

Long-Distance Reflexives in Korean: Syntactic vs. Nonsyntactic Accounts*

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Lee, Hyeran. 2006. Long-Distance Reflexives in Korean: Syntactic vs. Nonsyntactic Accounts. *The Linguistic Association of Korea Journal*, 14(4), 21-56. The purpose of this paper is to elucidate the nature of Korean reflexives in terms of syntactic and non-syntactic binding. *Caki* and *casin* are tested with regard to both syntactic properties and logophoricity including SELF, SOURCE, and PIVOT. Based on the tests made, it is suggested that *caki* and *casin* are anaphors rather than pronouns or logophoric pronouns. It is shown that the grammatical binding is more essential as a core binding while logophoricity plays a role to recover references of unbound reflexives. It is thus claimed that the traditional binding theory must be revised to explain both the grammatical and logophoric nature of Korean reflexives.

Key Words: long-distance reflexives (LDR), anaphor, logophoric pronoun, locality, antilocality, *caki*, *casin*, *ziji*, SELF, PIVOT, SOURCE

1. Introduction

Long-distance reflexives (LDR) behave differently from locally bound reflexives in that they are bound across the clause boundary. They do not appear to observe Condition A (Chomsky 1981), showing antilocality. For instance, Korean *caki/casin* can occur indefinitely far from its antecedent, while English *himself* is bound within the same clause domain.

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- (1) John_i-i Tom_j-i David_k-ka Daniel_l-i
 John-NOM Tom-NOM David-NOM Daniel-NOM
 caki_{i/j/k/l}-lul/casin_{i/j/k/l}-ul silhehanta-ko sayngkakhanta-ko
 self-ACC hate-COMP think-COMP
 alkoissta-ko malhayss-ta
 know-COMP said-DEC
 'John_i said that Tom_j knows that David_k thinks that Daniel_l hates
 self_{i/j/k/l}'
- (2) *John_i said that Tom_j knows that David_k thinks that Daniel_l
 hates himself_{*i/*j/*k/l}

Grammatical accounts for LDR have not been fully successful, facing a variety of counterexamples. The discourse-based accounts involving logophoricity have not been successful either since the clear grammatical conditions couldn't be ignored. Neither grammatical accounts nor logophoricity-related accounts could elucidate the nature of LDR. The nature of LDR may be captured from both perspectives. In this paper, I will argue that LDR in Korean should satisfy the grammatical requirements by Universal Grammar, and the residue that does not satisfy the grammatical requirements should meet the discourse requirements involving logophoricity. The LDR crashes the sentence or brings semantic anomaly if it does not satisfy one of these requirements. In Section 2, It is discussed whether the Korean reflexive *caki/casin* is a pronoun or an anaphor. In Section 3 *caki* and *casin* are tested based on both grammatical conditions and discourse conditions. The result will show if they are reflexives or (logophoric) pronouns. In Section 4 it is discussed that the core LDR data should be accounted for by the grammatical conditions, while the rest of them that evade the grammatical accounts should be explained by the discourse conditions. Section 5 finally concludes that the LDR *caki/casin* in Korean is not a pronoun but an anaphor that satisfies either grammatical conditions or discourse conditions under a special context. It is thus claimed that the traditional binding theory must be revised to account for both the grammatical and logophoric nature of Korean reflexives.

2. Previous Studies

There are a number of arguments on whether *caki* and *casin* are bound anaphors or pronouns. Authors such as C.-M Lee (1973), D.-W. Yang (1983, 1988, 1989, 1991) M.-Y. Kang (1990), and Y.-S. Kim (1987, 1992,) considered *caki* as the bound anaphor. Cole, Hermon and Sung (1990), W.-S. Nam (1994), and E.-J. Lee (1994) considered *casin* as the bound anaphor. I.-H. Lee (1978) argued that *casin* is the reflexive particle while *caki* is the pseudo-pronoun. S.-H. Cho (1991) divided *caki* into two types such as the pronominal *caki* and the anaphoric *caki*.

H.-B. Lim (1987) considered both *caki* and *casin* as bound anaphors with semantic differences. He argued that *caki* has [+consciousness] and *casin* [-consciousness],¹⁾ providing differences in the 'statue' reading: (3) is acceptable with the 'statue' reading, while (4) is not acceptable due to the lack of the 'statue' reading.

(3) Chelswu-nun *caki*-lul pal-lo cha-ss-ta (H.-B. Lim 1987: 108)

ChelswuTOP self-ACC foot-with kick-PAST-DEC

'Chelswu kicked self with his foot'

(4) *Chelswu-nun *casin*-lul pal-lo cha-ss-ta (H.-B. Lim 1987: 108)

ChelswuTOP self-ACC foot-with kick-PAST-DEC

'Chelswu kicked self with his foot'

Beom-Mo Kang (1998) claimed that *caki* and *casin* are not different enough to bring discrepancy in grammaticality based on corpus-based research though they are a little different in felicity of a sentence. In this paper, I take Kang's position in which *caki* and *casin* are not different in grammaticality except the blocking effects that derive from their lexical properties.²⁾ In what follows, *caki/casin* will be tested of

1) H.-B. Lim (1987) originally claimed that *caki* has [+consciousness], [+uniqueness], and [+individuality], while *casin* has [-consciousness], [-uniqueness], and [-individuality].

2) *Casin* has no person features, being bound to any person NP, while *caki* has a third person feature inherently, being bound to the third person NP only.

whether they are pronouns or anaphors and of whether they are logophoric pronouns.

3. Korean Reflexives

3.1. Are they Pronouns?

According to Cole, Hermon and Lee (2001), the properties of pronouns are as follows: (i) pronouns do not require a c-command relation, (ii) extra sentential antecedents are possible, and (iii) under the VP ellipsis, both the strict and sloppy readings are available. In addition to these, (iv) the split antecedent is possible for pronouns while it is not allowed for anaphors. Based on these properties, they analyze *ziji* in Chinese as an anaphor. This analysis can apply to *caki/casin* in Korean as well as *ziji* in Chinese. In our discussion the Chinese *ziji* will be discussed, compared to Korean *caki/casin*.

3.1.1. Test on the C-command requirements

The c-command requirements on an antecedent show that *caki* and *casin* as well as *ziji* are not pronouns, but anaphors. See the following data.

- (5) a. [Zhangsan_i de taitai]_j haile ziji_{*i/j}
 'Zhangsan_i's wife_j harmed self_{*i/j}' (Cole et al. 2001: 7)
- b. [Zhangsan_i de taitai]_j haile ta_{i/*j}
 'Zhangsan_i's wife_j harmed him_{i/*j}'
- (6) a. Sumi_i-uy tongsayng_j-i caki_{*i/j}-lul/casin_{*i/j}-ul pipanha-yss-ta
 Sumi-GEN brother-NOM self-ACC criticize
 'Sumi_i's brother_j criticized self_{*i/j}.
- b. Sumi_i-uy tongsayng_j-i ku_{i/*j}-lul pipanha-yss-ta
 Sumi-GEN brother-NOM self-ACC criticize
 'Sumi_i's brother_j criticized her_{i/*j}.

