

## Long-distance anaphora and the blocking effect\*

Hong-Ki Sohng  
(Korea Aerospace University)

**Sohng, Hong-Ki. 2015. Long-distance anaphora and the blocking effect.** *Linguistic Research* 32(3), 719-747. This paper aims at giving a principled account of long-distance anaphora including the blocking effect under the LF movement analysis of LD reflexives in the *Minimalist Inquiries* framework. I have shown that the absence of the blocking effect for Korean LD anaphora does not follow from the Feature Percolation Principles put forward by Cole, Hermon & Huang (2006). Thus I put forth the Feature Percolation Principle to properly handle the blocking effect for Chinese LD anaphora and the absence of the blocking effect for LD anaphora in Italian, Icelandic, and Korean. The Chinese LD reflexive with no inherent  $\phi$ -features gets and checks its  $\phi$ -features in terms of the Feature Percolation Principle at LF. Overall, it is shown that the blocking effect exhibited by the Chinese LD anaphor follows from its lack of inherent  $\phi$ -features and the Feature Percolation Principle, and that the absence of the blocking effect for the LD reflexives in Korean, Italian, and Icelandic is due to the fact that they have inherent  $\phi$ -features. (Korea Aerospace University)

**Keywords** long-distance anaphora, blocking effect, subject orientation, feature percolation principle, head movement, *Minimalist Inquiries*

### 1. Introduction

Anaphoric elements like that found in English (such as *himself*, *herself*) occur in languages across the world, which in general show some common characteristics: they occur with antecedents that c-command them and that are in the same local domain as the anaphoric elements. By contrast, other anaphoric elements that have different forms from English reflexives (such as Korean *caki*, Chinese *ziji*, Italian *propria*, etc.) are well-known to take c-commanding antecedents outside the local domain. It has been noted in the literature (Manzini & Wexler 1987, Progovac 1993,

---

\* I am grateful to the two anonymous reviewers for their invaluable comments and suggestions. This work was supported by the National Research Foundation of Korea Grant funded by the Korean Government (NRF-2014S1A5B5A07041160).

Huang & Tang 1991, Cole, Hermon & Huang 2006, etc.) that the anaphoric elements of the latter type that can be used as local reflexives and that can also take antecedents outside the local domain have the shared outstanding traits: they are monomorphemic, have a strong subject orientation, and show the so-called blocking effect in some specific contexts. As these monomorphemic or long-distance anaphors (henceforth LD anaphors) show interesting behavior across languages, there has been carried out a lot of research on the LD reflexives in the field of theoretical syntax. And these works are grouped into two types: non-movement approaches vs movement approaches. Such works as Manzini & Wexler (1987), Batistella (1989), Progovac (1993), etc. are representative of non-movement approaches to LD anaphora that typically have relativization or parameterization of the governing category for reflexives. By contrast, Huang & Tang (1991), Cole & Sung (1994), Katada (1991), Cole, Hermon & Huang (2006), etc. followed the tradition of movement theory after Lebeaux (1983). The latter type of works in general assumes movement of the LD reflexive to some category that results in the subject anteceding the reflexive in the relevant domain. While all these theories successfully deal with long-distance antecedence for reflexives, these approaches have shortcomings or problems conceptually or empirically or both. And most of them may not properly handle the blocking effect for Chinese LD anaphora or the lack of the blocking effect for LD anaphora in Italian, Icelandic, and Korean.

In addition, there is a body of research works for long-distance anaphora, centering on prominence, based on a thematic hierarchy. However, these non-syntactic, pragmatic analyses do not cope well with several instances of anaphora in natural languages.

This paper aims at giving a principled, syntactic analysis of LD anaphora including subject orientation and the blocking effect under the LF movement analysis of LD reflexives in the *Minimalist Inquiries* framework (Chomsky 1998, 1999).

Section 2 discusses in detail LD anaphora and the so-called blocking effect that is manifested in Chinese anaphora. Section 3 will critically review previous major works on LD anaphora. Sections 4.1 – 4.2 discuss the LF movement analysis of LD anaphora, based on Cole & Sung (1994), Cole, Hermon & Huang (2006), and show that the absence of the blocking effect for LD anaphora in Korean does not follow from their Feature Percolation Principles. In Section 4.2, I put forth the Feature Percolation Principle to properly handle the blocking effect for Chinese anaphora and

the absence of the blocking effect for LD anaphora in Icelandic, Italian, and Korean. Section 5 is the conclusion of the paper.

