

Reflexives are Results of Impoverishment

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1 Introduction

For decades, the central issues surrounding Binding have been investigation of mechanisms of co-referentiality. Most of literature have attempt to find out the mechanisms of BINDING CONDITION (Chomsky 1981, 1986). This paper will shed new light on the Binding, that is morphological aspects of reflexive anaphors and pronouns, and the source of subject orientation. The purposes of this paper are to claim that Apparent SES (Pica (1985)) in some languages are in fact pronoun and the subject orientation is emerged as a result of PERSON/GENDER-feature (ϕ -feature) impoverishment (cf. Noyer (1997), Halle (1997)). To claim these, this paper looks at Thai and Japanese data. The organization of this paper from next chapter is as follows. Section 2 briefly reviews binding theory we adopt. Then section 3, Thai binding data are introduced. Based on Thai data provided in section 3, section 4 provides proposal and analysis, in which the morpho-semantic framework by Middleton (2018) is introduced. Section 5 shows the current account is also applicable to Japanese reflexives. Section 6 concludes this paper.

2 Binding Theory

This section provides a brief introduction of BINDING THEORY, which this paper relies on. We have three types of NPs, which is defined based on the Binding Theory. The first type is an R-expression. The vast of majority of NPs are categorized into this type.

- (1) a. Bill wrote a paper on Binding.
- b. Mary hit herself with a stick.
- c. Bob said that he played basketball.

In (1a), ‘Bill’ and ‘Binding’ are both R-expressions. They get their meaning by referring to an entity in the world. In (1b), ‘Mary’ is an R-expression and ‘herself’ is an anaphor, which obligatorily gets its meaning from another NP in the same sentence. In (1c), ‘Bob’ is, again, an R-expression and ‘he’ is a pronoun. The pronoun is an NP that may (but need not) get its meaning from another word in the sentence.

The behavior of these three types of NPs are characterized by Binding Theory (Chomsky 1981, 1982, 1986) among others). Binding Theory consists of three principles as illustrated in (2).

(2) Binding Condition

- a. PRINCIPLE A : An anaphor is bound in a local domain.
- b. PRINCIPLE B : A pronominal is free in a domain.
- c. PRINCIPLE C : An R-expression is free.

The term ‘bound’ in (2) is defined by the following two sub-mechanisms as illustrated in (3) and (4).

(3) α binds β iff

- a. α c-commands β , and
- b. α and β are coindexed

(4) c-command (very informal): A node c-commands its sister and all the daughters.

3 Reflexives in Thai

3.0.1 Thai Basics

Thai languages is a classified into a strict subject-verb-object (SVO) language, and has a rigid word order. It is characterized by analytic morphology. Also, Thai is phonologically characterized as a tone language and has 5 tones. The example sentence in Thai language is as shown in (5).

- (5) $[_{NP}dek [_{CP}thii chlaat]]$ khuan ca phut $[_{CP}waa [_{NP}Naan kooŋ chan] juu [_{PP}bon$
children REL smart should PROSP say COMP money POS 1.SG LOC on
to?]].
table

‘Children that are smart should say that the money was on the table.’ Jenks (2011)

3.1 Thai Reflexives

According to Hoonchamlong (1991), Thai language has three distinct Reflexive Anaphors as shown in (6). They all have analytic structures. They are construed with three distinct morphemes expressing ‘body’, ‘-self’, and ‘pronoun’. Of the three anaphoric NPs, this paper focuses on the first two types.

Of the two expressions, *tua-ʔeeN* “body-self” shows subject orientation but *tua-PRONOUN-self* “body-PRONOUN-self” does not have such an orientation. *tua-ʔeeN* “body-self” takes a local antecedent but *tua-PRONOUN-self* “body-PRONOUN-self” does not. *tua-PRONOUN-self* “body-PRONOUN-self” requires ϕ -feature matching with its antecedent.

- (6) a. *tua-PRONOUN-ʔeeN*
body-PRONOUN-self
- b. *tua-ʔeeN*
body-self
- c. *tua*
body

Hoonchamlong (1991)

Firstly, we will look at the subject orientation of two Thai anaphors. The following contrast illustrated in (7) illustrates that the *tua-ʔeeN* displays the subject orientation but *tua-PRONOUN-ʔeeN* does not. As shown in the sentence in (7a), *tua-ʔeeN* can only refer back to the sentential subject *Noy* but not *Nit*. On the other hand, *tua-PRONOUN-ʔeeN* can refer back to not only the sentential subject *Noy* but also *Nit*.