Differently from the pronoun *ta* in Chinese or *ku* in Korean, *caki/casin* in Korean and *ziji* in Chinese requires a c-commanding antecedent as seen in (5) and (6). Counterexamples are presented below against (5) and (6). Antecedents can be subcommanding NPs, when an animacy or a human and non-human contrast involves. The c-command requirements are more relaxed in Korean and Chinese cases. See below.

- (7) Zhangsan_i de chezi_j haile ziji_{i+j} (Cole et al. 2001: 6)
 Zhangsan's car harmed self
 'Zhangsan_i's car_j harmed self_{i+j}'
- (8) Sumi_i-uy pin_j-i caki_{i/*j}-lul/casin_{i/*j}-lul ccil-ess-ta
 Sumi-GEN pin-NOM self-ACC sting-PAST-DEC
 'Sumi_i's pin_j stung self_{i/*j}'
- (9) Sumi_i-uy kay_j-ka caki_{i/?j}-lul/casin_{i/?j}-lul mwul-ess-ta
 Sumi-GEN dog-NOM self-ACC bite-PAST-DEC
 'Sumi_i's dog_j bit self_{i/?j}'

In (7, 8, 9) the subcommanding NPs rather than the c-commanding NPs antecede the reflexive. When the animacy hierarchy is changed from a thing ('pin', 'car') to an animate NP ('dog'), the c-commanding NP *kay* ('dog'), being animate, can antecede the anaphor *caki* and *casin* under an unusual context where the dog bites its own tail or leg.

Another type of examples against the c-command requirements is backward anaphora. Backward binding takes place with psych-verbs and causatives.

- (10) Ziji_i de xiaohai mei de jiang de xiaoxi
 self DE child not get prize DE news
 shi Lisi_i hen nanguo (Pollard and Xue 2001: 330)
 make Lisi very sad
 'The news of his_i child not getting a prize made Lisi_i sad'
- (11) caki_i-uy ai-ka sang-ul patcimoshanta-nun
 self-GEN child-NOM prize-ACC didn't get-COMP
 sosik-i Sumi_i-lul sulpu-key ha-yss-ta

- news-NOM Sumi-ACC sad-CAUS do-PAST-DEC
 'The news of her_i child not getting a prize made Sumi_i sad'
- (12) casin_i-uy ai-ka sang-ul patcimoshanta-nun
 self-GEN child-NOM prize-ACC didn't get-COMP
 sosik-i Sumi_i-lul sulpukey ha-yss-ta
 news-NOM Sumi-ACC sad-CAUS do-PAST-DEC
 'The news of her_i child not getting a prize made Sumi_i sad'

The above sentences show that the antecedent is not in a commanding position. The question is whether we should classify such use of anaphors into logophoricity or into the syntactic area. This will be further discussed in Section 4. It is however clear that the c-command requirements of the LDRs in Korean are basically satisfied by a large body of data as seen in (5a, 6a). This constitutes a sharp contrast with the distribution of pronouns in (5b, 6b).

3.1.2. Test on the VP Ellipsis

Under the VP ellipsis, pronouns are ambiguous between the strict reading and the sloppy reading, while anaphors have the sloppy reading only.

- (13) Zhangsan_i kanjian ziji_i; Lisi_j ye yiyang.
 Zhangsan see self Lisi also the same
 Zhangsan saw himself (in the mirror) and so did Lisi'
 (Cole et al. 2001: 27)
- (14) Sumi_i-ka caki_i-lul/casin_i-ul kewul-lo poass-ko,
 Sumi-NOM self-ACC mirror-with saw-and
 Sunhee_j-to e po-ass-ta³⁾
 Sunhee-also saw

3) As an anonymous reviewer commented, it is arguable whether (14) is the VP ellipsis structure or not. The second conjunct of (14) can be expressed as *Sunhee-to [e] ya* as in Kim (1997). For our discussion, the sentence (14) is considered as the VP ellipsis construction, following Huang (1987), Whitman (1988), and Lee (1999).

'Sumi saw herself with a mirror and so did Sunhee'

(13) means that *Zhangsan* saw himself in the mirror and *Lisi* also saw himself in the mirror. (14) means that *Sumi* saw herself in the mirror and *Sunhee* also saw herself in the mirror. All two sentences show the sloppy reading. Thus the VP ellipsis test tells us that *caki/casin* is an anaphor.

3.1.3. Test on the Split Antecedent

Anaphors do not take the split antecedent, while pronouns allow it. The following English examples show that the pronoun can refer to both *John* and *Bill* while the reflexive *themselves* cannot do so.

(15) John_i told Bill_j that they_{i+j} should leave

(Lasnik and Uriagereka 1988: 129)

(16) *John_i asked Mary_j about themselves_{*(i+j)}

(Lasnik and Uriagereka 1988: 131)

If we take a look at the Korean examples below, it appears that the anaphor allows the split antecedent in (17). *Caki-tul* is naturally bound to both *Sumi* and *Sunhee*, which could lead to argue that *caki* is not an anaphor, but a pronoun. Such an account is however misleading, confused by the plural marker *-tul*. See the following examples.

(17) Sumi_i-ka Sunhee_j-eykey caki-tul_{i+j}-i ku il-ul
 Sumi-NOM Sunhee-DAT self-PL-NOM the work-ACC
 ha-lkela-ko malha-yss-ta
 do-FUTURE-COMP tell-PAST-DEC

'Sumi_i told Sunhee_j that they_{i+j} would do it'

(18) *Sumi_i-ka Sunhee_j-eykey caki_{*(i+j)}-ka ku il-ul
 Sumi-NOM Sunhee-DAT self-NOM the work-ACC
 ha-lkela-ko malha-yss-ta
 do-FUTURE-COMP tell-PAST-DEC

'Sumi_i told Sunhee_j that self_{*(i+j)} would do it'

(17) is good with the plural form of *caki*, and (18) is ruled out with the singular form of *caki* to produce the intended reading. See more examples.

- (19) Haksayng-tul_i-i caki_i-ka ku il-ul
 students-PL-NOM self-NOM the work-ACC
 ha-keyss-ta-ko nase-ss-ta
 do-FUTURE-DEC-COMP volunteer-PAST-DEC
 'Students volunteered that they would do the work'
- (20) Haksayng-tul_i-i caki-tul_i-i kuil-ul
 students-PL-NOM self-PL-NOM the work-ACC
 ha-keyss-ta-ko nase-ss-ta
 do-FUTURE-DEC-COMP volunteer-PAST-DEC
 'Students volunteered that they would do the work'

The examples above show that both the singular *caki* and the plural *caki-tul* can be bound to the plural antecedent. In other words, the plural marker on *caki* is optional. *Caki* can be bound to the plural antecedent without the plural marker *-tul*.

