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AUTHOR Cho, Mi-Hui
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ABSTRACT

The purpose of this paper is to demonstrate the existence of nonsubject binding of the so-called long distance anaphor in languages like Korean and Japanese and to give a principled account of why and when it happens. The Korean reflexive pronoun "caki" ('self') is bound by local and long-distance antecedents. Nonsubject binding occurs if the predicate of the matrix clause is described in terms of the nonsubject's viewpoint in Korean. Nonsubject-centered predicates such as "mutta" ('ask') and "tutta" ('hear') force the statement of the embedded clause to pertain to a nonsubject. Therefore "caki" in the embedded sentence is bound by the nonsubject because the statement of the embedded clause is based on the nonsubject's viewpoint. Thus from whose viewpoint the sentence is described is essential in "caki" binding. Contains 29 references. (MDM)

ON THE ORIENTATION PROBLEM IN KOREAN CAKI BINDING AND THE TYPOLOGY OF X⁰ REFLEXIVE BINDING

Mi-Hui Cho
Indiana University

Abstract: The structural account that only a subject binds morphologically simple X⁰ reflexives cannot explain the case where the Korean X⁰ reflexive pronoun caki in long-distance context is bound by a nonsubject. It is shown that long-distance bound caki is actually pronominal and there are the type of verbs that restricts caki only to the pronominal use. Nonsubject binding occurs when a matrix predicate is described in terms of the object's viewpoint, namely the predicate put the Pivot on the nonsubject. Thus, it is argued that the viewpoint dimension in addition to the structural dimension should be incorporated in determining the binder for caki. Additionally, typological variation in adopting the dimensions of structure and viewpoint in X⁰ reflexive binding is introduced.

1. Introduction

The Korean X⁰ (morphologically simple) reflexive pronoun caki 'self' is bound by a local antecedent, like the English reflexive pronouns (myself, yourself, etc.) but unlike English reflexives, it is also bound by a long-distance antecedent, as shown in (1)[1].

(1) *John$_i$-nin [$_{IP}$Tom$_j$-i caki$_{i/j}$-lil chuchenha-es'-ta]-ko sengkakha-es'-ta.*
-NOM -NOM self-ACC recommend-PAST-DEC-COMP think-PAST-DEC
'John thought that Tom recommended self.'

The fact that caki in the embedded clause can refer back to the subject of the main clause seems to violate Binding Principle[2] A (Chomsky 1981). Principle A states that an anaphor is bound in its governing category[3], IP in this case. However, the sentence is still grammatical. Consequently, various attempts have been made to explain this non-local, 'long-distance' (henceforth LD) binding phenomenon.

Among these attempts, Yang (1984) and Wexler & Manzini (1987) propose parameterized governing categories, where the X⁰ (morphologically simple, lexical) reflexives of Korean, Japanese, and Chinese do not have any governing categories because these languages do not have the crucial category AGR(eement). Therefore, the antecedent of caki in (1) can be local, namely the subject of the clause containing caki or LD, namely the matrix subject.

Another kind of attempt to account for LD anaphors is the X⁰ movement analyses. These analyses originate from the assumption that anaphors undergo LF-movement to INFL (Lebeaux, 1983; Chomsky, 1986a), thus anaphors are

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c-commanded at LF only by subjects and not by objects. This assumption has been developed by Pica (1987) and Cole, Hermon, and Sung (1990), where X^0 reflexives undergo successive head movement from INFL to INFL through COMP at LF, enforcing the property of obligatory subject-orientation in which LD reflexives cannot be bound by objects because they are in INFL, hence not c-commanded by anything in VP, as shown in the Chinese example in (2).

(2) from Cole & Sung (1991)

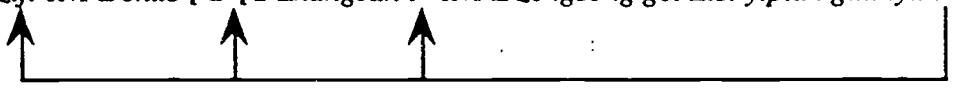
Wangwu$_i$ shuo Zhangsan$_j$ zengsong gei Lisi$_k$ yipian guanyu ziji$_{i/j/*k}$ de wenzhang.

says gave to one about self DE article

'Wangwu says that Zhangsan gave Lisi an article about self.'

<LF>

Wangwu ziji-INFL shuo [$_{CP}$ [$_{IP}$Zhangsan t''-INFL zengsong gei Lisi yipian guanyu t'



de wenzhang.

Since caki in (1) is assumed to move from the embedded clause to the main clause at LF, it can be bound by the LD antecedent as well as the local antecedent, as in the Chinese example.

A third account is Progovac's (1991) Relativized Subject analysis. Even though Progovac does not adopt a movement analysis, she proposes that the only subject for X^0 reflexives is an X^0 subject, namely AGR, since X^0 reflexives can be bound only by heads. Therefore, objects are excluded from the set of possible binders in LD binding because objects are full XP (phrasal, morphologically complex) phrases, so they cannot bind any head assuming the Structure Preserving Principle (Chomsky, 1986b). Caki in (1) can be bound by the subject of the embedded clause and the subject of the main clause because there is no AGR in Korean, thus having no governing category.