- (7) a. *Noy_i khuy ka Nit_j ruan tua-ʔeeN_{i/*j}*
Noy chat with Nit about body-self
- b. *Noy_i khuy ka Nit_j ruan tua-khaw-ʔeeN_{i/j}*
Noy chat with Nit about body-pronoun-self
‘Noy chat with Nit about SELF’

Hoonchamlong (1991)

Secondly, the sentences in (8) illustrates Locality Condition. As shown in the example sentence, *tua-ʔeeN* needs to be locally bound by the sentential subject. Therefore, it can take ‘Nit’ as its antecedent. On the other hand, *tua-PRONOUN-ʔeeN* does not have to be bound in its local binding domain. Hence, either *Noy* or *Nit* can be its antecedent.

- (8) Noy_i book waa [Nit_j chua {tua-ʔeeN_{*i/j} / tua-khaw-ʔeeN_{i/j}} maak kwaa khray].
 Noy say comp Nit believe {body-self / body-pronoun-self} much than someone
 ‘Noy said that Nit believes SELF more than anyone else.’

Hoonchamlong (1991)

Finally the sentences in (9) shows whether the anaphors require the ϕ -feature matching with its antecedent. As illustrated in (9), the PRONOUN part in tua-PRONOUN-ʔeeN must match with its antecedent with ϕ -feature. In the case of sentence in (9), the PRONOUN part is *chan* and it is a pronoun for 1st person, SG. Hence it has to refer back the NP which has the same set of ϕ -feature. Therefore, it cannot take *Noy* nor *thoo* as its antecedent.

- (9) Chan_i book Noy_j ʔeeN waa [_S thoo_k khit waa [_S tua-chan-ʔeeN_{i/*j/*k} may
 I tell Noy EMPHATIC comp you think comp body-pronoun₁-self not
 naa plian Naan]].
 should change job
 ‘It is myself who told Noy that you think that ‘myself’ should not have changed jobs’

Hoonchamlong (1991)

3.2 Summary of Thai Binding

The following chart summaries the behavior of tua-ʔeeN and tua-PRONOUN-ʔeeN.

- (10) Thai Reflexives

FORM	Reflexive	Subject Orientation	Long Distance
body-self	Yes	Yes	No
body-PRONOUN-self	Yes	No	Yes

4 Structure of Anaphor: Noun encapsulation

This section introduces the recent development of morph-semantics of NPs, which is proposed by Middleton (2018). Middleton claims that NPs, which establishes the binding relation, can be classified into four category. She conducted a survey on 86 languages, from 13 language families and looks at the forms to express the most-embedded nominal in each of the following four target meanings.

- (11) Middleton (2018)

- a. ANAPHOR: a variable, which induces sloppy reading.
- b. LOGOPHOR: a variable, which takes a non local antecedent.
- c. EXOPHOR: a non-variable which takes discourse prominent antecedent.
- d. PRONOUN: a non-variable and is free.

Semantics of each item is as shown in (12) and she claims that the ANAPHOR, LOGOPHOR, EXOPHOR and PRONOUN follow the Containment Hypothesis and a ban on discontinuous syncretism (Bobaljik 2012).

(12) *Only Piglet thinks that Tigger loves α*

a. “ANAPHOR”

Only Piglet λx (x thinks that Tigger λy (y loves y))

b. “LOGOPHOR”

Only Piglet λx (x thinks that Tigger λy (y loves x))

c. “EXOPHOR”

Only Piglet λx (x thinks that Tigger λy (y loves z)), where $z = \text{Piglet}$

d. “PRONOUN ”

Only Piglet λx (x thinks that Tigger λy (y loves z)), where $z \neq \text{Piglet}$

4.1 Peranakan Javanese of Semarang

Middleton’s (2018) idea is evident by the data in Peranakan Javanese Semarang (PSJ), which is originally observed by Cole et al. (2007). In PSJ, just like Thai, an anaphor is consisted of three morphemes and each of them express ‘body’, ‘pronoun’ and ‘DHEWE’. A LOGOPHOR and EXOPHOR share the same appearance and they are consisted of ‘body’ and ‘pronoun’ as shown in (13).