Then, the question is why (17) is well-formed, while (18) is ill-formed. If *caki* is supposed to take the split antecedent, the sentence (18) should be correct without the plural marker, which is not true here. With regard to the split antecedent, the sentence is good only when *caki* has the plural marker. It means that the plural marker plays a role as a lexical element, not as an agreement element, for the anaphor to allow the split antecedent in its interpretation.⁴⁾ Another interpretation is

4) In the Dutch analysis, Reuland (2001: 458) claims that Number is both interpretable and optional. It is like a lexical element; different occurrences of it in the numeration make independent contributions to interpretation. Citing Martin (1988: 145) and Muromatsu (1998: 91), Motomura (2001), in his analysis of Japanese reflexive *zibun*, says that the Japanese plural marker *tachi* is not a plural agreement marker but a type of classifier, and he thus claims that *zibun* does not allow a split antecedent, though it appears to do it at the presence of

possible in this case: *cakitul* could refer not only to the split antecedent, *Sumi* and *Sunhee* (*cakitul_{i+j}*) but to *Sumi* and *other people* (*cakitul_{i+k}*). The number agreement is basically optional in Korean, not participating in the agreement system.⁵⁾ Such an optionality should thus apply to Korean data. The same applies to *casin* if we replace *caki* with *casin* in (17-20). Therefore, *caki/casin* is not a pronoun but an anaphor, not taking the split antecedents.

Like Korean reflexive, the Chinese reflexive *ziji* cannot have split antecedent.⁶⁾ The Chinese sentence corresponding to the English sentence (15) shows that *ziji* in the embedded subject position cannot be bound to the split antecedent across the embedded clause. Instead, the pronoun must be used in the embedded subject position to refer to the split antecedent. Thus *ziji* is not a pronoun but an anaphor like Korean reflexives.

3.1.4. Test on the Extra Sentential Antecedent

The unbound reflexives in both languages make reference to the antecedent outside the sentence boundary, which is characteristic of pronouns.

(21) *Ziji neng qu nar ma?* (Pan 2001: 296)

self can go there Q

'Can self go there?'

(22) *Caki-ka ha-yss-eyo?*

self-NOM do-PAST-Q

'Did self do that?'

(23) *Casin-i ha-yss-eyo?*

tachi.

5) The sentence below shows that Number is optional in Korean.

Sakwa-ka manta

apple-NOM many

'There are many apples'

6) A personal communication was made with HanRoe, a Chinese student, and Prof. Y.-W. Lee, a Korean Chinese.

self-NOM do-PAST-Q
 'Did self do that?'

All three NPs above are bound to the discourse topic. This type of reflexives could be explained (i) by the discourse conditions beyond the syntactic rules; (ii) by the syntactic mechanism introducing a topic position in languages like Korean and Chinese (Yang 1988). The concept of the layed CP (Rizzi 1997, 2004) introducing FocP and TopP within CP could provide for the Topic position, where a zero Topic binds the anaphor: [0_i caki_i-ka/ casin_i-i...]. This analysis however violates the A-binding principle since the topic position is traditionally analyzed as an A-bar position. Such unbound reflexives are thus better analyzed with discourse conditions. Reuland (2001) argues that nothing prevents the unbound reflexives and the discourse storage can provide an antecedent for them.

So far we have discussed whether *caki/casin* are anaphors or pronouns, compared to Chinese *ziji*. Pronouns do not require a c-commanding antecedent and they allow both the sloppy and strict reading for the VP ellipsis constructions. The split antecedent is also possible for pronouns. The reflexives in question do not seem to have all the characteristics that belong to pronouns: They have properties of anaphors such as c-command requirements, sloppy reading under the VP ellipsis, and no split antecedent. However, subcommanding facts and backward binding cases are against the c-command requirements. The extra sentential antecedent is also against properties of bound anaphors. This is summarized in a table below.

(24) Properties of Anaphors: *caki*, *casin* and *ziji*

Properties of Anaphors	C-command	Sloppy reading	Split antecedent	Extra sentential antecedent	Non-c-command (Subcommand Backward)
<i>Caki</i>	Yes	Yes	No	Yes	Yes
<i>Casin</i>	Yes	Yes	No	Yes	Yes
<i>Ziji</i>	Yes	Yes	No	Yes	Yes

From the above table, we know that the NPs in question have clear properties of anaphors, not excluding properties of pronouns such as extra sentential antecedents and non-c-commanding antecedents as in sub-commanding and backward anaphora constructions. The reflexive NPs show a different distribution from pronouns in typical core data. The problem left is how we explain the existence of prosperities of a pronoun. Further discussion on this matter will be made in Section 4.

From the observational facts above we know that the reflexives in Korean and Chinese present some properties of a pronoun as well as properties of an anaphor. Then the question is whether the above NPs are logophoric pronouns. In what follows, tests will be made on properties of a logophoric pronoun.

3.2. Are they Logophoric Pronouns?

The term logophoric pronoun is used to refer to pronouns whose distribution is determined by discourse factors. The notion of logophoricity was introduced by Clement (1975) to account for pronouns that show a unique behavior in African languages. Clement (1975) states that the logophoric pronoun is used exclusively to designate the individual (other than the speaker) whose speech, thoughts, feeling, or general state of consciousness are reported or reflected in the linguistic context in which the pronoun occurs. Sell(1987) argues that logophoricity reduces to the three types: SOURCE, the source of communication, SELF (the one whose mental state the sentence describes), and PIVOT (the center of deixis or the perspective of the sentence).

From Clements (1975) and Sells (1987), Pan (2001) summarizes that logophoric pronouns have three properties: (1) they do not show the blocking effect, (ii) their antecedent is the source or the subject of consciousness, and (iii) they cannot have the first-person pronoun as their antecedent. Pan (2001) argues that Chinese *ziji* has counterexamples against all three properties, and thus should not be treated as a logophoric pronoun, but as a long-distance bound reflexive

that observes a condition for self-ascription⁷⁾ (Lewis (1979) and Chierchia (1989)). Tests on those properties will be made for Korean *caki/casin* as below, compared to Chinese *ziji*.

3.2.1. Test on the Blocking Effects

The blocking effects hold for *casin* and *ziji*, but not for *caki*. The blocking effects take place when the anaphor cannot be bound to the NP in one clause up due to the person feature mismatch between the NP and the anaphor. See below.