## 2. LD anaphora and the blocking effect

In this section, we consider some core properties that are shared by LD anaphora cross-linguistically: (a) the tendency to be long-distance bound as well as locally bound and (b) subject orientation. After that, we will go into detail about the blocking effect that occurs in Chinese anaphora.

It has been observed in the literature (Pica 1984, Manzini & Wexler 1987, Progovac 1993, Huang & Tang 1991, Cole, Hermon & Huang 2006, etc.) that LD anaphors are monomorphemic elements, but local reflexives are polymorphemic ones. The trait of LD anaphors being monomorphemic is manifested cross-linguistically, and these monomorphemic anaphors can be bound long-distance.

Consider the following examples from Italian.

- (1) a. La signora<sub>i</sub> dice che io giaccia presso di sè<sub>i</sub>.  
 the woman says that I lie-SUB near self  
 ‘The woman orders that I lie near her.’  
 b. Gianni<sub>i</sub> ama solo sè stesso<sub>i</sub>.  
 Gianni loves only himself.  
 c. \*Gianni<sub>i</sub> pensa [che tu ami sè stesso<sub>i</sub>].  
 Gianni thinks that you love himself.

As evidenced in the above examples, monomorphemic *sè* can take its antecedent long-distance, but polymorphemic *sè stesso* can only take its antecedent in the local domain it is contained. Besides the monomorphemic LD anaphor *ziji*, which may be long-distance bound, Chinese also has a local, polymorphemic anaphor *pronoun + ziji*, and this type of polymorphemic anaphor can only be bound locally, as shown in (2).

- (2) a. Zhangsan<sub>i</sub> zhidao Lisi<sub>j</sub> renwei Wangwu<sub>k</sub> zui xihuan ziji<sub>i/j/k</sub>.  
 Zhangsan know Lisi think Wangwa most like self  
 ‘Zhangsan knows that Lisi thinks that Wangwu likes himself/him<sub>i/j</sub> most.’

- b. Zhangsan<sub>i</sub> renwei Lisi<sub>j</sub> zhidao Wangwu<sub>k</sub> xihuan ta ziji<sub>i/\*j/k</sub>.  
 Zhangsan think Lisi know Wangwa like him self  
 ‘Zhangsan thinks that Lisi knows Wangwu likes himself.’

It is also shown in (3-4) that long-distance reflexives are monomorphemic, but local reflexives are polymorphemic in Icelandic and Korean.

- (3) a. Jón<sub>i</sub> segir að María elski sig<sub>i</sub>.  
 Jon knows that Maria loves self  
 ‘Jon knows that Maria loves him.’  
 b. Jón<sub>i</sub> segir að Pétur<sub>j</sub> elski sjálfan sig<sub>i/j</sub>.  
 Jon says that Peter loves-SUB self self  
 ‘Jon says that Peter loves himself.’
- (4) a. Tom<sub>i</sub>-un [Mary<sub>j</sub>-ka caki<sub>i/j</sub>-lul salangha-n-ta-ko] sayngkakha-n-ta.  
 Tom-Top Mary-Nom self-Acc love-Prs-Dec-Comp think-Prs-Dec  
 ‘Tom thinks that Mary loves him/herself.’  
 b. Tom<sub>i</sub>-un [Mary<sub>j</sub>-ka caki casin<sub>i/j</sub>-ul salangha-n-ta-ko] sayngkakha-n-ta.  
 Tom-Top Mary-Nom self self-Acc love-Prs-Dec-Comp think-Prs-Dec  
 ‘Tom thinks that Mary loves \*him/herself.’

Another salient characteristic for LD anaphors is that they are limited to antecedents that are subjects.

- (5) John<sub>i</sub> gaosu Tom<sub>j</sub> Mary<sub>k</sub> piping-le ziji<sub>i/\*j/k</sub>.  
 John tell Tom Mary criticize-Asp self  
 ‘John told Tom that Mary criticized him(John)/herself.’
- (6) Jón<sub>i</sub> sagDi Maríu<sub>j</sub> að þú elskaDir sig<sub>i/\*j</sub>.  
 Jon told Maria that you loved-Sub self  
 ‘Jon told Maria that you loved him.’
- (7) Gianni<sub>i</sub> ha convinto Osvaldo<sub>j</sub> del fatto che la propria<sub>i/\*j</sub> casa  
 Gianni has convinced Osvaldo of the fact that the self house  
 è la più bella del paese.

is the most beautiful of the village  
 ‘Gianni convinced Osvaldo that his own house is the nicest in the village.’