As shown in (13a), an anaphor in PSJ is morphologically most complex and it yields Sloppy reading. As shown in (13b), a Logophor and an Exophor have morphologically less complex structures and they do not contain DHEWE, and pronoun is morphological simplex. This means that the PSJ NPs have an internal structure as shown in (14).

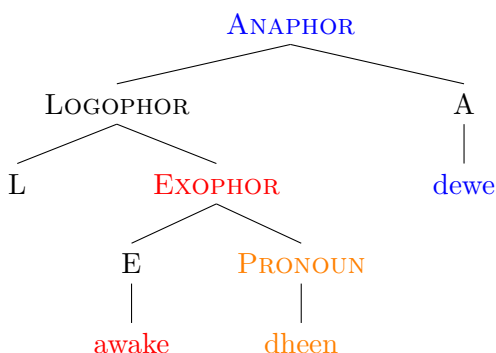
(13) Peranakan Javanese of Semarang (cf. Cole et al. (2007))

- a. Tono ketok awak-e dheen dhewe nggon kaca, Siti yaya.
Tono see BODY-3 3.SG DHEWE in mirror Siti also

*OK Sloppy: Siti saw Siti / *Strict: Siti saw Tono*

- b. T ngomong nek B ketok awak-e dheen nggon kaca, S yaya.
 T see.N comp B. see BODY-3 3.SG in mirror S. also
OK Sloppy / OK Strict z = T
- c. Tono ngomong nek Bowo ketok dheen nggon kaca, Siti yaya.
 Tono see.N comp Bowo see 3.SG in mirror Siti also
OK Sloppy / OK Strict

(14) Structure of Nominal (Middleton 2018)



5 Φ -feature Impoverishment in Thai

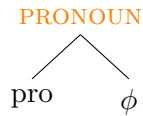
As we have discussed in section 1, Thai has two types of productive anaphoric expression. One is just like the case of PJS and the other is one which does not include PRONOUNS. The difference between these two type of anaphor are whether they have subject orientation or not. Assuming Middleton (2018) is correct and universally NPs have a structure like (14), then what happened in Thai language?

- (15) a. Noy_i khuy ka Nit_j ruan tua- $\text{?eeN}_{i/*j}$
 Noy chat with Nit about body-self
- b. Noy khuy ka Nit ruan tua-khaw- $\text{?eeN}_{i/j}$
 Noy chat with Nit about body-pronoun-self
 ‘Noy chat with Nit about SELF.’

Here, I assume the following NP structure in (16), which is proposed by Sauerland (2008). Under his framework, the PRONOUN is complex structure and it contains phonetically null pronoun and ϕ -feature¹.

¹Sauerland focuses on PERSON-feature and uses π for that. However, current analysis include GENDER-feature.

(16) Fine structure of Nominal



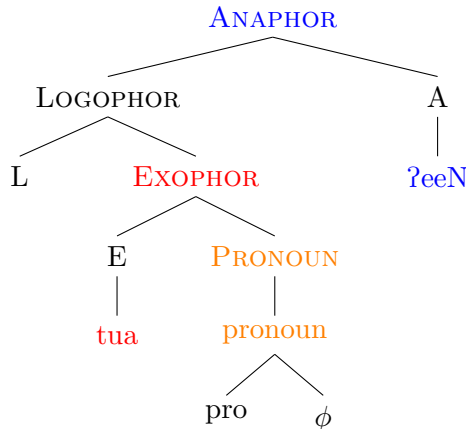
π stands for PERSON feature. Sauerland (2008)

Thai language has gender distinction in 1st person pronoun. The pronoun for [1, MASC] is *phom* and the pronoun for [1, FEM] is *dichan*. 2nd person and 3rd person does not have gender distinction. The feature geometry of the Thai pronouns is as illustrated in (17).

- (17) a. pronoun{pro, 1,M} ↔ phom
- b. pronoun{pro, 1,F} ↔ dichan
- c. pronoun{pro, 2} ↔ khun
- d. pronoun{pro, 3} ↔ khaw

Here, I, following Middleton (2018), assume Thai pronouns also have the encapsulated structure as illustrated in (18). Anaphors have the most complex structure, The Logophors and Exophors have less complex structure than the anaphors and the pronouns have a simplex structure. Again, the pronoun is, featurelly, further divided into two parts, pro and ϕ (=PERSON) feature.

