

Reconsidering Syntactic Reflexive-Markers and “Reflexive-Marking” Systems: from a Typological Point of View^{*}

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This paper observes syntactic and semantic properties of the External Possessor Construction in Japanese, comparing it with the construction with lexical reflexive-marking in the Germanic languages and the External Possessor Construction in the Romance languages. Based on the findings, this paper proposes a noun-incorporation analysis of the External Possessor Construction in Japanese. This analysis leads us to modify Reinhart and Reuland’s (1993) proposal on syntactic reflexive-markers and “reflexive-marking” systems as follows. First, not only SELF-anaphors, but also body-part nouns can reflexively mark a predicate in narrow syntax. Second, syntactic reflexive-marking system is divided into two subtypes: the first one is semantically restricted, while the second one is semantically unrestricted.

Keywords: reflexive-marking, reflexive-markers, body-part noun, noun-incorporation, narrow syntax

1. Introduction

In this paper, syntactic reflexive-markers and “reflexive-marking” systems will be considered from a typological point of view. As is shown in (1) and (2), Reinhart and Reuland (1993) propose that morphologically complex anaphors, such as English *himself*, can reflexively mark a predicate in narrow syntax. They divide reflexive-marking systems into two types: the first one is lexical and the second one is syntactic. They point out that lexical reflexive-marking is semantically restricted, while syntactic reflexive-marking is semantically unrestricted.

- (1) Syntactic Reflexive-Markers: SELF-anaphors
- (2) a. Lexical Reflexive-Marking: Semantically restricted
b. Syntactic Reflexive-Marking: Semantically unrestricted

Delfitto and d’Hulst (1995) and Baauw (2002) have examined the External Possessor Construction (henceforth, the EPC) and have observed that the EPC in the Romance languages shows syntactic similarities to anaphoric binding, and that the EPC is semantically restricted. They argue that its properties can be explained if it is taken as an instance of lexical reflexive-marking.

Nakato (2008a) has observed that the EPC is allowed in Japanese and that the EPC in Japanese shows syntactic and semantic similarities to the EPC in the Romance languages. Then a question arises as to whether the EPC in Japanese is also an instance of lexical reflexive-marking. Closer investigation on the EPC in Japanese, however, reveals that the construction cannot be an instance of this kind.

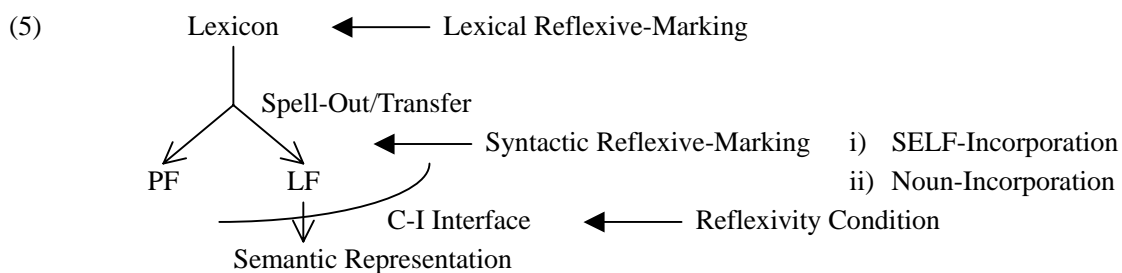
^{*} This paper is based on Nakato (2008a, b, 2009). I would like to express my gratitude to Kinsuke Hasegawa, Shosuke Haraguchi, Noriko Imanishi, Takane Ito, Akira Watanabe, Tohru Noguchi, Yuki Ishihara, Harumasa Miyashita, Stephen Clark, and anonymous reviewers for their invaluable comments and suggestions for stylistic improvement. My thanks also go to the audience at the conferences and all of the linguistics-major graduate students who are currently enrolled at the Department of English Language and Literature, the University of Tokyo. Needless to say, all remaining errors are my own.

The aim of this paper is two-fold. First, we will closely examine syntactic and semantic properties of the EPC in Japanese, and consider how these properties can be explained under the current framework of the Minimalist Program. As a possible explanation, this paper proposes a noun-incorporation analysis of the EPC in Japanese, which places Reinhart and Reuland's (1993) proposal under reconsideration. Then, we will argue that this should be partly modified as in (3)-(4): not only SELF-anaphors but also body-part nouns can reflexively mark a predicate in narrow syntax; the syntactic reflexive-marking system is divided into two subtypes. The first one is possible only with limited classes of verbs, and the second one is possible with any classes of verbs.