- (25) Zhangsan_i renwei [wo_j zhidao [Wangwu_k xihuan ziji_{i/*j/k}]]
 Zhangsan think I know Wangwu like self
 'Zhangsan_i thinks that I_j know that Wangwu_k likes self_{i/*j/k}'
- (26) Sumi_i-ka [Nay_j-ka [Suji_k-ka casin_{i/*j/k}-lul silehan-ta-ko]
 Sumi-NO I-NOM Suji-NOM self-ACC dislike-DEC-COMP
 malha-yss-ta-ko] sayngkakkan-ta]
 said-PAST-DEC-COMP think-DEC
 'Sumi_i thinks that I_j said that Suji_k dislikes herself_{i/*j/k}'
- (27) Sumi_i-ka [Nay_j-ka [Suji_k-ka caki_{i/*j/k}-lul silehan-ta-ko]
 Sumi-NOM I-NOM Suji-NOM self-ACC dislike-DEC-COMP
 malha-yss-ta-ko] sayngkakkan-ta]
 say-PAST-DEC-COMP think-DEC
 'Sumi_i thinks that I_j said that Suji_k dislikes herself_{i/*j/k}'

In (25) and (26), the anaphor is bound to the embedded subject with a third person feature, but cannot be bound to the NPs in the next clause up since the NPs, *wo* in Chinese, *nay* in Korean, are the first person NPs, which induce the blocking effects. The anaphor *caki* in (27), however, is bound to the matrix subject across the intermediate subject, showing no blocking effects. According to Clements(1975) and

7) Belief *de re* is a belief about an entity, while belief *de se* is a belief about the believer himself. Self-ascription involves the *de se* interpretation where the believer ascribes a property to himself.

Sells (1987), *caki* does not act like an anaphor in terms of the blocking effects. The other two anaphors, *casin* and *ziji* behave like anaphors in this respect.

3.2.2. Tests on SOURCE, SELF and PIVOT

3.2.2.1. SOURCE

Compared to Chinese *ziji* and other LDRs, I will demonstrate that LDRs should not be simply treated as logophoric pronouns. According to Clements (1975) and Sells(1987), SOURCE is one of the possible candidates as an antecedent of the logophoric pronoun. The following sentences from Chinese and Korean show that SOURCE NP can be interpreted as anteceding the reflexive pronoun in Korean, but cannot in Chinese.

- (28) Zhangsan_i cong Lisi_j chu tingsuo Wangwu_k bu xihuan ziji_{i/*j/k}
 Zhangsan from Lisi place hear Wangwu not like self
 'Zhangsan_i heard from Lisi_j that Wangwu_k does not like
 self_{i/*j/k}' (Pollard and Xue 2001)
- (29) Chelswu_i-ka Youngswu_j-lopute Younghee_k-ka caki_{i/?j/k}-lul
 Chelswu-NOM Youngswu-from Younghee-NOM self-ACC
 /casin_{i/?j/k}-ul sileha-n-ta-ko tul-ess-ta
 dislike-PRES-DEC-COMP hear-PAST-DEC
 'Chelswu_i heard from Youngswu_j that Younghee_k dislikes
 self_{i/?j/k}'
- (30) Zhangsan_i cong Lisi_j nar tingshuo naben she hai-le ziji_{i/*j}
 Zhangsan from Lisi there hear that-CL book hurt-Perf self
 'Zhangsan_i heard from Lisi_j that book hurt himself_{i/*j}'
- (31) Chelswu_i-ka Youngswu_j-lopute chaek-i caki_{i/j}-lul
 Chelswu-NOM Youngswu-from book self-ACC
 /casin_{i/?j}-ul tachikeyha-yss-ta-ko tul-ess-ta
 hurt-PRES-DEC-COMP hear-PAST-DEC
 'Chelswu_i heard from Youngswu_j that the book hurt self_{i/j}'

Both *Lisi* and *Youngswu* are SOURCE NPs. The Chinese SOURCE NP cannot antecede the reflexive, while the Korean SOURCE NP can. Felicity is enhanced when the embedded subject is non-animate as in (31). No enhancement of felicity takes place in Chinese with the non-animate embedded subject in (30). In addition, the reflexive pronoun positioned in the embedded subject position can also antecede SOURCE NP in Korean as below.

- (32) Chelswu_i-ka Youngswu_j-lopute caki_{i/j}-ka/casin_{i/j}-i Younghee-lul
 Chelswu-NOM Youngswu-from self-NOM Younghee-ACC
 sileha-n-ta-ko tul-ess-ta
 dislike-PRES-DEC-COMP hear-PAST-DEC
 'Chelswu_i heard from Youngswu_j that self_{i/j} dislikes Younghee'
- (33) Chelswu_i-ka Youngswu_j-lopute caki_{i/j}-ka/casin_{i/j}-i
 Chelswu-NOM Youngswu-from self-NOM
 sungcinha-yss-ta-ko tul-ess-ta
 promote-PAST-DEC-COMP hear-PAST-DEC
 'Chelswu_i heard from Youngswu_j that self_{i/j} is promoted'
 (Yang 1988)

In (32) and (33), both *caki* and *casin* are bound to SOURCE NP and the matrix subject. According to Cole et. al (2001), SOURCE can be an antecedent in the Teochew Chinese, though it is not in Mandarin Chinese. However, *caki/casin* in Korean can have SOURCE NP as an antecedent. One thing must be made clear though: SOURCE NP in Korean is not the only choice for antecedent of the reflexive. The c-commanding NPs in each clause naturally antecede the reflexive apart from SOURCE NP as expressed by the index *i* in (31), (32) and (33).

3.2.2.2 SELF

Sells'(1987) SELF condition requires that the antecedent should be an individual whose state of consciousness is derived. It has been observed

that an NP with no self-consciousness can be qualified for the antecedent.

(34) Zhangsan_i bu zhidao Lisi_j xihum zij_{i/j} (Pan 2001: 306)

Zhangsan not know Lisi like self

'Zhangsan_i does not know that Lisi_j likes him_{i/j}'

(35) Zhangsan_i bu xiao de Lisi_j hen taoyan zij_{i/j}

Zhangsan not aware Lisi very hate self

'Zhangsan_i was not aware that Lisi_j hates him_{i/j}'

(Cole et al. 2001: 4)

In (34) and (35), *Zhangsan* is not conscious about the situation, but it can serve as an antecedent. The same applies to Korean *caki/casin* as seen below.

(36) Chelswu_i-ka Younghee_j-ka caki-lul_{i/j} /casin-lul_{i/j}

Chelswu-NOM Younghee-NOM self-ACC

miweha-n-ta-nun-kes-ul molun-ta

hate-PRES-DEC-COMP-NOMINALIZER-ACC don't know-DEC

'Chelswu_i does not know that Younghee_j hate self_{i/j}'

The antecedent in (36) is not conscious about the statement, but still antecedes the reflexive.

If we change all the matrix verbs above to the affirmative sentences, the matrix subjects with self-consciousness antecede the reflexive. It is thus argued that the logophoric condition SELF actually determines the antecedents.

3.2.2.3. PIVOT

In Sells'(1987) PIVOT notion, the one with deictic perspective becomes an antecedent of a logophoric pronoun. PIVOT refers to the one with respect to whose location the content of the proposition is evaluated. PIVOT is assumed as the locus to which deictic elements

like 'come' and 'go' refer. To check the possibility of PIVOT as an antecedent, Pollard and Xue (2001) provide Chinese sentences in comparison to Japanese sentences. Here the contrast between Chinese and Korean is given below.