(18) The Structure of Thai Nominal



As we have seen, Thai has two types reflexive anaphor, as shown in (19). One has subject orientation but it does not have a phonological exponent in PRONOUN part. The other does not

Therefore, throughout this paper ϕ is used to indicate PERSON/GENDER complex. This does not affect Sauerland's original argument.

have the subject orientation, but it has phonological realization for encapsulated pronoun part in (18). The characteristics of two types of reflexive anaphors can be schematized as in (19). Note that [\pm a.o.] stands for the subject orientation.

- (19) a. tua-pro-?eeN_[+s.o.]
 b. tua-pro_{1/2/3}-?een_[-s.o.]

The two reflexive anaphor are minimally different with respect of phonological shape of the PRONOUN part in (18), which is a realization of a complex of pro and ϕ . Thus, this phenomena is generalized as in (20).

- (20) pronoun{pro, ϕ } \leftrightarrow ϕ
 (whenever the ϕ is impoverished (= deleted) “pro” is realized as zero and the pronoun gets subject orientation.)

6 Japanese “*Zibun*”

Thai is not the only language in which subject oriented anaphor exists. Another language which has a subject oriented anaphor is Japanese. This section is devoted to confirm the current analysis that the subject orientation is yielded as a result of ϕ deletion.

6.1 “*Zibun*” and “*Zibun-zishin*”

Japanese has two types of subject oriented anaphors. One is *Zibun* and the other is *Zibun-zishin*², just like two types Thai anaphor. Of the two, *Zibun* takes both LOCAL and LONG DISTANCE antecedent³. Furthermore, this paper does not cover the case of so-called “LOGOPHORIC” use of *zibun*⁴. The following instance in (21) showcases the difference between two anaphors in Japanese. The simplex form, *zibun*, can take both LOCAL and LONG-DISTANCE antecedent, while the complex form, *zibun-zishin*, can take only local one. The shared characteristics of the two is that both exhibits subject orientation.

²*zishin* is, morphologically speaking, consisted of “self” and “body”, which is parallel to Thai and PSJ

³Kishida (2011), Oshima (2004) has different view to the *zibun*. They claim that Japanese has LOCAL *zibun* and EMPHATIC *zibun*, which takes LONG DISTANCE anaphor. For detailed discussion, see Kishida (2011), Oshima (2004)

⁴EXOPHORIC in Middleton’s sense.

- (21) John_i-wa [Mary_j-ga Tom_k-o {zibun_{i/j/*k} / zibun-zishin_{*i/j/*k} }-no paatii-ni yonda
 John-TOP Mary-NOM Tom-ACC SELF-GEN party-to invited
] -to kiita.
 comp heard
 ‘John heard that Mary invited Tom to SELF’s party.’

Furthermore, as Thai or PJS, Japanese also have anaphors which does not show subject orientation. Those are PRONOUN-*zishin* as illustrated in (22)⁵.

- (22) a. watashi-zishin
 1.SG-SELF
 ‘myself’
 b. anata-zishin
 2.SG-SELF
 ‘yourself’
 c. kare-zishin
 3.SG.M-SELF
 ‘himself’
 d. kanojyo-zishin
 3.SG.F-SELF
 ‘herself’

These PRONOUN-*zishin* behave as a reflexive anaphor and can take a closest NP, which PRONOUN-*zishin* establishes ϕ -match with and satisfy the c-command condition as its antecedent as in (23).

- (23) a. Mary_i-wa Bob_j-o Kare-zishin_{*i/j}-no heya-de shikat-ta.
 Mary-TOP Bob-ACC he-zishin-GEN room-in scold.
 ‘John scold Bob in {*Mary’s / Bob’s} room.’
 b. John_i-wa Bob_j-o Kare-zishin_{i/j}-no heya-de shikat-ta.
 John-TOP Bob-ACC he-zishin-GEN room-in scold.
 ‘John scold Bob in {John’s / Bob’s} room.’

The anaphoric behavior of *zibun*, *zibun-zishin*, and PRONOUN-*zishin* is summarized as (24).

- (24) *Zibun*, *zibun-zishin* and PRONOUN-*zishin*

Given the Sauerland’s (2008) pronominal structure in (18), Japanese pronouns also contain pro and ϕ . In Japanese, only third person pronoun has the gender distinction, *kare*, ‘he’ and *kanojyo*,

⁵Note that Kishida (2011) points out Mihara and Hiraiwa (2005) claims that PRONOUN-*zishin* type also has an emphatic use.