- (3) Syntactic Reflexive-Markers: SELF anaphors and body-part nouns
- (4) a. Lexical Reflexive-Marking: Semantically restricted
 - b. Syntactic Reflexive-Marking: i. Semantically restricted
 - ii. Semantically unrestricted

This paper is organized as follows. First basic data on reflexive-marking systems in the Germanic languages and the Romance languages will be briefly reviewed. In section 3, careful investigation on the properties of the EPC in Japanese will be made. In section 4, a noun-incorporation analysis of the EPC in Japanese will be presented and Reinhart and Reuland's (1993) proposal will be modified. Section 5 offers a conclusion.

Before going into the main discussion, let us make clear the basic framework adopted in this paper, which is illustrated in (5) (cf. Chomsky (1995, 2000, 2001, 2004, 2005, 2008), Reinhart (2006)).



The discussion of this paper is based on the following Minimalist assumptions (Chomsky (1995, 2000, 2001, 2004, 2005, 2008)): (I) language consists of a lexicon and a computational system, (II) there are two interface levels, PF and LF, but no levels beyond them, (III) language should meet the condition of inclusiveness and hence no new object, such as indices, can be added in the course of derivation. Given these assumptions, binding relations should be explained without recourse to indexing. Reinhart's (2006) definition of Binding as in (6) is the most promising as far as I know and so this paper adopts it. This paper also presupposes the Reflexivity Condition (7) as one of the licensing conditions at the C-I Interface.

- (6) A-Binding
 α A-binds β iff α is the sister of a λ -predicate whose operator binds β . (Reinhart (2006: 171))
- (7) Reflexivity Condition
 A reflexive-predicate must be reflexive-marked. (Reinhart (2006: 177))

2. Reflexive-Marking Systems in the Germanic languages and the Romance languages

Reinhart and Reuland (1993) and Reinhart (2006) propose that reflexive-marking of a predicate is licensed at the C-I interface if it takes a SELF-anaphor as one of its arguments or the predicate itself is inherently reflexive. Consider the examples in (8) and (9).

- (8) a. John_i washes himself_i

- b. John washes
 - c. John_i hit himself_i .
 - d. John hit
 ‘*John hit himself.’
 ‘John hit something.’
- (9) a. Jan_i wast zichzelf_i (Dutch)
- b. Jan_i wast zich_i
 ‘John washes himself.’
 - c. Jan_i aaide zichzelf_i
 - d. Jan_i aaide ??zich_i (Baauw (2002:73))
 ‘John petted himself.’

The examples in (8a-b) and (9a-b) express a reflexive situation, *John washes himself*. (8a) and (9a) are examples of syntactic reflexive-marking. In these examples, the predicate which means ‘wash’ takes a SELF-anaphor, *himself* or *zichzelf*, as one of its arguments. (8b) and (9b) are examples of lexical reflexive-marking. In these examples, the same predicate takes a null/implicit argument or a simplex anaphor *zich*.

The construction with a null/implicit argument is not productive, while the construction with a SELF-anaphor is fully productive. As shown in (8b, d) and (9b, d), verbs which denote a “grooming action” can be used with a null/implicit argument, while verbs such as *hit* cannot. Such a semantic restriction is not observed with the construction with a SELF-anaphor, which is illustrated in (8a, c) and (9a, c).

This contrast is attributed to the syntactic properties of the anaphoric expressions. A SELF-anaphor reflexively marks a predicate in narrow syntax: a SELF-part of the anaphor is incorporated into a verb after Spell-Out, which results in the reflexive interpretation of the sentence (see Section 4). A null/implicit argument or a simplex anaphor *zich*, on the other hand, does not function in the same way. Rather, the reflexive interpretation of the sentences in (8b) or (9b) is derived from the meaning of the verbs. The verbs are listed as inherently reflexive predicates in the Lexicon, and the construction with such verbs is licensed as an instance of lexical reflexive-marking.

As shown in (10), the Romance languages allow the EPC.¹ In this construction, a body-part noun occurs in the object position, which can be interpreted as being in a part-whole relation to the noun in the subject position.

- (10) a. Les enfants ont levé la main (French)
 The children have raised the hand(sg) (Vergnaud and Zubizarreta (1992: 596))
- b. Los niños levantaron la mano (Spanish)
 The children raised the hand(sg) (Baauw (2002: 65))
 ‘The children raised their hands.’

The EPC shows two properties that are observed in anaphoric binding. The first one is the locality effect: the possessor noun must be within the same clause as the body-part noun. The second one is the c-command condition: the possessor noun must c-command the body-part noun. Consider the example in (11). In this example, the possessor of the body-part noun ‘eyes’ cannot be attributed to Mary or Peter, and it must be attributed to Peter’s sister.

- (11) María_i dijo que la hermana_j de Pedro_k cerró los_{*i/j/*k} ojos (Spanish)
 Mary said that the sister of Peter closed the eyes(pl) (Baauw (2002: 66))
 ‘Mary said that Peter’s sister closed her eyes.’