As seen above, most recent accounts try to explain the deviant behavior of X^0 reflexives that are bound by a LD antecedent as well as a local antecedent and they predict a striking correlation between LD binding and subject orientation such that LD anaphors exceptionlessly have the property of subject orientation. However, there are cases in which X^0 reflexives in LD context are bound not only by a subject but also by an object. Thus, I will claim that the **structural** account that only a subject binds X^0 reflexives alone cannot explain this phenomenon of nonsubject binding. Rather, I will adopt a **viewpoint** account in the pairing of the LD antecedent and X^0 reflexives. In section 2, I will show that the binder of caki varies depending on the type of matrix clause predicate. When a matrix predicate is described in terms of the viewpoint of the object (Object-centered predicate) in a sentence, the binder of caki is the object rather than the subject. Section 3 demonstrates that the so called LD anaphor caki is actually the pronominal use of caki evidenced by the sloppy identity test applied by Aikawa (1991) and shows that there are lexical constraints on caki where some predicates prevent caki from being

bound locally. Section 4 observes the **nonsubject binding** of caki and argues that it is necessary to incorporate a viewpoint dimension in addition to a structural dimension to explain this phenomenon. Thus, I will introduce the typological variation in adopting the dimensions of structure and viewpoint in X^0 reflexives.

2. Predicate Effect

There is predicate effect in the pairing of Korean caki and an antecedent. Korean caki is bound by a subject only when the verb is malhata 'tell', as shown in (3).

(3) *John$_i$-i Bill$_j$-eke caki$_{i/*j}$-iy elinsicel-e tehaye malha-es'-ta.*
-NOM -DAT self-GEN childhood-about tell-PAST-DEC
'John told Bill about self's childhood.'

If we replace the verb malhata 'tell' by mutta 'ask', normally the indirect object (hereafter I will use the term "nonsubject" for antecedents other than subjects) binds caki, as shown in (4)[4].

(4) *John$_i$-i Bill$_j$-eke caki$_{?i/j}$-iy elinsicel-e tehaye mul-es'-ta.*
-NOM -DAT self-GEN childhood-about ask-PAST-DEC
'John asked Bill about self's childhood.'

If the subject binds caki, the sentence is odd because John is asking another person about his own life. Thus, the subject can be a possible antecedent only in abnormal circumstances, because the verb mutta 'ask' is strongly biased pragmatically toward the nonsubject as an antecedent. In the case of the verb tutta 'hear', the nonsubject also binds caki, as shown in (5).

(5) *John$_i$-i Bill$_j$-eke caki$_{?i/j}$-iy elinsicel-e tehaye tul-es'-ta.*
-NOM -from self-GEN childhood-about hear-PAST-DEC
'John heard from Bill about self's childhood.'

The same interpretation applied in the verb mutta 'ask' also applies in the case of the verb tutta 'hear'. On the other hand, only the subject binds caki in (6).

(6) *John$_i$-i Bill$_j$-eke caki$_{i/*j}$-iy chinku-il sokeha-es'-ta.*
-NOM -DAT self-GEN friend-ACC introduce-PAST-DEC
'John introduced self's friend to Bill.'

When the verb sokehata 'introduce' is replaced by the verb sokepatta 'receive the favor of introducing', the indirect object binds caki because the verb sokepatta requires the nonsubject as an antecedent for caki in (7).

(7) *John$_i$-i Bill$_j$-eke caki$_{?i/j}$-iy chinku-il soke-pat-es'-ta.*
-NOM -from self-GEN friend-ACC introduce-BENEF-PAST-DEC
'John received from Bill the favor of introducing self's friend.'

Thus, individual verbs can control the selection of the antecedent for caki. Therefore, the grammar must allow for both subject and nonsubject binding of caki, depending on the matrix verb.

Kuno & Kaburaki (1977) present a similar case, where each verb (predicate) selects an argument position (subject or nonsubject) whose viewpoint the speaker adopts. They call this phenomenon Empathy and the definition is given below.

(8) Empathy (Kuno & Kaburaki, 1977: 628).
Empathy is the speaker's identification, with varying degrees, with a person who participates in the event that he describes in a sentence.

The locus of empathy varies, depending on the predicate. For example, there are two kinds of verb 'give' in Japanese; yaru and kureru. The speaker must describe yaru from the subject's (giver) viewpoint (Subject-centered predicate) whereas the speaker must report kureru from the object's (recipient) viewpoint (Nonsubject-centered predicate). Thus, Subject-centered predicates give empathy focus to the subject and Nonsubject-centered predicates put empathy focus on the nonsubject. I will call empathy focus **Pivot** following Sells (1987: 455).

(9) Pivot: the one from whose point of view the report is made.

Sells describes Pivot as follows: if someone makes a report with Mary as the Pivot, that person is understood as standing in Mary's shoes. If the Pivot is located in the subject, the sentence is described in terms of the subject's viewpoint and if the Pivot is located in the nonsubject, the sentence is reported in terms of the nonsubject's viewpoint. Generally, the Pivot is located in the subject, thus the subject is the unmarked position of the Pivot following Kameyama (1984). Therefore, predicates other than those lexically specified as Nonsubject-centered predicates are Subject-centered by default.

In Korean, there are **Nonsubject-centered predicates** which give the Pivot to the nonsubject, as shown in (10).