As is shown in the examples above (4-6), LD anaphors are, in general, bound to subjects, not objects.

Another topic of importance that relates to LD anaphora is the so-called blocking effect that is found in Chinese *ziji*, as shown in (8) below (Cole, Hermon & Huang 2006:23).

- (8) Zhangsan<sub>i</sub> renwei wo<sub>j</sub> zhidao Wangwu<sub>k</sub> xihuan ziji<sub>\*i/\*j/k</sub>.  
 Zhangsan think I know Wangwa like self  
 ‘Zhangsan thinks that I know that Wangwu likes \*him/\*me/himself.’

As is manifested in (8), the LD reflexive is blocked when an immediately higher subject differs in person from a lower subject.

However, it is shown in the examples (9), (10), and (11) that the blocking effect is not manifested in anaphora in Italian, Icelandic, and Korean.<sup>1</sup>

- (9) La signora<sub>i</sub> dice che io giaccia presso di sè<sub>i</sub>.  
 the woman says that I lie-sub near self  
 ‘The woman orders that I lie near her.’

- (10) Jón<sub>i</sub> telur að ég hafi talað við sig<sub>i</sub>.  
 Jon believes that I have talked to self  
 ‘Jon believes that I have talked to self.’

- (11) Tom<sub>i</sub>-un [ne<sub>j</sub>-ka caki<sub>i/\*j</sub>-lul salangha-n-ta-ko] sayngkakha-n-ta.  
 Tom-Top you-Nom self-Acc love-Prs-Dec-Comp think-Prs-Dec  
 ‘Tom thinks that you love him/\*yourself.’ (Han & Storoshenko 2012:768)

---

<sup>1</sup> That the Korean LD anaphors are not subject to the blocking effect is argued by Han & Storoshenko (2012), etc.

In the next section, we will critically review previous major approaches to LD anaphora and show that they have their own problems or weaknesses conceptually or empirically or both.

### 3. Previous major analyses of long-distance anaphora

As mentioned in Section 1, there have been a lot of interesting works on LD anaphora since Chomsky proposed the Binding Theory in his *Lectures on Government and Binding* (1981). These works are grouped into two types – non-movement approaches vs movement approaches. This section will critically review some analyses of importance from both types of approaches: Manzini & Wexler (1987), Progovac (1993), Huang & Tang (1991), Lee (1998, 2001). It should be noted that prominence-based pragmatic approaches to LD anaphora are also worthy of exploring. We will thus critically review prominence-based approaches to LD anaphora including O’Grady (1987), Kim (2013) and Kim (2000) in 3.5. The fundamental mechanism and the major shortcomings for Cole, Hermon & Huang (2006) along with Cole & Sung (1994) will be reviewed in the discussions of head movement and the blocking effect in Sections 4.1 - 4.2.<sup>2</sup>

#### 3.1 Manzini & Wexler (1987)

The Binding Condition A, due to Chomsky (1981), concerned exclusively with the distribution of local anaphors, states that an anaphor must be bound within its governing category. As is well-known, the governing category is defined as the smallest maximal projection containing the anaphor, a governor for the anaphor, and an accessible subject. Possible candidates for accessible subject are [NP, IP] (the clausal subject in [Spec, IP]), [NP, NP] (the specifier of another NP – for example, a possessor NP), or Agr. Thus it is clear that long-distance anaphors, precisely by virtue of being long-distance bound, violate the Binding Condition A. To deal with LD reflexives in the *GB* framework, Manzini & Wexler claims that the definition of the binding domain for reflexives is parameterized. According to their approach, languages differ with regard to the governing category for bound anaphors.

---

<sup>2</sup> The fundamental mechanism employed by Cole, Hermon & Huang (2006) is not very different from that by Cole & Sung (1994).

- (12)  $\gamma$  is the governing category for  $\alpha$  iff  $\gamma$  is the minimal category that contains  $\alpha$  and a governor for  $\alpha$  and has
- a) a subject ; or
  - b) an INFL; or
  - c) a tense ; or
  - d) a “referential” tense ( = indicative mood); or
  - e) a “root” tense.