¹ English does not allow the EPC. The example (i) cannot describe the situation where each child raised his/her hand. Rather, English uses the construction with the possessor pronoun within the body-part noun phrase as in (ii).

(i) The children raised the hand.
 (ii) The children raised their hands.

In the EPC, only the predicates which denote an action involving an “internally controlled body-part movement” can be used (Kayne (1975), Baauw (2002)). Let us take (12a) for example. In (12a) the predicate which means ‘raise one’s hand’ is used. This action can be performed in the following two ways. First, one can raise his/her right hand by holding it with his/her left hand. In this case, the movement of the right hand is externally controlled. Second, one can raise his/her hand in response to a signal from his/her brain. In this case, the movement of the hand is internally controlled. In the grammatical examples in (12), the predicate can denote an “internally controlled” action. In the ungrammatical examples in (13), on the other hand, the predicate can denote only an “externally controlled” action.

- (12) a. Las niñas han levantado la mano (Spanish)
the girls have raised the hand(sg)
‘The girls raised their hands.’ (Baauw (2002: 70-71))
- b. Juan y Maria volvieron la cabeza (Spanish)
John and Mary turned the head(sg)
‘John and Mary turned their heads.’ (Baauw (2002: 70-71))
- c. Les hommes ont levé le bras (French)
the men have raised the arm(sg)
‘The men raised their arms.’
- d. Les hommes ont claqué les doigts (French)
the men have snapped the fingers(pl)
‘The men snapped their fingers.’
- e. Les hommes ont ouvert les yeux (French)
the men have opened the eyes(pl)
‘The men opened their eyes.’ (Vergnaud and Zubizarreta (1992: 621))
- (13) a. *Juan y Maria lavaron la cara (Spanish)
John and Mary washed the face(sg)
‘John and Mary washed their faces.’ (Baauw (2002: 70-71))
- b. *Les hommes ont lavé le visage (French)
the men have washed the face(sg)
‘The men washed their faces.’
- c. *Les hommes ont rasé la barbe (French)
the men have shaved the beard(sg)
‘The men shaved their beard.’ (Vergnaud and Zubizarreta (1992: 621))

Based on the syntactic and semantic similarities between the EPC in the Romance languages and the construction with lexical reflexive-marking in the Germanic languages, Delfitto and d’Hulst (1995) and Baauw (2002) have argued that the EPC in the Romance languages is an instance of lexical reflexive-marking.

3. The External Possessor Construction in Japanese

3.1. Semantic Properties of Verbs and Possibility of the EPC

As shown in (14), Japanese also allows the EPC. In this example the body-part noun *te* occurs in the object position.²

² This paper uses the following abbreviations: Nom = nominative case marker, Acc = accusative case marker, Gen = genitive case marker, Comp = complementizer, Past = past tense morpheme, Pass = passive morpheme.

- (14) Taro-ga te-o age-ta
Taro-Nom hand-Acc raise-Past

This construction allows ambiguous interpretation, that is, either inalienable or alienable interpretation. As Nakato (2008a) has observed, the interpretive possibilities of the EPC depend on the semantic properties of predicates. Interestingly, the classes of predicates which determine the interpretive possibilities of the EPC in Japanese coincide with those which allow lexical reflexive-marking in the Germanic languages and the EPC in the Romance languages. The following examples illustrate this point. When the predicate denotes an action involving an “internally controlled body-part movement,” only the inalienable interpretation is possible. In (15), the predicate which means ‘raise one’s hand’ is used. As we have seen in section 2, the predicate ambiguously denotes an action which may be regarded as “externally controlled” or as “internally controlled.” If it is interpreted as denoting an “internally controlled” action, the body-part noun is interpreted as being in a part-whole relation to the subject *Taro*.

- (15) Taro-ga te-o age-ta
Taro-Nom hand-Acc raise-Past
‘Taro raised his hand.’ (internally controlled action)
‘Taro raised someone’s hand.’ (externally controlled action)

When the predicate denotes a “grooming action,” the inalienable interpretation becomes salient in a normal context. In (16), the predicate which means ‘wash one’s face’ denotes a “grooming action.” The body-part noun is interpreted as in a part-whole relation to the subject *Taro*.³

- (16) Taro-ga kao-o araw-ta
Taro-Nom face-Acc wash-Past
‘Taro washed his face.’

On the other hand, when the verb denotes an action which causes some harm to someone, the inalienable interpretation is hardly acceptable. The sentence yields the alienable interpretation in a normal context. For example, the predicate which means ‘hit one’s face’ in (17) denotes such a harmful action. In this case, the body-part noun *kao* is interpreted as being in a part-whole relation to some other entity in the discourse, but not to the subject *Taro*.