(10) Nonsubject-centered predicates
malhecuta 'give the favor of telling', *mutta* 'ask', *titta* 'hear', *(toy)tollyecuta* 'return', *pillita* 'borrow', *sokepatta* 'receive the favor of introducing', *tolyeponeta* 'send back', *suyepatta* 'receive the favor of giving', ...

This inventory is not exhaustive because the Korean predicate system is productive in that the action described from the viewpoint of the referent of the subject may be converted into the action described from the viewpoint of the referent of the nonsubject by adding a benificiary morpheme, as illustrated in (11).

(11) Subject-centered predicates	Nonsubject-centered predicates
malhata 'tell'	*malhe-cu-ta* 'give the favor of telling'
cuta 'give'	*(toy)tollye-cu-ta* 'return'
sokehata 'introduce'	*soke-pat-ta* 'receive the favor of introducing'
poneta 'send'	*tollye-pone-ta* 'send back'

In the case of causative predicates, both the object and the subject bind caki, as shown in (12) and (13).

(12) *John$_i$-i Billj-eke caki$_{i/j}$-iy pap-il mek-i-es'-ta.*
-NOM -DAT self-GEN meal-ACC eat-CAUS-PAST-DEC
'John feed Bill self's meal.'

(13) *John$_i$-i Billj-il caki$_{i/j}$-iy pang-e kamkim-sikhi-es'-ta.*
-NOM -ACC self-GEN room-LOC keep-CAUS-PAST-DEC
'John kept Bill in selfs room.'

Since the causative predicate is not Nonsubject-centered, it is Subject-centered by default. Thus,the subject which is Pivot binds caki. However, the object of causative predicates is the subject in deep-structure, thus the object is also Pivot. Therefore, causative predicates have two Pivots. This seems to result in the object binding as well as the subject binding of caki.

The subject which is Pivot by default becomes the best antecedent for caki, as shown in (3) and (6). However, the subject which is not Pivot because of Nonsubject-centered predicates cannot be the best antecedent and instead, the nonsubject which is Pivot is the best antecedent for caki, as shown in (4), (5), and (7). Both Pivot-hood and subjecthood participate in the determination of an antecedent. However, Pivot-hood takes precedence over subjecthood in caki binding.

(14) Pivot-antecedent principle
A Pivot binds caki.

Note that violation of the Pivot-antecedent principle does not predict a clear-cut ungrammaticality because there are the cases in which a subject non-Pivot binds caki, as shown in (4), (5), and (7), even though the meaning of the sentence is odd. Thus, we can deduce that subjecthood and Pivot-hood represent two independent dimensions: structure and viewpoint. While the structural dimension requires the subject as an antecedent, the viewpoint dimension requires the Pivot NP as an antecedent. When those two dimensions are mismatched, Pivot overrides subject in the sense of providing the preferred interpretation, but subject is not surpressed by Pivot because they are independent. Therefore, the binder for caki can be ordered as follows.

(15) Binder hierarchy for caki
Pivot and Subject > Pivot > Subject

3. Anaphor caki and pronominal caki

3.1 *Two-caki hypothesis:* It has been noted that morphologically simple (X^0) anaphors (LD anaphors) pattern with pronouns with respect to internal structure and grammatical function. Specifically, Reinhart & Reuland (1991) suggest that LD anaphors should be viewed as pronominal anaphors, thus obeying the Binding Principle B rather than A.

Aikawa (1991) proposes that there are two kinds of Japanese zibun: anaphor zibun and pronominal zibun because they behave differently with regard to the sloppy identity test. The sloppy identity test is a vehicle to test whether a pronoun or an anaphor is a bound varible. The following sentence is ambiguous.

(16) from Reinhart (1983)
Felix hates his neighbors and so does Max.
a. Felix hates Felix's neighbors and Max hates Max's neighbors.
b. Felix hates Felix's neighbors and Max hates Felix's neighbors.

While (16 a) is called the sloppy identity reading, thus his is a bound variable, (16 b) is called the nonsloppy (strict) identity reading. Aikawa applies this test to the Japanese reflexive pronoun zibun by adding the phrase soo-su 'do so' and predicts as follows: when zibun is locally bound, only the sloppy reading is possible. thus it is an anaphor following Williams (1977) and when zibun is nonlocally bound, both sloppy and nonsloppy readings are possible, thus it is pronominal following Reinhart (1983). This prediction is born out in (17), where zibun is bound by the local antecedent, thus the strict reading is not acceptable and zibun is an anaphor.

(17) *John$_i$-ga [Mary$_j$-ni zibun$_j$-o sono position ni suisens]-saseta. Bill$_k$-ni*
-SM -DAT self-ACC that for recommend-made -DAT
mo soo saseta.
too so do-made
'John$_i$ made Mary$_j$ recommend herself$_j$ for that position. (John$_i$ made) Bill$_k$ do so too.'
a. sloppy reading
John$_i$ made Mary$_j$ recommend herself$_j$ for that position.
(John$_i$ made) Bill$_k$ recommend himself$_k$ too.
b. strict reading
*John$_i$ made Mary$_j$ recommend herself$_j$ for that position.
(John$_i$ made) Bill$_k$ recommend.Mary$_j$ too.

Since zibun is bound by the LD antecedent in (18), both sloppy and strict readings are possible and zibun is pronominal.

