- lavó. 
    The zorro self washed 
    ‘Zorro washed himself.’ (se- = Zorro, *statue) 
    (Shimada, 2006, 60)
English has just the free-morpheme type anaphor such as *himself* and *herself*, and *himself* can refer to a statue as in (27).

(27) Reagan dressed *himself* in the museum. (*himself* = Reagan, statue)

(Lidz, 2001a, (22b))

We believe that the data in this subsection shows the validity of our proposal.\(^8\)

5. Conclusion

We have discussed that several languages have more than one form of reflexive anaphors and they are classified based on their semantics into ‘Pure reflexive anaphors’ that require complete identity with their antecedents and ‘Near reflexive anaphors’ that are referentially relevant to their antecedents but not necessarily identical with them, in Lidz (2001a, b)’s sense. There is a third type of reflexivity: Pure identity, as shown in Liu (2003). We claim that what looks like the third type of anaphor is a subcase of Near reflexivity. The Near reflexive anaphor status of a free-morpheme anaphor is counteracted if the anaphor has a special function, such as focus as Chinese *ziji-benshen* and Japanese *zibun-zisin* do. We have also proposed that the Pure / Near reflexive anaphor classification is parametric among languages: in some languages (e.g. Japanese, Russian, Chinese etc.), bound-morpheme reflexives are Pure reflexives and free-morpheme ones are Near reflexives, while in others (Dutch, Kannada etc.), morphologically simplex anaphors among free-morpheme reflexives are Pure reflexive and complex ones are Near reflexive. We assume that the parametric variation depends on how reflexivity marking occurs in the language. Our proposal sheds a new light on the typological research of reflexivity and coreference in generative grammar.

\(^8\) That the bound-/free-morpheme distinction corresponds to the Pure-/Near-reflexive distinction seems to be true with reciprocal pronouns in Japanese. The free-morpheme reciprocal pronoun *otagai* ‘each other’ allows a Near reflexive interpretation as in (i), while the bound-morpheme *sougo* ‘each other’ does not as in (ii).

(i) Ringo to John -wa otagai-o hihan-si-ta.

Ringo and John -Top each other-Acc criticism-do-Past

‘Ringo criticized John and John criticized Ringo.’

‘Ringo criticized the statue of John and John criticized the statue of Ringo.’

(ii) Ringo to John -wa sougo-hihan-si-ta.

Ringo and John -Top each other-criticism-do-Past

‘Ringo criticized John and John criticized Ringo.’

*‘Ringo criticized the statue of John and John criticized the statue of Ringo.’

It is important to see if the proposed classification of reflexive anaphors holds with reciprocal anaphors, and more generally, with pronouns. These, however, would go beyond the issue in this paper so I leave them for future research. I appreciate Keiko Murasugi and John Whitman for pointing these out.
Acknowledgments

This paper is a revised version of a section in Kishida (2009). I would like to express my gratitude to Jun Abe, Tonia Bleam, Norbert Hornstein, Howard Lasnik, Jeff Lidz, Chizuru Nakao, Akira Omaki, Kamil Ud Deen, Juan Uriagereka and Masaya Yoshida and the audience at the 11th SICOGG and the 19th JK Conference for their valuable comments and suggestions.

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