- (17) Taro-ga kao-o nagut-ta
Taro-Nom face-Acc hit-Past
‘Taro hit someone’s face.’

The EPC in Japanese shows syntactic properties similar to those of anaphoric binding. Here again, the semantic properties of predicates play a crucial role. When the predicate denotes a “grooming action” or an action including an “internally controlled body-part movement,” the locality effect is observed and the c-command condition holds. Consider the examples in (18). In (18a) and (18b), the body-part noun is interpreted as in a part-whole relation to the local c-commanding subject, *Ziro’s sister*. In (18c), on the other hand, the body-part noun is interpreted as in a part-whole relation to *Ziro*, *Taro*, or an entity other than *Ziro’s sister* given in the discourse.

³ As shown in (13) the EPC in the Romance languages is impossible with the predicates which denote a “grooming action.” Vergnaud and Zubizarreta (1992: 621) observe that the EPC is possible with the predicate which denote a “grooming action” and those which denote an “internally controlled body-part movement” in Norwegian. In this respect, Japanese is similar to Norwegian. Why such a variation is observed is an interesting issue but this paper does not go further into the issue.

- (18) a. Taro-ga Ziro-no ane-ga kao-o araw-ta-to hokoku-si-ta
 Taro-Nom Ziro-Gen sister-Nom face-Acc wash-Past-Comp report-Past
 ‘Taro reported that Ziro’s sister had washed her face.’
- b. Taro-ga Ziro-no ane-ga te-o age-ta-to hokoku-si-ta
 Taro-Nom Ziro-Gen sister-Nom hand-Acc raise-Past-Comp report-Past
 ‘Taro reported that Ziro’s sister had raised her hand.’
- c. Taro-ga Ziro-no ane-ga kao-o nagut-ta-to hokoku-si-ta
 Taro-Nom Ziro-Gen sister-Nom face-Acc hit-Past-Comp report-Past
 ‘Taro reported that Ziro’s sister had hit (someone’s) face.’

3.2. Idioms and the EPC

So far, we have observed that the EPC in Japanese shows similarities to the EPC in the Romance languages and the construction with lexical reflexive-marking in the Germanic languages, as is summarized in (19).

- (19) a. Semantic restriction/effect
 b. Locality effect
 c. C-command condition

Given these similarities, a question arises as to whether the EPC in Japanese is also an instance of lexical reflexive-marking. Careful consideration of the Lexicon and closer observation of the EPC in Japanese, however, lead us to the conclusion that the EPC in Japanese should be taken as an instance of syntactic reflexive-marking.

Let us consider how much information is stored in the Lexicon. The strongest position is that the Lexicon is the repository of all and only idiosyncratic properties of particular lexical items. If a certain property is predictable from other properties of that item or derived as a result of syntactic or semantic computation, it need not be listed in a particular lexical entry (Chomsky (1995)). Idioms are linguistic expressions whose meaning cannot be compositionally derived. Thus they are listed as such in the Lexicon.

With respect to this point, the constructions with the body-part object in Japanese show interesting properties. They can be used as idioms or the EPC. Some of them yield only the idiomatic interpretation and others allow two or three interpretations. For example, the sentence in (20) yields only the idiomatic interpretation. On the other hand, the sentence in (21) allows three interpretations, either the alienable, the inalienable, or the idiomatic.

- (20) Taro-ga hara-o tate-ta
 Taro-Nom stomach-Acc stand/set up-Past
 Lit. ‘*Taro stood his stomach.’
 ‘Taro got angry.’ (idiomatic interpretation)
- (21) Taro-ga asi-o araw-ta
 Taro-Nom foot-Acc wash-Past
 ‘Taro washed the foot/feet.’ (alienable interpretation)
 ‘Taro washed his foot/feet.’ (inalienable interpretation)
 ‘Taro got himself out of something unfavorable.’ (idiomatic Interpretation)

The idiomatic expressions and the EPC show semantic and syntactic differences, which seems to reflect the division of labor between the Lexicon and narrow syntax. First, let us consider how they receive their interpretations. The idiomatic interpretation and the other two interpretations, that is the alienable and the inalienable, are distinguished by whether they are compositionally derived or not. For example, *hara-o tateru* in (20) does not mean ‘stand one’s stomach,’ but rather, it means ‘get angry.’ This is not derived from the composition of the meaning of each word, *hara* ‘stomach’ and *tateru* ‘stand.’ The same is true for the idiomatic

interpretation in (21). The phrase *asi-o araw* means ‘get oneself out of something unfavorable.’ This meaning is not derived from the composition of the meaning of each word, *asi* and *araw*. In contrast, the alienable or inalienable interpretation in (21) is compositionally derived from the meaning of each word. In both interpretations, *asi* ‘foot’ refers to an object which is at the end of a leg, and *araw* ‘wash’ denotes an action in which someone cleans something with water or other liquid.