(18) *John$_i$-ga [Mary$_j$-ni zibun$_i$-o sono position ni suisens]-saseta. Bill$_k$-ni*
-SM -DAT self-ACC that for recommend-made -DAT
mo soo saseta.
too so do-made
'John$_i$ made Mary$_j$ recommend John$_i$ for that position. Bill do so too.'
a. sloppy reading
John$_i$ made Mary$_j$ recommend John$_i$ for that position.
Bill$_k$ made Mary$_j$ recommend Bill$_k$ too.
b. strict reading
John$_i$ made Mary$_j$ recommend John$_i$ for that position.
Bill$_k$ made Mary$_j$ recommend John$_i$ too.

The same generalization also applies in Korean. Thus, Lee (1991) adopts the two-caki hypothesis; when caki is locally bound (if it is an anaphor), only the sloppy reading is possible and when caki is nonlocally bound, both sloppy and strict readings are possible, as shown by the following examples.

(19) *John-in [Mary$_j$-ka caki$_j$-lil chingchanha]-tolok ha-es'-ta. Bill-to kiles'-ta.*
-NOM -NOM self-ACC praise-COMP-CAUS-PAST-DEC -too did so-DEC
'John made Mary praise self. Bill did so, too.'
a. sloppy reading
John made Mary praise Mary, and John made Bill praise Bill.
b. strict reading
*John made Mary praise Mary, and John made Bill praise Mary.

Since the local antecedent, Mary binds caki, caki is an anaphor. Thus, only the sloppy reading is possible. However, in (20), caki is pronominal because it is bound by the LD antecedent, John. Thus, both sloppy and strict readings are possible.

(20) *John$_i$-in [Mary-ka caki$_i$-lil chingchanha]-tolok ha-es'-ta. Bill-to kiles'-ta.*
-NOM -NOM self-ACC praise-COMP-CAUS-PAST-DEC -too did so-DEC
'John made Mary praise self. Bill did so, too.'
a. sloppy reading
John made Mary praise John and Bill made Mary praise Bill.
b. strict reading
John made Mary praise John and Bill made Mary praise John

As seen above, the sloppy identity test gives independent evidence for positing that caki really hastwo different behaviors; anaphoric and pronominal.

If we adopt the two-caki hypothesis, we do not need to explain the LD binding phenomenon as movement analyses or parameterized analyses do because the LD bound caki is not an anaphor but a pronoun, thus it obeys Binding Principle B. Note, however, that **pronominal caki** is not the same as the pronoun ki 'he' because the former must be bound by an antecedent within the same sentence, and

thus is a bound pronoun whereas the latter can be bound or unbound. Only the **anaphor** caki bound by a local antecedent obeys Binding Principle A, thus the governing category need not be extended and caki need not move at LF for the pronoun caki bound by a LD antecedent. Thus, the anaphor caki and the bound pronoun caki are in complementary distribution and caki is not problematic for the Binding Principle.

However, the definition of an accessible Subject needs to be revised to determine the governing category in Korean because it is assumed that there is no AGR in Korean, thus resulting in no governing category for an X^0 anaphor. I will adopt Lee's (1991) rough working definition of an accessible Subject, where AGR is replaced by INFL or the Genitive marker, as shown in (21).

(21) A Subject is INFL (or Genitive marker) or the subject of an infinitive, a gerund, an NP or a small clause.

Now, we need to reanalyze the sentences containing caki according to the two-caki hypothesis. First, (1) is repeated below.

(22) *John$_i$-nin [$_{IP}$ Tom$_j$-i caki$_{i/j}$-lil chuchenha-es'-ta]-ko*
-NOM -NOM self-ACC recommend-PAST-DEC-COMP
sengkakha-es'-ta.
think-PAST-DEC
'John thought that Tom recommended self.'

The embedded IP is the governing category for caki because there is a governor of caki, the verb chuchenhata and the Subject, Tom. Thus, caki$_j$ bound in its governing category IP is an anaphor whereas caki$_i$ free in its governing category IP is pronominal.

The sentences (3) through (7) have the same structure, thus I repeat only (3) below.

(23) *John$_i$-i Bill$_j$-eke [$_{NP}$ caki$_{i/*j}$-iy elinsicel]-e tehaye malha-es'-ta.*
-NOM -DAT self-GEN childhood-about tell-PAST-DEC
'John told Bill about self's childhood.'

The embedded NP is the governing category for caki since there are the governor of caki, the genitive marker and the Subject, namely, the genitive marker according to (21). Because caki is free in its governing category, it is pronominal. Moreover, the fact that the pronoun ki also can occur in the position of caki , as shown in (24), confirms the claim that caki in this position is pronominal. However, the pronoun ki can be bound or unbound whereas caki must be bound in the same sentence. And ki can be bound by any NP outside the governing category regardless of Subject-hood and Pivot-hood whereas caki is bound by a subject or NP which is the Pivot.

(24) *John$_i$-i Bill$_j$-eke [$_{NP}$ ki$_{i/j/k}$-iy elinsicel]-e tehaye malha-es'-ta.*
-NOM -DAT he-GEN childhood-about tell-PAST-DEC
'John told Bill about his childhood.'

To sum up, caki bound in its governing category is an anaphor and caki free in its governing category, namely the so called LD anaphor is a bound pronominal. The governing category roughly corresponds to an immediate IP or NP containing caki.