“she”, and other than third person pronoun Japanese does not exhibit the gender distinction. Therefore, the feature geometry of Japanese pronouns are illustrated as in (25).

- (25) Japanese pronoun
- a. $\text{pro}_{[3.M]} \leftrightarrow \textit{kare}$
 - b. $\text{pro}_{[3.F]} \leftrightarrow \textit{knojyo}$
 - c. $\text{pro}_{[2]} \leftrightarrow \textit{anata}$
 - d. $\text{pro}_{[1]} \leftrightarrow \textit{watashi}$

Moreover, *zibun*, which has long been regarded as an instance of a subject oriented anaphor, has also pronominal use (cf. Tsujimura (1996)) as the sentences in (26) show.

- (26) a. Minna-no mae-de sensei-ga **zibun**-o hometa.
 everyone-GEN front-in teacher-NOM self-acc praised.
 ‘The teacher praised me_{speaker} in front of everyone.’
- b. Watashi-zya-naku-te **zibun**-ga warui-n-zya-nai!
 I-COP-NEG-TE self-NOM bad-NMNR-COP-NEG
 ‘It is you_{addressee}, not me, who is bad.’

Tsujimura (1996)

Furthermore, pronominal use of *zibun* is even more natural in Kansai dialect (McCready (2007), Hayashi et al. (2016)). According to the recent studies on *zibun*, it is used as a pronoun referring speaker or even an addressee as in (27).

- (27) a. Zibun-ga kuyoositu-o soozishita.
 SELF_{speaker}-NOM classroom-ACC cleaned
 ‘I(=speaker) cleaned classroom.’
- b. Zibun-wa horensoo-o kirai-nan?
 SELF_{addressee}-TOP spinach-ACC hate-COP.Q
 ‘You(=addressee) don’t like spinach?’

Hayashi et al. (2016)

McCready (2007)

FORM	Anaphoric	Subject Orientation	Long Distance
zibun	Yes	Yes	Yes
zibun-zishin	Yes	Yes	No
PRONOUN-zishin	Yes	No	No

These data above indicates pronoun nature of Japanese *zibun* and *zibun* is realized as phonological realization only under ϕ is absent within the projection of pronoun (cf. (20)).

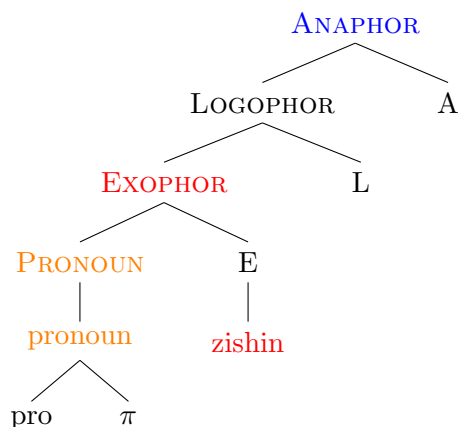
(28) pronoun{pro, ϕ } \leftrightarrow *zibun*

(whenever the ϕ is impoverished (= deleted) “pro” is realized as *zibun* and the pronoun gets subject orientation.)

To sum, (i) Japanese *zibun* behaves as both a pronoun and, simultaneously, shows a subject orientation, (ii) *zibun-zishin* has a complex structure and exhibits the subject orientation, which is inherited from the property of pronoun *zibun*.

This shows that Japanese also have an encapsulated structure proposed by Middleton’s (2018) in (29), just like Thai tua-PRONOUN- ϕ eeN or PJS awak-e-PRONOUN-dhewe.

(29) Structure of Japanese nominal



7 Conclusion

This paper claims that, under Middleton’s proposal that nominals have a complex structure and anaphor contains pronoun, Thai and Japanese subject orientation property appear within reflexive anaphor are inherited from the embedded pronoun. Furthermore, the subject orientation is yielded only if the deeply embedded pronoun within the complex nominal structure is undergone π -feature impoverishment.

The current research support the analysis that the anaphoric expressions contains pronoun inside and provides the possible extension for the imposters (Collins and Postal 2012). Furthermore, this paper opens the question whether the π -deletion is result of the impoverishment or simply absent and how referring mechanisms within pronoun work (cf. Sudo (2012), Podobryaev (2017)).

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