Thus, in their approach, the governing category for a reflexive in English is determined by value (a), and thus the binding domain for that is the immediate clause where the reflexive occurs. The governing category for *sè* in Italian is set by value (b); that for *sig* in Icelandic by value (d). And the governing category for Korean *caki* and Chinese *ziji* are set by value (e). Thus, the binding domain for a reflexive in Italian is the minimal IP (or TP) where the reflexive occurs, while it is the minimal clause in which a referential tense occurs in Icelandic. And that for Korean *caki* and Chinese *ziji* is the root sentence.

Their approach, however, has a number of conceptual problems. In their theoretical analysis, the definition of governing category has to be parameterized not only for reflexives in different languages, but also for anaphors and pronominals, and even different forms of reflexives in a given language.<sup>3</sup> And it should be pointed out why reflexives and pronominals and even different forms of reflexives need different governing categories. The kind of parameterization in their approach would render the definition of governing category vacuous as a concept of Universal Grammar. Furthermore, their parameterization of the governing category does not make correct predictions about subject orientation and the blocking effect. Last, given the governing category parameters in (12), the governing categories for pronominals are predicted to be distinct as well. However, this prediction is not borne out. As pointed out by Reinhart and Reuland (1993), etc., the governing category for pronominals seems relatively constant. Considering the problems we have discussed so far, their approach is assumed to be empirically inadequate.

---

<sup>3</sup> In their approach, the binding domain for *ziji* is the root sentence, whereas the binding domain for *ta ziji* is the immediate clause in Chinese.

### 3.2 Progovac (1993)

Pointing out that the traditional choices of accessible SUBJECT don't form a natural class since they contain a combination of phrasal categories and heads, Progovac (1993) proposes that long-distance and local anaphors should each have different accessible SUBJECTs on the basis of the type of category each anaphoric class belongs to.

- (13) A reflexive R must be bound in the domain D containing R, a governor for R, and a subject.  
 If R is an  $X^0$  (monomorphemic) reflexive, then its subjects are  $X^0$  categories only, that is, Agr  
 (as the only salient (c-commanding) head). If R is an  $X^{\max}$  (morphologically complex) reflexive, its subjects are  $X^{\max}$  specifiers, therefore [NP, IP] and [NP, NP] (Progovac 1993: 757).

The significance of her proposal lies in the observation that long-distance bound anaphors tend to be monomorphemic, whereas locally bound ones tend to be morphologically complex. Given the relativized conditions in (13), this means that the LD anaphors take Agr as their only possible SUBJECT whereas the locally bound ones take possessor NPs and clausal subjects as SUBJECT. She further suggests the anaphoric Agr, which would account for the clause-type restriction. According to her, Agr in infinitivals in Russian or Romance languages and in finite clauses in languages like Korean is anaphoric in that it is not overt morphologically. An anaphoric Agr may be dependent on and bound to a higher Agr for  $\phi$ -features. Thus, in her approach, an  $X^0$  reflexive is bound to the local Agr, which in turn is bound to a higher Agr, resulting in the  $X^0$  reflexive being long-distance bound. In case an intervening subject differs in person feature from an  $X^0$  reflexive and its antecedent, the local Agr cannot be bound to the next higher Agr due to feature conflict. Therefore, the  $X^0$  reflexive may not be bound to the next higher Agr, resulting in the blocking effect.

Her approach, however, has some conceptual problem. One of the main distinctions of her analysis is concerned with the blocking effect, as just discussed. Her analysis suggests that an anaphoric Agr chain can be formed if all the Agrs in it must share the  $\phi$ -features. It means that an  $X^0$  reflexive cannot be bound across



Agrs which bear different  $\phi$ -features, leading to the blocking effect. As is well-known in the literature (Cole & Sung (1994: 371-373), etc.), Agr in Korean is morphologically null, hence should be treated as anaphoric in her sense. According to her assumptions, X<sup>0</sup> reflexives in Korean in which Agr in finite clauses is anaphoric should show the blocking effect, as in Chinese. But this is clearly not the case, as shown in (11). LD anaphora in Korean does not exhibit the so-called blocking effect, contrary to the prediction of her analysis. Her analysis is taken to be flawed in that regard.