3.2 *Lexical constraints on caki*: Hyams & Sigurjonsdottir (1990) claim that Icelandic sig 'self' behaves differently depending on predicates. According to them, there are lexical constraints on the X^0 reflexive sig. While the gefa 'give'-class verbs strongly prefer the LD antecedent, raka 'shave'-class verbs strongly prefer the local antecedent for sig, as illustrated in (25).

(25) a. *Kermit$_i$ segir ad Jon gefi$_{(subj)}$ ser$_i$ bil.*
'Kermit says that John gives SIG a car.'
b. *Jon segir ad Petur$_j$ raki$_{(subj)}$ sig$_j$*
'John says that Peter$_j$ shaves SIG.'

Therefore, they define the give-class verbs as LD verbs because sig with these verbs is strongly bound outside of the immediate clause containing sig and the shave-class verbs as local verbs because sig with these verbs is strongly bound within the immediate clause. Thus, they propose that sig with the give-class verbs is pronominal and sig with the shave-class verbs is a pure anaphor. In other words, sig is pronominal if it is bound by a nonclause-mate antecedent whereas sig is anaphoric if it is bound by a clause-mate antecedent. These two behaviors of sig are consistent with the two-caki hypothesis in Korean.

In Korean, there are also lexical constraints on caki. Caki with the give-class verbs must be bound by the LD antecedent, as shown in (26).

(26) *John$_i$-in [$_{IP}$Tom$_j$-i caki$_{i/*j}$-eke catongcha-il cu-es'-ta]-ko malha-es'-ta.*
-NOM -NOM self-DAT car-ACC give-PAST-DEC-COMP say-PAST-DEC
'John said that Tom gave self a car.'

In the normal use of the verb cuta 'give', the subject (giver) and the object (recipient) must be different. In other words, the subject gives something (DO) to somebody (IO) other than the subject. Thus, the subject in the embedded clause cannot bind caki. In this respect caki is different from sig because caki is obligatorily pronominal whereas sig is strongly preferably pronominal. Since the governing category for caki is the embedded IP, caki bound by the LD antecedent is pronominal. In the verb chotehata 'invite', the subject and the object also must have different referents, like the verb cuta. Thus, the subject in the embedded IP cannot bind caki, as shown in (27), therefore caki is pronominal.

(27) *John$_i$-in [$_{IP}$Tom$_j$-i caki$_{i/*j}$-lil choteha-es'-ta]-ko malha-es'-ta.*
-NOM -NOM self-ACC invite-PAST-DEC-COMP say-PAST-DEC
'John said that Tom invited self.'

Caki with the give-class verbs obligatorily takes a LD antecedent, thus it is pronominal. I will name the give-class verbs the **Pronominal verbs**.

There are no shave-class verbs in Korean unlike Icelandic, because inherently reflexive verbs like shave oneself and wash oneself are intransitive instead of being transitive, thus they do not have the reflexive pronoun caki as an object, as illustrated in (28).

(28) *John-i myentoha-es'-ta.*
-NOM shave-PAST-DEC
'John shaved.'

The fact that there are no shave-class verbs means that there are no verbs that constrain caki only to be anaphoric. Namely, there is no case where caki is only an anaphor, not a pronoun, in complex sentences. Thus, there are no **Anaphoric verbs** that take only a local antecedent of a complex sentence in Korean.

When the reflexive verb myentohata 'shave' is used as a transitive verb which takes caki as an object in a complex sentence, the verb becomes causative, as shown in (29).

(29) *John$_i$-nin [$_{IP}$Tom$_j$-i caki$_{i/*j}$-lil myento-sikhi-es'-ta]-ko malha-es'-ta.*
-NOM -NOM self-ACC shave-CAUS-PAST-DEC-COMP say-PAST-DEC
'John said that Tom shaved self.'

The subject of the embedded IP cannot bind caki because the verb myentosikhita 'shave someone' is causative. Causative verbs must have an object (causee), and the subject (causer) and the causee must have different referents like the give-class verbs. Therefore, the LD antecedent binds caki. Thus, the causative verb myentosikhita also belongs to the Pronominal verbs because it permits only the pronominal caki.

There are some verbs that permit both anaphoric caki and pronominal caki. In the case ofthe verb salanghata 'love', caki can be bound within the governing category, the lower IP, thus being anaphoric or it can be bound outside the governing category, thus being pronominal, as illustrated in (30).

(30) *John$_i$-nin [$_{IP}$Tom$_j$-i caki$_{i/j}$-lil salangha-n-ta]-ko malha-es'-ta.*
-NOM -NOM self-ACC love-ASP-DEC-COMP say-PAST-DEC
'John said that Tom loves self.'

Since the verb salanghata permits both anaphoric caki and pronominal caki, I will

call this class of verbs **Pronominal/anaphoric verbs**. However, note that pronominal use of caki is much more natural with Pronominal/anaphoric verbs as in Icelandic where sig with the verb elska 'love' strongly prefers a LD antecedent.

The anaphoric use of caki is very weak because there are no Anaphoric verbs in complex sentences and the anaphoric use of caki with the Pronominal/anaphoric verbs is not prefered. Therefore, caki is more similar to Norwegian seg 'self' (Hestvik, 1989) and Danish sig 'self' (Vikner, 1985) than to Icelandic sig in that Norwegian seg and Danish sig are uniformly pronominal as claimed by Hyams & Sigurjonsdottir. Thus, Norwegian seg and Danish sigare never bound by a local antecedent but they are bound only by a LD antecedent.