In addition to the difference in compositionality, the idiomatic examples and the EPC show some syntactic contrasts. As shown in (22b) and (23a), the body-part noun cannot be modified in the idiomatic examples, but this can be done in the EPC. *Hara* in *hara-o tateru* cannot be modified by the adjective *kuroi* ‘black.’ On the other hand, *kao* ‘face’ in *kao-o araw* can be modified by the expression *yogoreta* ‘dirty.’

- (22) a. Taro-ga hara-o tate-ta
 Taro-Nom stomach-Acc stand-Past
 ‘Taro got angry.’
- b. *Taro-ga kuroi hara-o tate-ta (cf. hara-guroi otoko)
 Taro-Nom black stomach-Acc stand/set up-Past
- (23) a. Taro-ga yogoreta kao-o araw-ta
 Taro-Nom dirty face-Acc wash-Past
 ‘Taro washed his dirty face.’
- b. Taro-ga hosoi ude-o age-ta
 Taro-Nom slender arm-Acc raise-Past
 ‘Taro raised his slender arm.’

The following contrast illustrates this point more clearly. As mentioned above, some of the examples with the body-part object yield three interpretations. The expressions *asi-o araw* in (24a) and *kubi-o hineru* in (24c) are such examples. When the body-part nouns are modified, however, one of the interpretations becomes impossible. In (24b) and (24d), either the alienable interpretation or the inalienable interpretation is available, but the idiomatic one is not.

- (24) a. Taro-ga asi-o araw-ta
 Taro-Nom foot-Acc wash-Past
 ‘Taro washed the foot/feet.’ (alienable interpretation)
 ‘Taro washed his foot/feet.’ (inalienable interpretation)
 ‘Taro got himself out of something unfavorable.’ (idiomatic interpretation)
- b. Taro-ga hosoi asi-o araw-ta
 Taro-Nom slender foot/feet was-Past
 ‘Taro washed the slender foot/feet.’
 ‘Taro washed his slender foot/feet.’
- c. Taro-ga kubi-o hinet-ta
 Taro-Nom neck-Acc twist-Past
 ‘Taro twisted the neck.’ (alienable interpretation)
 ‘Taro twisted his neck (to look back).’ (inalienable interpretation)
 ‘Taro thought over (the difficult question).’ (idiomatic interpretation)
- d. Taro-ga hosoi kubi-o hinet-ta
 Taro-Nom slender neck-Acc twist-Past
 ‘Taro twisted the slender neck.’
 ‘Taro twisted his slender neck (to look back).’

Another difference between the idiomatic expressions and the EPC can be seen in (25) and (26): the possessive

form of the anaphoric expression *zibun* cannot occur inside the body-part noun phrase in the idiomatic examples, but it can in the EPC.⁴

- (25) *Taro-ga zibun-no hara-o tate-ta
 Taro-Nom his-Gen stomach-Acc stand/set up-Past
- (26) a. Taro-ga zibun-no kao-o araw-ta
 Taro-Nom his-Gen face-Acc wash-Past
 ‘Taro washed his face.’
- b. Taro-ga zibun-no te-o age-ta
 Taro-Nom his-Gen hand-Acc raise-Past
 ‘Taro raised his hand.’

The three-way ambiguity of the sentence (21) disappears when *zibun* occurs in the possessor position. The sentence (27) yields only the inalienable interpretation.

- (27) Taro-ga zibun-no asi-o araw-ta
 Taro-Nom his-Gen foot-Acc wash-Past
 ‘Taro washed his foot.’

These contrasts indicate that the idiomatic predicates and the predicates in the EPC have different syntactic structures. The former have a word-like structure, so they do not allow a modifying expression or a possessor noun inside them. The latter, on the other hand, have a phrasal structure, and it allows a modifying expression or a possessor noun inside the noun phrase.

The semantic and syntactic differences between the idiomatic expressions and the EPC suggest that the predicates used in the EPC must not be listed as such in the Lexicon. Thus the EPC cannot be taken as an instance of lexical reflexive-marking.

4. Noun-Incorporation Analysis of the EPC and Modification of Reinhart and Reuland’s (1993) Proposal

Given that the EPC cannot be an instance of lexical reflexive-marking, how can the properties of the EPC be derived? Nakato (2008b) has proposed a noun-incorporation analysis of the EPC. Following Nakato (2008b), let us consider how the properties of the EPC can be explained. Recall that the sentences with the body-part object, which are repeated in (28), are ambiguous between the alienable interpretation and the inalienable interpretation.

- (28) a. Taro-ga kao-o araw-ta
 Taro-Nom face-Acc wash-Past
 ‘Taro washed the face.’
 ‘Taro washed his face.’