### 3.3 Huang & Tang (1991)

Huang & Tang (1991) distinguishes the bare reflexives like Chinese *ziji* from the compound reflexives like English *himself* by means of the procedures for licensing their  $\phi$ -indices and R-indices. A compound reflexive like *himself* has inherent  $\phi$ -features but must acquire its R-index by inheritance, whereas a bare reflexive has neither inherent  $\phi$ -features nor inherent reference. Within the system they are proposing, in which the Binding Theory applies once at S-structure and again at LF, a compound reflexive which has inherent  $\phi$ -features gets its R-index by inheritance from its antecedent at S-structure when the Binding Theory applies. A bare reflexive like *ziji* has its  $\phi$ -index licensed at S-structure when it is bound by its antecedent in its local binding domain. Huang & Tang, following Chierchia (1989), assume that the long-distance reflexive has the semantics of an operator, and as such, a bare reflexive can undergo successive cyclic adjunction to IP to have its R-index licensed at LF. They basically assume that the indices licensed by the Binding Theory at S-structure cannot be undone in LF, and this assumption in conjunction with IP adjunction process accounts for the blocking effect manifested in Chinese *ziji* as shown below.

- (14) a. Zhangsan<sub>(j(i),R(3))</sub> renwei [Wo<sub>(j(i),R(2))</sub> zhidao [Wangwu<sub>(j(i),R(1))</sub> xihuan  
ziji<sub>(j(i),R(0))</sub>]]  
 b. Zhangsan<sub>(i,3)</sub> renwei [Wo<sub>(j,2)</sub> zhidao [Wangwu<sub>(i,1)</sub> xihuan ziji<sub>(i,1)</sub>]]  
 c. Zhangsan<sub>(i,3)</sub> renwei [Wo<sub>(j,2)</sub> zhidao [<sub>IP</sub> ziji<sub>(i,0)</sub> [<sub>IP</sub> Wangwu<sub>(i,1)</sub> xihuan  
t<sub>(i,0)</sub>]]]

At S-structure (14a), *ziji* gets its  $\phi$ -index from the f-index of *Wangwu* when it is locally bound. If it does not move, then *ziji* is assigned the R-index of *Wangwu*, R(1) at LF, as in (14b). If *ziji*<sub>(i,0)</sub> is adjoined in LF, as in (14c), it cannot get the R-index of *wo*, because *wo*'s  $\phi$ -index is different from *ziji*'s  $\phi$ -index. Thus, the so-called blocking effect is explained in terms of assignment of  $\phi$ -indices and R-indices at different levels of grammar.

Huang & Tang's theory, which is similar to Cole & Sung's in spirit, but technically different, has some drawbacks empirically. Their proposal suggests that the presence or absence of  $\phi$ -features of a reflexive is directly related to the distinct binding possibilities. In their approach, a reflexive with an intrinsic  $\phi$ -index can only be bound locally, but a reflexive with no such index can be bound both long-distance and short-distance. This might suggest that there is a correlation between the lack of  $\phi$ -features and the long-distance binding possibilities. Consider the binding behaviors of complex reflexives of the form *self* + *self* in several languages, including Korean *caki-casin* and Norwegian *seg-selv*. These reflexives of the form *self* + *self* lack both  $\phi$ -features and R-features, but nevertheless they do not tend to be bound long-distance, as shown below.

- (15) Yeongswu<sub>i</sub>-nun Inho<sub>j</sub>-ka caki-casin<sub>\*i/j</sub>-ul salangha-n-ta-ko  
 Yeongswu-Top Inho-Nom self self-Acc love-Pres-Dec-Comp  
 sayingkakaha-n-ta.  
 think-Pres-Dec.  
 'Yeongswu thinks that Inho likes himself.'