- (37) a. Zhangsan_i qing ni qu ziji_i
 Zhangsan ask you go self
 'Zhangsan_i asked you to go to him_i'
 b. Zhnagsan_i qing ni lai ziji_i
 Zhangsan ask you come self
 'Zhnagsan_i asked you to come to him_i'
- (38) a. Youngswu_i-ka ne-eykey caki_i-eykey/casin_i-eykey
 Youngswu-NOM you-DAT self-DAT
 ola-ko yoku-yss-ta
 come-COMP ask-PAST-DEC
 'Youngswu_i asked you to come to self_i'
 b. *Youngswu_i-ka ne-eykey caki_{s1}-eykey/casin_{s1}-eykey
 Youngswu-NOM you-DAT self-DAT
 kala-ko yoku-yss-ta
 go-COMP ask-PAST-DEC
 'Youngswu_i asked you to go to self_{s1}'

The Chinese sentences (37) show that *Zhangsan* can be an antecedent regardless of the locus of deictic elements: *Zhangsan* is the locus in (37a), while *Zhangsan* is not the locus in (37b).⁸⁾ Unlike Chinese, Korean sentences show that the locus of the deictic elements *Youngswu* can be the antecedent as in (38a) while *Youngswu* cannot serve as an antecedent in (38b) since it is not the locus of the deictic elements. Thus we know that LDRs in Korean involve the notion of PIVOT in selecting their antecedents. However, we have to notice that the PIVOT

8) In Chinese the external speaker may or may not take the viewpoint of the sentence internal referent like the subject, while in Korean the external speaker will obligatorily take the viewpoint of the sentence internal referent. In this aspect, (37b) is good since the viewpoint of the sentence is taken by the external speaker. *Zhangsan* is not the locus of the deictic elements in this case.

antecedents are analyzed as grammatical antecedents as well since they are in the c-commanding position. Now see the unbound cases.

- (39) a. Zhnagsan_i hen gaoxing yinwei Lisi yao lai kan ziji_i
 Zhnagsan very happy because Lisi shall come see self
 'Zhnagsan_i is very happy because Lisi shall come to see him_i'
 b. Zhnagsan hen gaoxing yinwei Lisi yao qu kan ziji_i
 Zhnagsan very happy because Lisi shall go see self
 'Zhnagsan_i is very happy because Lisi shall go to see him_i'
 (Pollard and Xue (2001))
- (40) a. Youngswu_i-ka Sumi-ka caki_i-lul/casin_i-ul
 Youngswu-NOM Sumi-NOM self-ACC
 pole o-ase maewu kippu-ta
 see come-because very happy-DEC
 'Youngswu_i is very happy because Sumi comes to see self_i'
 b. *Youngswu_i-ka Sumi-ka caki_i-lul/casin_i-ul
 Youngswu-NOM Sumi-NOM self-ACC
 pole ka-se maewu kippu-ta
 see go-because very happy-DEC
 'Youngswu_i is very happy because Sumi goes to see self_i'

(39) shows that PIVOT does not participate in providing an antecedent in Chinese. Contrary to Chinese sentences, (40) in Korean shows that the notion of PIVOT is effective for ability of anteceding LDRs. For such unbound cases with adverbial clauses, grammatical requirements can never be satisfied due to the absence of c-command relation. In this case, logophoricity plays a role in selecting an antecedent. The notion of PIVOT as one of logophoric conditions is necessary to account for the unbound Korean reflexives.

3.2.3. Test on a First Person Pronoun

The Chinese *ziji* and the Korean *casin* show that they can be easily bound to a first person pronoun.

- (41) Zhangsan_i renwei Wangwu_j zhidao wo_k xihuan ziji_{i=1/2/k}
 Zhangsan thinks Wangwu know I like self
 'Zhangsan_i thinks that Wangwu_j knows that I_k like myself_{i=1/2/k}'
 (Cole et al. 2001: 12)
- (42) Chelswu_i-ka Younghee_j-ka nay_k-ka casin_{i=?*/j/k}-ul
 Chelswu-NOM Younghee-NOM I-NOM self-ACC
 miwohan-ta-ko alkoiss-ta-ko sayngkakha-n-ta⁹⁾
 hate-DEC-COMP know-DEC-COMP think-PRES-DEC
 'Chelswu_i thinks that Younghee_j knows that I_k hate self_{i=?*/j/k}'

In contrast to (41) and (42), *caki* cannot be bound to a first or second person pronoun as seen below.

- (43) Chelswu_i-ka Younghee_j-ka nay/ne_k-ka caki_{i/j/*k}-lul
 Chelswu-NOM Younghee-NOM I/you-NOM self-ACC
 miwohan-ta-ko alkoiss-ta-ko sayngkakha-n-ta
 hate-DEC-COMP know-DEC-COMP think-PRES-DEC
 'Chelswu_i thinks that Younghee_j knows that I_k hate self_{i/j/*k}'

The fact that *caki* is not bound to a first or second person pronoun implies that *caki* may be a logophoric pronoun. In terms of morphological properties, however, *caki* has an inherent third person feature so that it cannot be bound to a first or second person pronoun due to the feature mismatch. Thus the behavior of *caki* in (43) is related with grammatical conditions conjoined with morphological properties rather than logophoricity.

Properties of logophoric pronouns with regard to the NPs in issue are summarized in a table below.

9) According to a reviewer, *casin* can be bound to *Younghee* in this sentence. There seems to be a speaker variation with regard to the blocking effect of *casin*. The issue in this section however is if the reflexive can be bound to a first person pronoun. It is clear that *casin* is bound to the first person pronoun in the embedded clause.

(44) Properties of Logophoric Pronouns

NPs	Blocking effects	SELF (CONSCIOUSNESS)	SOURCE	PIVOT	First person pronoun antecedent
Caki	No	Yes	Yes	Yes	No
Casin	Yes	Yes	Yes	Yes	Yes
Ziji	Yes	Yes	No	No	Yes

Based on this analysis, *caki* seems to be more like a logophoric pronoun in terms of 'no blocking effects', 'no first person pronoun antecedent', and availability of SELF, SOURCE, and PIVOT while *casin* has less logophoricity due to the existence of blocking effects and first person pronoun antecedent. *Ziji* does not have properties of logophoric pronouns in blocking effects, SOURCE and PIVOT as shown above. There are no clear-cut divisions in reflexives with regard to properties of logophoricity. They seem to be on a spectrum: *caki* is located closer to logophoricity and *casin* and *ziji* to the other end. If we treat *caki* as a logophoric pronoun due to the closer location toward logophoricity, the binding facts in the simple sentence cannot be explained. See below.