⁴ English idioms with the “body-part” object differ from Japanese idioms. Some of them allow or require possessive pronouns to occur inside the body-part phrase, while others do not. See Roeper (2000) for discussion. I would like to thank Tohru Noguchi for pointing this out.

- (i) John lost his cool / *John lost cool
 (ii) John lost his virginity / John lost virginity
 (iii) *John lost his face / John lost face

As the following example shows, few Japanese idioms allow *zibun-no* inside the body-part noun phrase.

- (iv) Taro-ga zibun-de zibun-no asi-o hippat-ta
 Taro-Nom himself-by his-Gen foot-Acc pull-Past
 ‘Taro held himself back.’

I would like to consider this point in future research.

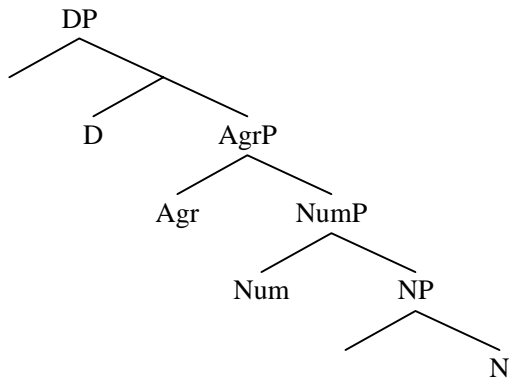
- b. Taro-ga te-o age-ta
 Taro-Nom hand-Acc raise-Past
 ‘Taro raised the hand.’
 ‘Taro raised his hand.’

Under the noun-incorporation analysis, this ambiguity is attributed to two different syntactic structures.

With respect to the properties within a DP, the analysis presupposes the following assumptions.

- (29) Layered Structure in DP

(Munn and Schmitt (2005))



- (30) The DP in Japanese has D, Agr, or Num, though it is not phonetically realized.

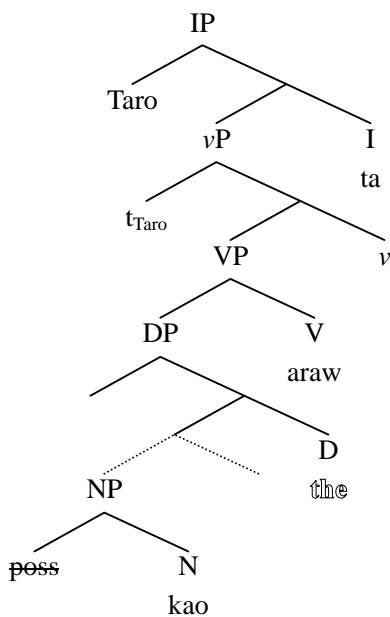
- (31) [poss [N_{body-part}]]

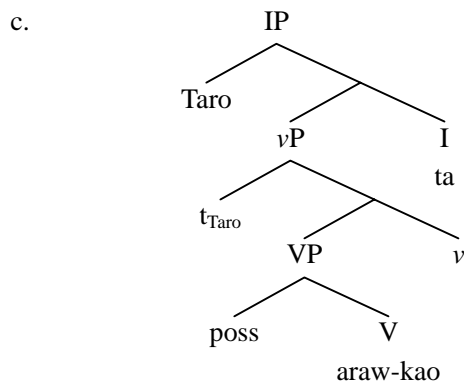
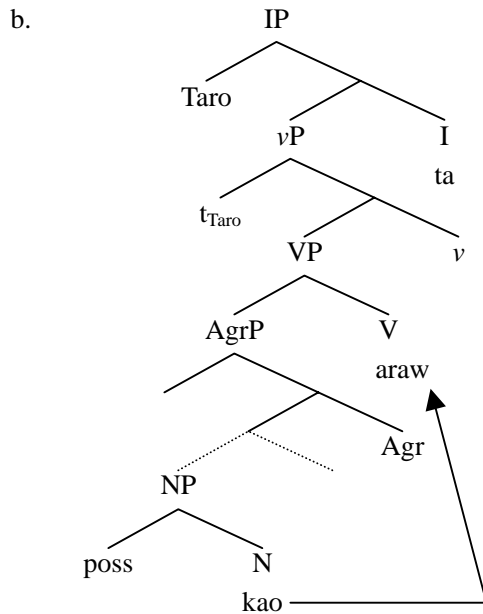
(cf. Vergnaud and Zubizarreta (1992))

DP has a layered structure like (29), although each functional head, Num, Agr or D, does not have morpho-phonological realization in Japanese. A nominal phrase does not necessarily project onto a full DP. A body-part noun is a predicate and it takes a possessor argument as in (31). The argument must be “discharged” in the course of derivation to have an interpretation.