### 3.4 Lee (1998, 2001)

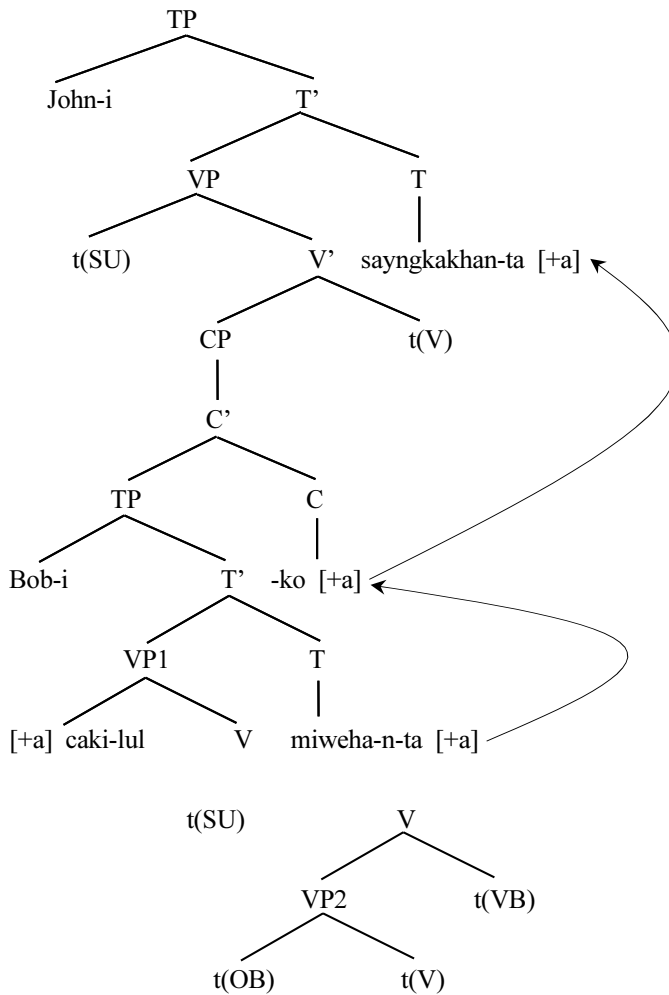
Lee proposes LF [+anaphoric] feature movement of reflexives in the framework of *The Minimalist Program*. Her theory is based on a distinction that the [+anaphoric] feature of a monomorphemic reflexive is [+interpretable] and the [+anaphoric] feature of a polymorphemic reflexive is [-interpretable]. Consider the following examples.

- (16) John<sub>i</sub> thinks that Bob<sub>j</sub> hates himself<sub>\*i/j</sub>.  
 (17) John<sub>i</sub>-i [Bob<sub>j</sub>-i caki<sub>i/j</sub>-lul miweha-n-ta-ko] sayngkakaha-n-ta.  
 John-Nom Bob-Nom self-Acc hate-Prs-Dec-Comp think-Prs-Dec  
 'John thinks Bob hates him/himself.'

In (16), FF(VB), formal features of the verb, and FF(OB), those of the object, which include the [+anaphoric] feature of the object, raise covertly and adjoin to the head T at LF. Under her proposal, the [+anaphoric] feature enters into a checking relation with the subject in Spec TP, recovering reference from the subject NP. Further movement across the clause boundary is not possible, since the [+anaphoric] feature which is [-interpretable] is eliminated after being checked in her approach.

Consider the LF derivation of (17) below.

(18)



The subject, the object, and the verb move overtly in (18).<sup>4</sup> *Caki* first moves to the outer Spec of vP, and the Case feature of the reflexive is checked off in that position. She assumes that the unchecked anaphoric feature continues to move to T where it is checked by the embedded subject *Bob*. Under her approach, further movement across the clause boundary is possible in this case, since the anaphoric feature which is [+interpretable] is accessible to further computation, unlike the [-interpretable] feature. Thus, in her theory, the [+anaphoric] feature continues to move to the matrix T where it enters into a checking relation with the matrix subject *John*. She assumes that the anaphoric feature of a monomorphemic reflexive is repeatedly accessible to further computation, since it is [+interpretable].

Even though her analysis deals with several cases of reflexivization from Korean and English, her theory has conceptual shortcomings. Her theory is based on a distinction that the [+anaphoric] feature of a monomorphemic reflexive is [+interpretable] and that of a polymorphemic reflexive is [-interpretable]. However, she does not provide motivation for that distinction. It is unclear how the anaphoric feature is uninterpretable for a polymorphemic reflexive while it is interpretable for a monomorphemic reflexive. One more problem with her analysis is concerned with covert movement of the [+anaphoric] feature to T at LF, for which she does not provide motivation, either. It needs to be spelled out what motivates covert movement of the anaphoric feature to T in her approach.

### 3.5 Prominence-based approaches (O' Grady (1987), Kim (2013) and Kim (2000))

Focusing on instances of LD anaphora that constitute problems or counter-examples for syntactic analyses, O'Grady (1987), Kim (2013), and Kim (2000) pursue prominence-based analyses of LD anaphora, which are purely pragmatic in nature. These scholars each develop a system centering on prominence based on an antecedent hierarchy (or a thematic hierarchy). O'Grady's and Kim's systems are summed up in (19) and (20), respectively.

---

<sup>4</sup> Lee assumes that overt subject raising and covert object and V raising occur in English, and that overt subject, object, and V raising occur in Korean.