- (45) Chelswu_i-ka caki_i-lul kkocip-ess-ta
 Chelswu-NOM self-ACC pinch-PAST-DEC
 'Chelswu_i pinched self_i'

The antecedent *Chelswu* is not related with source or consciousness since the verb is not a verb of 'saying' or 'thinking'. However, *Chelswu* can antecede the reflexive. Binding within the same clause is a property of anaphor, not a property of a pronoun. As mentioned in the previous sections, *caki* can be grammatically bound to the c-commanding antecedents that have no relation to SOURCE and SELF(CONSCIOUSNESS), and PIVOT. We thus conclude that all three NPs are anaphors rather than logophoric pronouns. Logophoricity effects

cannot be ignored completely though since binding seems to be affected by logophoricity antecedents as well evidenced by the above examples. SOURCE, SELF and PIVOT can provide a logophoric antecedent, which sometimes overlaps with a grammatical c-commanding antecedent. On one hand, the c-commanding antecedents could be related with SOURCE, SELF, and PIVOT. The fact that most of matrix verbs are verbs of 'saying' and 'thinking' supports it since the matrix clause usually induces an indirect speech. On the other hand, the non-c-commanding antecedents such as SOURCE, SELF and PIVOT as seen above could be an antecedent in Korean. I thus claim that grammatical conditions for LDRs are essential and core for a sentence convergence. When there is no c-commanding antecedent that satisfies the grammatical conditions, there should be an antecedent that satisfies the logophoric conditions such as SOURCE, SELF, or PIVOT.

4. Grammatical Conditions vs. Logophoric Conditions

The grammatical conditions in this paper refer to the traditional binding theory where Condition A states that the anaphor must be bound within the minimal domain (Chomsky 1981). Being bound means that the anaphor is bound to the c-commanding antecedent. The LF movement theory (Pica 1987, Battistella 1989, Chomsky 1986, Cole, et al. 1990, and others) following the traditional binding theory makes LDRs to be bound successive cyclically in each clause. Condition A is thus observed in each cycle in the LF movement theory. In spite of a variety of syntactic approaches, I restrict grammatical conditions to binding in each cycle which is a little relaxed in the notion of the binding domain to extend the binding theory to LDRs. Our discussion is thus based on the traditional binding theory and the cyclic binding by LF movement since our purpose is comparing grammatical conditions and logophoric conditions and how they interact.

With regard to the logophoric conditions, as mentioned before, the notions of SOURCE, SELF and PIVOT (Clement(1975) and Sells (1987)) will be used. In what follows, I would like to examine the cases that

observe grammatical conditions only, grammatical and logophoric conditions both, and logophoric conditions only.

4.1. Grammatical Conditions only

The simple sentences always observe the grammatical conditions, leading a sentence to crash or to converge, depending on the existence of the appropriate antecedent.

- (46) *Nay_i-ka caki_j-lul kkocip-ess-ta
 I-NOM self-ACC pinched
 'I_i pinched self_i'
- (47) Nay_i-ka casin_i-ul kkocip-ess-ta
 I-NOM self-ACC pinched
 'I_i pinched self_i'
- (48) Younghee_i-ka caki_i-lul/casin_i-ul kkocip-ess-ta
 Younghee-NOM self-CC pinched
 'Younghee_i pinched self_i'

The verb is not related with SOURCE, SELF, but the reflexives are bound to the c-commanding antecedent by grammatical conditions.

The following sentences that show the subject orientation observe the grammatical conditions, being bound to the c-commanding subject only. The verbs are not related with a verb of 'saying' or 'thinking' so that logophoricity does not involve.

- (49) Zhangsan_i songgei Lisi_j yizhang ziji_{i/j} de xiangpian
 Zhangsan give Lisi one-CL self DE picture
 'Zhangsan gave Lisi a picture of himself'
 (Pollard and Xue 2001: 318)
- (50) Sumi_i-ka Suji_j-eykey caki_{i/j}-uy sacin-ul
 Sumi-NOM Suji-DAT self-GEN picture-ACC
 cwu-ess-ta
 give-PAST-DEC

- 'Sumi gave Suji a picture of herself'
- (51) Sumi_i-ka Suji_j-eykey casin_{i/*j}-uy sacin-ul
 Sumi-NOM Suji-DAT self-GEN picture-ACC
 cwu-ess-ta
 give-PAST-DEC
 'Sumi gave Suji a picture of herself'
- (52) John_i-i Peter_j-lul Bill_k-i caki_{i/*j/k}-lul swumki-ess-ten
 John-NOM Peter-ACC Bill-NOM self-ACC hide-PAST-COMP
 pang-ey katwu-ess-ta¹⁰⁾
 room-in keep-PAST-DEC
 'John kept Peter in a room in which Bill hide self'
 (Yang 1991: 410)
- (53) John_i-i Peter_j-lul Bill_k-i casin_{?i/*j/k}-lul swumki-ess-ten
 John-NOM Peter-ACC Bill-NOM self-ACC hide-PAST-COMP
 pang-ey katwu-ess-ta
 room-in keep-PAST-DEC
 'John kept Peter in a room in which Bill hide self'
 (Yang 1991: 410)

The following sentence observes the grammatical conditions only since the first person with a verb of 'thinking' cannot be the antecedent.

- (54) Nay_i-ka Younghee_j-ka caki_{i/*j}-lul/casin_{i/*j}-ul
 I-NOM Younghee-NOM self-ACC
 sileha-n-ta-ko sayngkakha-n-ta
 hate-PRES-DEC-COMP think-PRES-DEC
 'I think that Younghee hates self'

Caki cannot be bound to the first person pronoun since it is a third person reflexive. *Casin* cannot be bound to the first person pronoun

10) A reviewer commented that *caki* cannot be bound to *Bill* while *casin* can. Noticing that there is a speaker variation, I follow Yang's (1991) grammatical judgement.

either since it already matches with the third person pronoun within the embedded clause. The conflict in the person feature match prevents the first person pronoun from anteceding the reflexive. These all belong to the grammatical conditions.

4.2. Grammatical Conditions and Logophoric Conditions both

The following sentences that show the long-distance binding phenomena observe both grammatical conditions and the logophoric conditions. In natural languages, most intermediate and matrix verbs are related with SELF and consciousness satisfying the logophoric conditions since these verbs induce an indirect speech.

- (56) Zhangsan_i zhidao [Lisi_j renwei [Wangwu_k zui xihuan ziji_{i/j/k}]].
 Zhangsan know Lisi think Wangwu most like self
 (Pollard and Xue 2001: 326)
 'Zhangsan_i knows that Lisi_j thinks that Wangwuk likes self_{i/j/k}'
- (57) Sumi_i-ka [Suji_j-ka [Younghee_k-ka caki_{i/j/k}-lul/ casin_{i/j/k}-ul
 Sumi-NOM Suji-NOM Younghee-NOM self-ACC
 silehan-ta-ko] sayngkakhhan-ta-ko alkoiss-ta
 dislike-DEC-COMP think-DEC-COMP know-DEC
 'Sumi_i knows that Suji_j thinks that Youngheek dislikes
 herself_{i/j/k}'

(56) and (57) show that *caki/casin* is bound to the third person subjects in each clause without any person conflicts and the embedded, intermediate and matrix verbs are all related with logophoricity. Next come the blocking effects.