Given these assumptions, the sentence with the body-part object can be assigned two syntactic structures: one has a full DP as in (32a), and the other one has a projection smaller than DP as in (32b).

- (32) a.

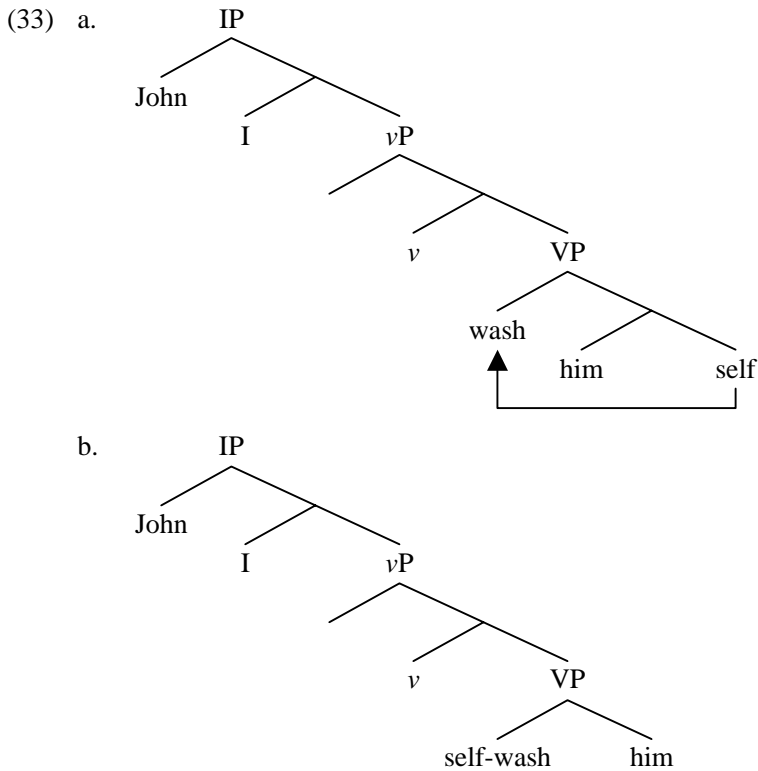




(32a) is one possible way for a body-part noun to discharge its argument. The noun takes a null determiner D and the entire phrase, which is projected onto DP, receives a definite interpretation. It can refer to some entity in the discourse and this yields the alienable interpretation. In contrast, the nominal phrase with a smaller projection in (32b) must have a bound variable interpretation (cf. Déchaine and Wiltschko (2002)). The body-part noun must discharge its argument to have an interpretation. This forces the body-part noun to be incorporated into the verb (cf. Munn and Schmitt (2005)). The noun *kao* is incorporated into the verb *araw* after Spell-Out and they form a complex predicate.

This operation reminds us of the SELF-incorporation. As illustrated in (33), the SELF-part of a SELF-anaphor is incorporated into a predicate to reflexively mark it.⁵

⁵ The internal structure of *himself* in English is left unspecified in this paper. See Reuland (2007) for discussion.



The LF-structure in (33b) is mapped onto the semantic representation like (34).

(34) $\lambda x [x \text{ washes } x] (\text{John})$

The structure in (33b) is equivalent to the LF-structure after the noun-incorporation in (32c). As the SELF-incorporation, the noun incorporation turns the transitive predicate into the reflexive predicate, and it is mapped onto the semantic representation like (35).

(35) $\lambda x [x \text{ araw-kao } x] (\text{Taro})$

In both of the semantic representations in (34) and (35), the binding relation (6) holds and licensed by the Reflexivity Condition (7). As a result, the inalienable interpretation derives.⁶

The examples in (36) provide supporting evidence to this analysis. When the sentences in (28) are made passive, the inalienable interpretation becomes impossible.

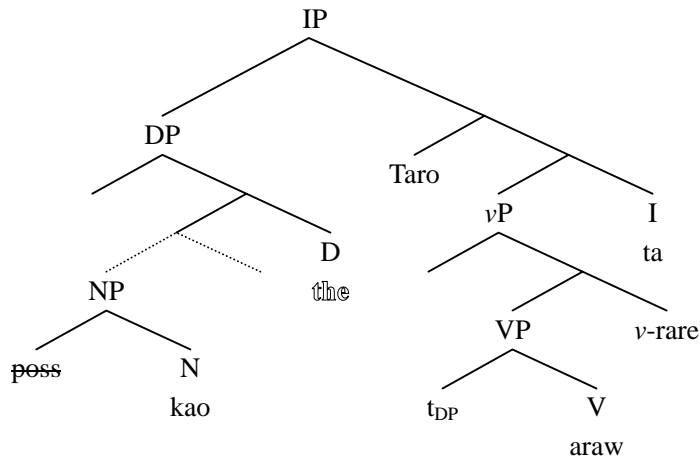
- (36) a. Kao-ga Taro-ni arawa-re-ta
 face-Nom Taro-by wash-Pass-past
 ‘The face was washed by Taro.’
 ‘*His_i face was washed by Taro_i.’
- b. Te-ga Taro-ni agera-re-ta
 hand-Nom Taro-by raise-Pass-Past
 ‘The hand was raised by Taro.’
 ‘*His_i hand was raised by Taro_i.’