In summary, I claim there are lexical constraints placed on caki by predicates. The Pronominal verbs permit only the pronominal use of caki, thus caki only can be bound outside the governing category, obligatorily taking a LD antecedent. The Pronominal/anaphoric verbs permit both the pronominal use and the anaphoric use of caki, thus caki can be bound outside the governing category, taking a LD antecedent and within the governing category, taking a local antecedent. There are no Anaphoric verbs which permit only the anaphoric use of caki in complex sentences. In (31), I give a nonexhaustive list of the verbs belonging to these two categories:

(31) a. Pronominal verbs
all causative verbs (eg. *myentosikhta* 'shave somebody', *mekita* 'feed', *cukita* 'kill'...), *cuta* 'give', *pangmunhata* 'visit', *chepohata* 'arrest', *chotehata* 'invite', *cenhwahata* 'telephone', *annehata* 'guide', *mannata* 'meet', *ponata* 'send', *kalichita* 'teach', *pilita* 'call' ....
b. Pronominal/anaphoric verbs
salanghata 'love', *cohahata* 'like', *silhehata* 'dislike', *miwehata* 'hate', *alta* 'know', *chingchanhata* 'praise', *chuchenhata* 'recommend', *pinanhata* 'criticize', ...

Generally, while the Pronominal verbs denote an action or an activity, the Pronominal/anaphoric verbs express the static, nonactive aspect. Thus, the Pronominal verbs can support a progressive reading whereas the Pronominal/anaphoric verbs cannot. If we follow the theory of verb classification which Vendler (1967; requoted from Van Valin, 1990) originally proposes, the Pronominal verbs roughly correspond to Activities and Accomplishments because these two classes commonly involve activity and the Pronominal/anaphoric verbs correspond to States and Achievements.

Most syntactic accounts in the GB framework uniformly predict that morphologically simple (X^0) reflexive pronouns like Korean caki, Japanese zibun, Chinese ziji, Icelandic sig, Norwegian seg, and Danish sig are never bound by a LD antecedent which is a nonsubject but they are bound only by a LD antecedent which is a subject. Hyams & Sigurjonsdottir also prove that there is obligatory subject-orientation when Icelandic sig is bound by a LD antecedent, namely sig is

pronominal. In the next section, I will show that Korean caki can be bound by a LD antecedent which is a nonsubject, unlike Icelandic sig.

4. Nonsubject-binding of pronominal caki

Caki is bound only by the LD antecedent which is the subject in (32) and (33), like most syntactic accounts.

(32) *John$_i$-in Bill$_j$-eke [$_{IP}$Tom$_k$-i caki$_{i/*j/*k}$-eke catongch^{h}a-il*
-NOM -DAT -NOM self-DAT car-ACC
cu-es'-ta]-ko malha-es'-ta.
give-PAST-DEC-COMP tell-PAST-DEC
'John told Bill that Tom gave self a car.'

(33) *Emma$_i$-ka ai$_j$-eke [$_{IP}$ ap'a$_k$-ka caki$_{i/*j/*k}$-eke nole-lil*
mother-NOM child-DAT father-NOM self-DAT song-ACC
kalichi-es'-ta]-ko mal-ha-es'-ta.
teach-PAST-DEC-COMP tell-PAST-DEC
'The mother told the child that the father taught self a song.'

Caki cannot be bound by the local antecedent because of the lexical constraint where the Pronominal verbs cuta 'give' and kalichita 'teach' in the embedded clause do not permit caki to be bound within the governing category, the lower IP. In the matrix clause, caki is bound only by the subject because the verb malhata 'tell' in the matrix clause is not Nonsubject-centered, thus the subject is Pivot by default and a subject which is Pivot binds caki, following the Pivot-antecedent principle in (14). In other words, the statement of the embedded clause pertains to the speaker, John and emma 'mother' in the case of the verb malhata. Thus, the speaker binds caki. However, if we change the matrix verb into an Object-centered predicate mutta 'ask' in (34) and (35), the nonsubject is Pivot, and this binds caki, unlike most syntactic accounts. This is because the statement of the embedded clause pertains to the hearer, Bill, and ai 'child' in the case of the verb mutta. Thus, the hearer binds caki.

(34) *John$_i$-in Bill$_j$-eke [$_{IP}$Tom$_k$-i caki$_{?i/j/*k}$-eke catongch^{h}a-il cu-es'-nya]-ko*
-NOM -DAT -NOM self-DAT car-ACC give-PAST-Q-COMP
mulha-es'-ta.
ask-PAST-DEC
'John asked Bill if Tom gave self a car.'

(35) *Emma$_i$-ka ai$_j$-eke [$_{IP}$ ap'a$_k$-ka caki$_{?i/j/*k}$-eke nole-lil kalichi-es'-nya]-ko*
mother-NOM child-DAT father-NOM self-DAT song-ACC teach-PAST-Q-COMP
mul-es'-ta.
ask-PAST-DEC
'The mother asked the child if the father taught self a song.'

Now, consider the case where the verb of the embedded sentence is a Pronominal/anaphoric verb in (36) and (37).