- (58) Younghee_i-ka nay_j-ka caki_{i/j}-lul
 Younghee-NOM I-NOM self-ACC
 sileha-n-ta-ko sayngkakha-n-ta
 hate-PRES-DEC-COMP think-PRES-DEC
 'Younghee_i thinks that I_j hate self_{i/j}'

- (59) Younghee_i-ka nay_j-ka casin_{i/j}-lul sileha-n-ta-ko
 Younghee-NOM I-NOM self-ACC hate-PRES-DEC-COMP
 sayngkakha-n-ta¹¹⁾
 think-PRES-DEC
 'Younghee_i thinks that I_j hate self_{i/j}'

(58) shows no blocking effects while (59) shows the blocking effects. *Caki* in (58) inherently has a third person feature so that it is bound to the third person matrix subject only. *Casin* in (59) cannot be bound to the third person matrix subject due to the person match with the first person embedded subject. Person features thus come into play in grammatical accounts with the notion of match. In the other aspect, person features are related with logophoricity as well. A first or second person in a sentence constitutes an external PIVOT in (59). Cole et al. (2001) states that the occurrence of a first or second person pronoun is taken to indicate that the speaker, rather than some internal protagonist of the sentence, is the center of deixis. Thus binding to the first person subject in (59) is induced by logophoricity (PIVOT) as well.

The sentence (60) observes the grammatical and logophoric conditions: the anaphor is bound to the c-commanding matrix subject with a verb of saying.

- (60) Youngswu_i-ka casin_i-i/caki_i-ka Younghee-lul
 Youngswu-NON self-NOM Younghee-ACC
 sileha-n-ta-ko malha-yss-ta
 dislike-PRES-DEC-COMP say-PAST-DEC
 'Chelswu_i said that self_j dislikes Younghee'

Sentence (61) observes grammatical and logophoric conditions: the anaphor is bound to the c-commanding matrix subject and to the non-c-commanding SOURCE NP.

11) As commented by a reviewer, *casin* may be bound to *Younghee* depending on speakers. For this type of speakers *casin* has more freedom in long-distance binding possibility, avoiding the blocking effects.

- (61) Chelswu_i-ka Youngswu_j-lopute caki_{i/j}-ka Younghee-lul
 Chelswu-NOM Youngswu-from self-NOM Younghee-ACC
 sileha-n-ta-ko tul-ess-ta
 dislike-PRES-DEC-COMP hear-PAST-DEC
 'Chelswu_i heard from Youngswu_j that self_{i/j} dislikes Younghee'

4.3. Logophoric Conditions only

4.3.1. SOURCE NP and PIVOT NP Binding

The following data show that the SOURCE NP is qualified as an antecedent, not the c-commanding antecedent.

- (62) Nay_i-ka Youngswu_j-lopute caki_{i/j}-ka
 I-NOM Youngswu-from self-NOM
 sungcinha-yss-ta-ko tul-ess-ta
 promote-PAST-DEC-COMP hear-PAST-DEC
 'I_i heard from Youngswu_j that self_{i/j} is promoted'

- (63) Ne_i-ka Youngswu_j-lopute casin_{i/j}-i
 you-NOM Youngswu-from self-NOM
 sungcinha-yss-ta-ko tul-ess-ni¹²⁾
 promote-PAST-DEC-COMP hear-PAST-Q
 'Did you_i hear from Youngswu_j that self_{i/j} is promoted?'

The following data show that the PIVOT NP, not the c-commanding antecedent, is qualified as an antecedent. (38a) and (38b) are repeated below.

12) A reviewer commented that *ne* (you) cannot be an antecedent for *casin* here. In this case, *casin* is bound to the SOURCE NP only. For some speakers, *ne* (you) can be an antecedent, though its ability to antecede *casin* may not be as strong as the SOURCE NP *Youngswu*.

- (64) a. Youngswu_i-ka ne-eykey caki_{*i}-eykey/casin_{*i}-eykey
 Youngswu-NOM you-DAT self-DAT
 ola-ko yoku-yss-ta
 come-COMP ask-PAST-DEC
 'Youngswu_i asked you to come to self_i'
- (65) b. *Youngswu_i-ka ne-eykey caki_{*i}-eykey/casin_{*i}-eykey
 Youngswu-NOM you-DAT self-DAT
 kala-ko yoku-yss-ta
 go-COMP ask-PAST-DEC
 'Youngswu_i asked you to go to self_{*i}'

The above sentences should observe the logophoric conditions since they cannot have a c-commanding NP as a proper antecedent.

4.3.2. Subcommand Binding

Subcommand allows the specifier of a c-commanding antecedent to be an antecedent, when the c-commanding antecedent is inanimate. The sentence (66), as repeated, shows no c-command requirements with respect to the antecedent. *Caki/casin* is bound to the subcommanding antecedent, *Sumi*, below.

- (66) Sumi_i-uy pin_j-i caki_{i/*j}-lul/casin_{i/*j}-lul ccil-ess-ta
 Sumi-GEN pin-NOM self-ACC sting-PAST-DEC
 'Sumi_i's pin_j stung self_{i/*j}'

The logophoricity cannot explain (66) since the antecedent is neither SOURCE nor SELF. If the sentence is embedded into the matrix sentence, the following sentence is made.

- (67) Youngswu_i-ka Sumi_j-uy pin_k-i caki_{i/*j/*k}-lul/casin_{i/*j/*k}-lul
 Youngswu-NOM Sumi-GEN pin-NOM self-ACC
 ccil-ess-ta-ko sayngkakha-yss-ta

sting-PAST-DEC-COMP think-PAST-DEC
 'Youngswu_i thought that Sumi_j's pin_k stung self_{i/j/*k}'

In terms of the LF movement theory, the successive cyclic binding is possible with the relaxed c-command requirements: the reflexive is bound to the subcommanding antecedent and then to the matrix subject successive cyclically. It is thus suggested that the subcommand cases are subject to grammatical conditions rather than the logophoric conditions.

4.3.3. Backward Binding

The backward bound reflexives have made grammatical accounts difficult since the antecedent is not in a c-commanding position. (11) is repeated as below.

- (68) caki_i-uy ai-ka sang-ul patcimoshanta-nun
 self-GEN child-NOM prize-ACC didn't get-COMP
 sosik-i Sumi_i-lul sulpu-key ha-yss-ta
 news-NOM Sumi-ACC sad-CAUS do-PAST-DEC
 'The news of her_i child not getting a prize made Sumi_i sad'
- (69) casin_i-uy ai-ka sang-ul patcimoshantanun sosik-i Sumi_i-lul
 sulpukey ha-yss-ta
 'The news of her_i child not getting a prize made Sumi_i sad'

Anaphors contained in psych-verbs and causative constructions are in an arguable boundary between logophors and anaphors. Belletti and Rizzi (1988), instead of putting them aside as involving logophors, claimed that the principle A applies at D-structure for those constructions. They claimed that both the subject and object are in the VP complement position at D-structure where the experiencer is in the higher position than the theme as seen below repeated from (1, 2).