This fact follows from the noun-incorporation analysis. (37a) and (37b) illustrate the structures of passive

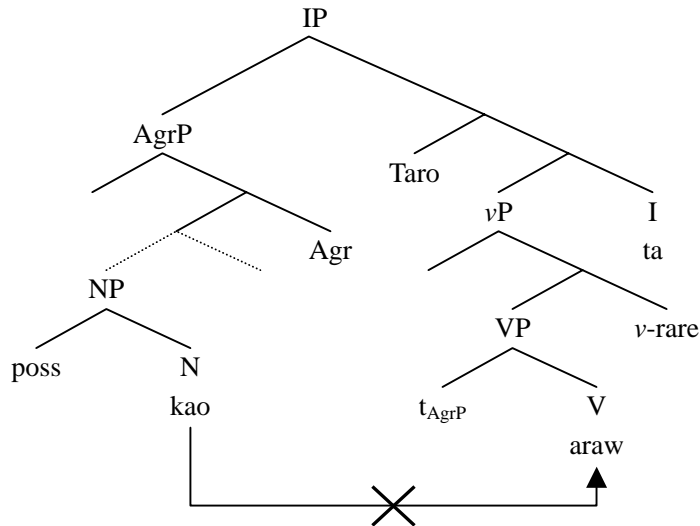
⁶ For another possible explanation, see Noguchi (2005).

sentences after Spell-Out.

(37) a.



b.



In (37b), the head noun cannot be incorporated into the verb because it has already moved up to the subject position. In other words, the noun cannot reflexively mark a predicate and hence the inalienable interpretation becomes impossible.

The noun-incorporation analysis suggests that Reinhart and Reuland's proposal should be partly modified as in (38) and (39). Not only a SELF-anaphor but also a body-part noun can reflexively mark a predicate in narrow syntax (Anagnostopoulou and Everaert (1999)).

(38) Syntactic Reflexive-Markers

SELF-anaphor → a. SELF-anaphor
 b. body-part noun

(cf. Anagnostopoulou and Everaert (1999))

Syntactic reflexive-marking is divided into two subtypes. The first type is restricted with respect to the semantic class of verbs, while the second type is unrestricted. The Japanese EPC is an example of the first type of syntactic reflexive-marking.

- (39) Reflexive-Marking Systems
- a. Lexical Reflexive-Marking: Semantically restricted
 - b. Syntactic Reflexive-Marking: Semantically unrestricted
- ↓
- a. Lexical Reflexive-Marking: Semantically restricted
 - b. Syntactic Reflexive-Marking:
 - i. Semantically restricted ← The EPC in Japanese
 - ii. Semantically unrestricted

5. Concluding Remarks

In this paper, the syntactic and semantic properties of the EPC in Japanese have been closely examined and as one of the possible analyses to explain them, a noun-incorporation analysis of the EPC has been presented. Based on this analysis, it has been argued that Reinhart and Reuland’s proposal should be partly modified.

The analysis leaves some problems still unsolved. For example, the optional property of the operation cannot be derived under the analysis: why SELF-incorporation is obligatory and why noun-incorporation is not?⁷

- (40) a. SELF-incorporation: Obligatory, Semantically unrestricted
- b. Noun-incorporation: Optional, Semantically restricted

I would like to consider this as well as other problems (see footnotes 3, 4, and 7) in future research.

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⁷ The optional property of noun-incorporation cannot be attributed to an inherent property of a body-part noun itself. Rather, it derives from properties of predicates. As Hasegawa (2007) argues, some sentences with the body-part object, such as (i), involve possessor-raising.

(i) Tomoko-ga kosi-o itame-ta
 Tomoko-Nom back-Acc hurt-Past
 ‘Tomoko hurt her back.’

Hasegawa divides predicates into four types depending on the feature specification of [±External Role] and [±Object Case]. See Hasegawa for detail. I would like to thank Yuki Ishihara for suggesting to me to take this point into consideration. The observation made in this paper shows that verbs which denote a “grooming action” or an “internally controlled body-part movement” allow noun-incorporation but others do not. My analysis suggests that predicates with the [+ER, +OC] features, which Hasegawa calls “agentive transitive” predicates, are further divided into two sub-types. I would like to consider what feature plays a decisive role in distinguishing these sub-types.

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