(36) *John$_i$-nin Bill$_j$-eke [$_{IP}$Tom$_k$-i caki$_{i/*j/k}$-lil miweha-n-ta]-ko malha-es'-ta.*
-NOM -DAT -NOM self-ACC hate-ASP-DEC-COMP tell-PAST-DEC
'John told Bill that Tom hates self.'

(37) *John$_i$-nin Bill$_j$-eke [$_{IP}$Tom$_k$-i caki$_{?i/j/k}$-lil miweha-n-ta]-ko til-es'-ta.*
-NOM -DAT -NOM self-ACC hate-ASP-DEC-COMP hear-PAST-DEC
'John heard from Bill that Tom hates self.'

The verb of the embedded clause miwehata 'hate' permits caki to be bound within the governing category IP because it is a Pronominal/anaphoric verb. Since the verb miwehata is not Nonsubject-centered, the subject is Pivot by default. Thus, the subject of the embedded clause with the Pivot binds caki in both (36) and (37). While the report of the embedded clause belongs to the speaker, John, with the verb malhata in (36), it belongs to the speaker, Bill, with the verb titta in (37). Specifically, the subject is Pivot by default in the case of the verb malhata in (36) whereas the nonsubject is Pivot by the Object-centered verb titta in (37). Thus, any Pivot NP binds caki.

As shown in (34), (35), and (37) the nonsubject Pivot can bind the pronominal caki, contrary to the structural accounts of most syntactic theories where the nonsubject which is a LD antecedent cannot bind an X^0 element like caki. This phenomenon is due to the fact that Pivot-hood which comes from the viewpoint dimension more strongly controls the pairing of an antecedent and caki than does subjecthood, which comes from the structural dimension. Therefore, we must include the viewpoint dimension in caki binding.

The addition of the viewpoint dimension in reflexive pronoun binding is not limited to Korean caki only. Japanese zibun also has this property, as shown in (38).

(38) from Kameyama (1984)
Bill$_i$ wa John$_j$ ni [Mary$_k$ ga zibun $_{i/k}$ o nikunde-i-ru koto] o kii-ta.
TP/SB O2 SB OB hate-PRG-PRT COMP OB hear-PST
'Bill heard from John that Mary hated self.'

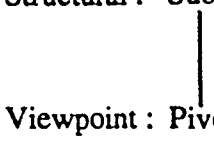
Kameyama claims that the nonsubject John can bind zibun because it has the property of Logophoricity, i.e., "the individual whose speech, thoughts, feelings, or general state of consciousness are reported or reflected in the linguistic context in which the pronoun occurs" (Clements, 1975). Namely, the sentence (38) is stated in terms of the nonsubject John's point of view. Thus, Kameyama proposes that the antecedent zibun must be a subject or logophoric individual, as shown in (39)[5].

(39) Japanese zibun : [+sub] or [+log][6]

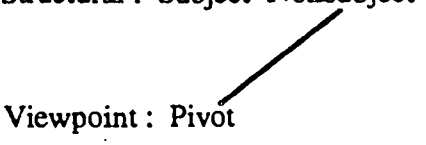
To conclude, the structural account alone using only the concept of subjecthood is neither sufficient nor necessary to expain the binding of Korean caki and

Japanese zibun. Thus, the viewpoint dimension is introduced to account for the binding of Korean caki and Japanese zibun, as illustrated in (40).

(40) a. Subject binding



b. Nonsubject binding



When these two dimensions match, namely when the subject is Pivot, the subject is the antecedent. When they mismatch, namely when the subject is not Pivot because of the Object-centered predicates, the nonsubject Pivot is the best antecedent, since Pivothood takes precedence over subjecthood in the binding of Korean caki and Japanese zibun.

At this point, I would like to provide some examples to show how my analysis works. Three examplary sentences are given below.

(41) *John$_i$-nin Bill$_j$-eke [$_{NP}$caki$_{i/*j}$-iy chak]-il cu-es'-ta.*
-NOM -DAT self-GEN book-ACC give-PAST-DEC
'John gave Bill self's book.'

(42) **[$_{IP}$John$_i$-nin caki$_i$-eke chak-il cu-es'-ta.]*
-NOM self-DAT book-ACC give-PAST-DEC
'John gave self a book.'

(43) *[$_{IP}$John$_i$-nin caki$_i$-lil salangha-n-ta.]*
-NOM self-ACC love-ASP-DEC
'John loves self.'

In (41), the governing category is the NP and caki is a bound pronoun because it is bound outsidethe governing category. Since the verb cuta 'give' is Subject-centered by default, only the subject John which is Pivot binds caki. In (42), the governing category is the IP and the subject John should bind caki because the verb cuta is Subject-centered. However, there is lexical constraints on caki, where caki with the Pronominal verbs like cuta cannot be bound within the governing category. Consequently, the sentence (42) is ungrammatical because caki is bound within the governing category[7]. In (43), the governing category is the IP and the subject John binds caki because the verb salanghata 'love' is Subject-centered and a Pronominal/ anaphoric verb which permits caki to be bound within the governing category.