- (19) a. Preference (or Relational) hierarchy: subject > object (direct or indirect object) > other NPs  
 b. The Priority Principle: *Caki* takes as antecedent the highest eligible NP.  
 (Here, ‘highest’ means ‘highest in the hierarchy’, and ‘eligible’ means ‘3<sup>rd</sup> person, with a human referent’.) (O’Grady 1987: 257)
- (20) a. Prominence hierarchy  
 topic > subject > object of verb > object of postposition > genitive NP > object of comparative  
 b. Prominence principle for anaphors in Korean  
*Caki* must be coreferential with a potential antecedent (PA) only if there exists a PA. A PA for *caki* is a third-person NP that is more prominent than *caki*.  
 c. Interpretation rule for anaphors in Korean  
 When there is more than one competing interpretation for *caki*, the larger the gap between an antecedent and *caki* in the prominence hierarchy, the more preferred the interpretation.  
 (Kim 2000: 319-324)

Following Arnold (1998), Kaiser (2006), and Pollard & Xue (2001), Kim (2013:317-320) argues that a thematic hierarchy (or semantic prominence) contributes to discourse salience and that a more prominent or salient eligible NP in the hierarchy is taken to be an antecedent for long-distance anaphors including *ziji*. And he provides an account of blocking effects in Chinese, including long-distance anaphora in *ba*- and *bei*-constructions.

Their systems predict that a genitive can function as an antecedent of *caki*, as in (21).

- (21) [Suni<sub>1</sub>-uy sinpal-un] caki<sub>1</sub>-uy pal-pota hwelssin ku-ta.  
 [Suni-GEN shoes-TOP self-GEN foot-than a.lot big-DECL  
 ‘Suni’s shoes are a lot bigger than self’s feet.’ (Kim 2000:316)

In O’Grady’s approach, the genitive *Suni* is the only eligible NP and as such, it is the highest NP in the hierarchy. Thus, the genitive NP can be an antecedent for

*caki*, even though it does not c-command the LD anaphor. Kim (2000) and Kim (2013) also predict *Suni*'s antecedence for *caki* in (21). As *Suni* is a genitive and higher in the hierarchy than *caki*, which is the object of a comparative, the genitive is more prominent than *caki*, and thus can be an antecedent for the LD anaphor.

Kim (2013) cites several counter-examples to syntactic analyses of LD anaphora, and argues that a prominence-based approach should be employed to provide an adequate account of them including LD anaphora in *be/bei* constructions in Chinese.<sup>5</sup>

- (22) a. Zhangsan<sub>i</sub> shuo [[ ni<sub>j</sub> zuo de chunshi] haile ziji<sub>\*i/j</sub>]  
 Zhangsan say you do silly deeds harm self  
 'Zhangsan says that the silly things you have done have harmed you.'
- b. Zhangsan<sub>i</sub> shuo [[ Lisi<sub>j</sub> zuo de chunshi] haile ziji<sub>i/j</sub>]  
 Zhangsan say Lisi do silly deeds harm self  
 'Zhangsan says that the silly things Lisi has done have harmed himself/herself.'
- (23) a. Zhangsan<sub>i</sub> cong ni<sub>j</sub> nar ting shuo Malik hen taoyan ziji<sub>?i/\*j/k</sub>.  
 Zhangsan from you there hear say Mary very hate self  
 'Zhangsan heard from you that Mary hates herself.'
- b. Zhangsan<sub>i</sub> cong Lisi<sub>j</sub> nar ting shuo Malik hen taoyan ziji<sub>i/\*j/k</sub>  
 Zhangsan from Lisi there hear say Mary very hate self  
 'Zhangsan heard from Lisi that Mary hates himself/herself.'
- (24) Zhangsan<sub>i</sub> de biaoqing gaosu wo<sub>j</sub> ziji<sub>i/\*j</sub> shi wugude  
 Zhangsan DE expression tell me self is innocent  
 'Zhangsan's expression tells me that he is innocent.'

<sup>5</sup> Kim (2013:316-320) provides an account of *ziji*-binding in *ba*- and *bei*-constructions in Chinese in terms of a prominence-based hierarchy. In his analysis, Kim suggests that a subject is preferred over an object as an antecedent of *ziji*. It is intuitively plausible that speakers tend to see a subject NP, the most pronounced nominal in a sentence, as important and prefer a subject over an object as an antecedent, when both are qualified as antecedents. Kim's preference judgments on the Chinese examples come from a female native speaker of Mandarin. However, I assume that the preference matter is delicate, varying from speaker to speaker. LD anaphora in *ba*-/*bei*-constructions in Chinese is already fully discussed and explained in terms of syntactic principles in Cole & Wang (1996), Cole, Hermon & Huang (2006).