- (70) Questi pettegolessi su dei se_i preoccupano Gianni_i

piudi ogni altra cosa.

'These gossips about himself; worry Gianni; more than anything else (Belletti and Rizzi, 1988)'

- (71) [[preoccupano [Gianni][Questi pettegolessi su dei se;]] piudi ogni altra cosa]

The analysis based on D-structure is not a good choice because D-structure was eliminated in the minimalism. However, the thematic hierarchy can be expressed configurationally under the minimalism without positing the D-structure. Park (1991) and Lee (2002) provided grammatical analysis for backward anaphora in Korean, claiming that experiencer is structurally higher than theme at LF interface. In sum, the grammatical requirements such as c-command requirements are able to be satisfied for psych-verb constructions with assumptions based on the existing grammatical theories. Logophoricity-based accounts are however possible as well due to the semantic characteristics of the constructions.

Contrary to the subcommand case where the animate subcommanding subject is not necessarily logophoric, the object in psych-verb constructions is always logophoric. Pollard and Xue (2001) claim that a psych-predicate experiencer object is logophoric in the strict sense that it reports the general state of the consciousness of the experiencer. In (68, 69, 70), the experiencer object can antecede the reflexive. There are no exceptions in this aspect. Clements (1975: 171-172) provides the following characteristics of logophoric pronouns.

- (72) Logophoric pronouns are restricted to reportive contexts transmitting the words or thoughts of an individual or individuals other than the speaker narrator.
- (73) The antecedent does not occur in the same reportive context as the logophoric pronoun.
- (74) The antecedent designates the individual or individuals whose words or thoughts are transmitted in the reported context in which the logophoric pronoun occurs.

The above standards for logophoric pronouns can be applied to the psych-verb constructions.

First, (72) is satisfied in that the sentences with psych-verbs constitute a reportive context. The general state of the consciousness of the experiencer is reported. Second, (73) is not satisfied in that the antecedent does occur in the same clause as the reflexive in question. This is the reason why the reflexives in issue are not logophoric pronouns in spite of the presence of logophoricity effects. Third, (74) is satisfied since there is an experiencer antecedent whose words, thoughts are transmitted in the reported context. Therefore, the antecedent of the reflexives in the psych-verb constructions is better analyzed as being logophoric rather than being grammatical. Being logophoric does not mean that they are logophoric pronouns since they do not observe the second characteristics (73) of logophoric pronouns. They are anaphors rather than a logophoric pronoun, showing the binding within the same reportive context, in another words, within the minimal clause. In psych-verb constructions, the antecedent is logophoric since it does not satisfy the grammatical conditions. Now we know that logophoricity involves identifying the antecedent. However, it does not mean the reflexive is a logophoric pronoun as found in African languages. We can say that an anaphor satisfies the logophoric conditions for special types of constructions such as psych-verb constructions.

4.3.4. Extra-Sentential Binding

Against Li (1991) who claimed that the unbound *ziji* is referential, used alone, Pan (2001) claims that *ziji* is bound in a discourse in which the speaker is its antecedent. Besides the speaker, an addressee can also be the antecedent of the unbound *ziji*. See the following (Pan 2001: 296)

- (75) *Ziji neng qu nar ma?*
 self can go there Q
 'Can self(I) go there?'

- (76) Ziji weishenme bu qu ne?
 self why not go Q
 'Why didn't self(you) go?'
 (77) Zhangsan xihuan ziji ma?
 Zhangsan like self Q
 'Does Zhangsan like (my)self?'

In Korean, *caki/casin* is bound in a discourse where the discourse topic or the third person speaker is its antecedent. See below.

- (78) caki-ka/casin-i ha-yss-ta
 self do-PAST-DEC
 'Self(he or she) did'
 (79) Caki-ka/casin-i ha-yss-eyo?
 self-NOM do-PAST-Q
 'Did self (he or she) do that?'

The addressee can also be an antecedent of *caki/casin*.

- (80) wuy caki/?casin-i kekiey an ka-ss-eyo?
 why self-NOM there not go-PAST-Q
 'Why didn't self (you) do there?'

The first and second person speaker can be an antecedent of *casin*, not that of *caki* since *caki* has a third person feature inherently.

- | | |
|---------------------------------|---------------------------|
| (81) nay-ka sayngkak-ha-yss-ta. | casin-i ha-lswuissul-kka? |
| I-NOM think-PAST-DEC | self-NOM do can-Q |
| I thought. | Can self(I) do (it)? |

All the above use of *caki/casin* must be separated out from the grammatical conditions.

In this section, we have checked which one, the grammatical conditions or the logophoric conditions, determines the antecedents of

caki/casin. It is observed that *caki/casin* refers to the c-commanding antecedent in a large body of data. We have classified subcommanding data into the grammatical area while backward binding data into the logophoricity related area. The extra sentential binding data and the SOURCE NP-bound data where the SOURCE NP is not in a c-commanding position are also classified into the logophoricity area. In a broad sense, the reflexive *caki/casin* must have a c-commanding antecedent; however, in the absence of the c-commanding antecedent, it must have an antecedent originated from logophoricity. *Caki/casin* in this respect is not referential, requiring an antecedent to recover its references based on the grammatical conditions or logophoric conditions. On one hand, the Korean reflexives *caki/casin* thus must be analyzed as an anaphor that observes grammatical conditions rather than logophoric conditions. On the other hand, it must be analyzed as an anaphor whose antecedent is identified by logophoricity under a special context.

5. Conclusion

I conclude that LDRs such as *ziji*, *caki*, and *casin* are neither pronouns nor logophoric pronouns, but anaphors that basically satisfy the grammatical requirements or the logophoric requirements under a special context. I suggest that the binding theory for anaphors must be revised from the traditional one as follows.

(82) Anaphors must be bound. (Chomsky 1981)

(83) Anaphors must be syntactically bound under grammatical conditions or discourse bound under logophoric conditions.

The grammatical binding is more essential and covers a broad range of data. The logophoric binding seems to play a role when the grammatical conditions are not satisfied or when logophoric conditions must be satisfied in addition to grammatical conditions. The logophoric binding thus leads to the semantic diversity, providing possible antecedents from a context. Then why the grammatical binding is more

essential as a core binding while the logophoric binding is peripheral. We can find evidence from language acquisition of children. Hestvik and Philip (2001) provide evidence from child Norwegian: Norwegian preschool children show fully adult-like performance for reflexives governed by core binding while they show non-adultlike performance for reflexives governed by logophoric binding. This means that grammatical constraints are universal and thus easier to acquire and that logophoric constraints are not universal, acquired at a later stage.

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