There may be typological variation in reflexive pronouns; a language may adopt only the structural dimension or only the viewpoint dimension. Malayalam adopts only the structural dimension because possible binders must be a subject in Malayalam according to Mohanan (1982). Ewe adopts only the viewpoint

dimension because possible binders must be a logophoric individual in Ewe according to Clements (1975) (requoted from Kameyama, 1984). Other languages may adopt both the structural dimension and the viewpoint dimension, like Korean caki and Japanese zibun. While Korean and Japanese allow the mismatch of these two dimensions, thus nonsubject bindings can happen, another possibility is that a language may adopt both the structural and viewpoint dimensions but does not allow the mismatch of these two dimensions, thus nonsubject bindings cannot occur. Icelandic sig belongs to the latter case according to Bresnan (requoted from Kameyama, 1984 and Sells, 1987), hence the obligatory subject-orientation in the structural account is epiphenomenal. Thus, it might be worth pursuing how these two dimensions vary in other languages like Chinese ziji[8], Nowegian seg, and Danish sig. The following chart shows the possible combinations of two dimensions and attested languages.

(44) **Typological variation of Pivot/Subject dimensions**

Pivot	Subject	allow mismatch?	attested languages
o	o	yes	Korean, Japanese
o	o	no	Icelandic
o	_	_	Ewe
_	o	_	Malayalam

5. Conclusion

The purpose of this paper is to demonstrate the existence of nonsubject binding of the so called LD anaphor in languages like Korean and Japanese and to give a principled account why and when it happens. Nonsubject binding occurs if the predicate of the matrix clause is described in terms of the nonsubject's viewpoint (Nonsubject-centered) in Korean. Nonsubject-centered predicates like mutta 'ask', tutta 'hear', and malhecuta 'give the favor of telling' force the statement of the embedded clause to pertain to a nonsubject. In other words, Nonsubject-centered predicates put the Pivot on the nonsubject. Therefore, caki in the embedded sentence is bound by the nonsubject, because the statement of the embedded clause is based on the nonsubject's viewpoint. Thus, from whose viewpoint the sentence is described (where the Pivot is located) is essential in caki binding. So I propose the viewpoint dimension in addition to the structural dimension. The Binder hierarchy for caki is as follows; Pivot and Subject > Pivot > Subject. The other varible in caki binding is the distinction of Proniminal and Pronominal/anaphoric verbs. While caki with Pronominal verbs is a bound pronoun which always takes a LD antecedent, caki with Pronominal/anaphoric verbs is an anaphor when it takes a local antecedent and a bound pronoun when it takes a LD antecedent. The important consequence of this paper is that the original Binding Principle (Chomsky, 1981) remains without any adaptation such as parameterized analyses or movement analyses because LD anaphors are pronominal, thus obeying Binding Principle B instead of A. Finally, the obligatory subject orientation in the Chinese example (2) seems to be due to the verbs 'give' and 'say' which are Subject-centered by default.

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NOTES

[1] The special abbreviations used in this paper are as follows.
BENIF : benificiary, CAUS : causative, ASP : aspectual, Q : question

[2] Binding Principle
A. An anaphor is bound in its governing category.
B. A pronoun is free in its governing category.
C. An R-expression is free.

[3] (1) The governing category for an anaphor A is the minial category containing A, the governor for A, and the Subject accessible to A.
(2) SUBJECT : [NP, IP], [NP, NP], [AGR]
To see how this applies to (1), refer to (22) of section 3.

[4] The referent with the mark "?" means that it is semantically odd due to the mismatch of viewpoint even though it may be syntactically grammatical.

[5] Even though Sells (1987: 474) claims rather strongly that the binding of zibun is solely Pivot-oriented in Japanese, it is not so because the subject which is not Pivot is also a possible binder, as shown in (38).

[6] The term, 'logophoric individual' is equivalent to 'Pivot', here. However, I have been using the term Pivot instead of [+log] because the the term 'logophoric' has been used in Reinhart & Reuland (1991) to refer to a referent which may not be in the sentence, whereas X^0 reflexives like caki must be bound by an antecedent within the same sentence. The following sentence is the example of logophoric use from Reinhart & Reuland.

The queen invited both Max and myself/me for tea.

[7] There may be some Koreans who judge the sentence (42) to be grammatical. Caki with Pronominal verbs is never bound within the governing category in complex sentences, as shown below.

Tom$_j$-nin [$_{IP}$John$_i$-i caki$_{j*i}$-eke chak-il cu-es'-ta]-ko malha-es'-ta.
-NOM -NOM self-DAT book-ACC give-PAST-COMP say-PAST-DEC

However, caki with Pronominal verbs may be bound within the governing category in simplex sentences like (42), even though it is not optimal but would be an alternative because caki must be bound by an antecedent within the same sentence, as discussed in section 3.1.

8 Chinese may adopt both structural dimension and viewpoint dimension because my consultant from Taiwan shows nonsubject binding in the corresponding Chinese sentence of (35), like the Korean case. Note that Cole & Sung (1990, 1991) claim that Chinese always shows obligatory subject orientation in both local context and LD context. However, their claim is not convincing because they do not give various data that include an indirect object and always use Pronominal/anaphoric verbs in the lowest clause and Subject-centered predicates in the upper clauses, which causes obligatory subject orientation, as shown below.

Zhangsang$_i$ renwei Lisi$_j$ zhidao Wangwu$_k$ xihuan ziji$_{i/j/k}$.
thinks knows likes self
'Zhangsang thinks that Lisi knows that Wangwu likes himself.'

Thus, obligatory subject orientation is the result of the biased selection of verbs.

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