Kim (2013) assumes that first and second person non-subject pronouns can induce a blocking effect, as in (22a-b). He further assumes that a blocking effect can be induced by a non-commanding nominal, as in (23-24). Under a prominence-based pragmatic approach, the subcommanding specifiers of the subordinate subjects (*ni* and *Lisi*) are assumed to be higher in the hierarchy than *ziji*, a direct object in (22a-b). Thus, these nominals, being more prominent than the anaphor, can be antecedents for *ziji*. Even though the matter does not seem very clear, the subcommander *ni* with [+2] in the embedded subject blocks the third person matrix subject from binding *ziji* in (22a), whereas the third person *Lisi* does not in (22b).<sup>6</sup> In (23a-b), *ni* and *Lisi*, the objects of a preposition, being lower in the hierarchy than *ziji*, the direct object, may not be able to antecede the LD anaphor. Therefore, in a prominence-based approach, the matrix and embedded subjects, which are higher and more prominent than *ziji*, can antecede the LD anaphor. However, it is not clear at all why the matrix subject *Zhangsan* in (23a) may not be an antecedent of *ziji* due to the intervening *ni*, a non-antecedent, even under the prominence-based approach. The prominence-based analysis can only predict that subjects, being more prominent than *ziji*, a direct object, can antecede the LD anaphor, and that an object of a preposition, being less prominent than *ziji*, cannot. Furthermore, the example (24) does not show blocking effects at all. According to Kim, *Zhangsan* contained in the matrix subject might be taken to be higher or more prominent than the embedded subject *ziji*, so it can antecede the LD anaphor, while the object *wo*, being less prominent than *ziji*, cannot. But it should be noted that the intervening *wo* ‘I’ does not block the third-person *Zhangsan* from anteceding *ziji*, so no blocking effects are manifested in (24) at all.

We should note here that not all the instances of LD anaphora may be properly handled in terms of the prominence-based analyses. Let us look at the following examples.

- (25) Nay-ka [John<sub>i</sub>-i wenha-yess-ten chayk-ul] caki<sub>i</sub>-eykey cwu-ess-ta.  
 Nay-Nom John-Nom want-Pst-Adn book-Acc self-to give-Pst-Dec  
 ‘I gave the book that John<sub>i</sub> wanted to self<sub>i</sub>.’ (O’Grady 1987:254)

<sup>6</sup> Xu (1993) and Yu (1991) first observed that first and second person non-subjects can also induce a blocking effect. They called the specifier of the subordinate subject in (22a-b) a subcommander.

- (26) \*[Sue-ka Joe<sub>i</sub>-lul palapo-nun kes-i] caki<sub>i</sub>-eykey culkep-ess-ta.  
 Sue-Nom Joe-Acc look at-Adn fact-Nom self-Dat pleasant-Pst-Ded  
 ‘The fact that Sue is looking at Joe<sub>i</sub> was pleasing to self<sub>i</sub>.’ (Lee 1973)

In the prominence-based approaches, *John* in the relative clause is the only eligible NP and as such it is the highest NP in the hierarchy in (25), as the first-person *na* is not eligible for an antecedent for *caki* with an inherent feature [+3]. Therefore the NP becomes an antecedent of the long-distance anaphor. However, O’Grady observes that examples such as (25) are not common in the written language, and are sometimes not initially accepted by speakers. Furthermore, the prominence-based analyses also predict that the NP *Joe* in the subject clause as an object of a verb is more prominent than the long-distance anaphor *caki*, which is an object of a postposition, and thus that the NP can be an antecedent of *caki* in (26), contrary to fact. This contrast in grammaticality is not expected under prominence-based approaches.

- (27) Taroo-wa Takasi<sub>i</sub> kara [Yosiko-ga zibun<sub>i</sub>-o nikundeiru to] kiita.  
 Taroo-Top Takasi from Yosiko-Nom self-Acc be-hating Comp heard  
 ‘Taroo heard from Takasi<sub>i</sub> that Yosiko hated him<sub>i</sub>.’
- (28) a. Chelswu<sub>i</sub>-ka Yengswu<sub>j</sub>-lopute caki<sub>i/j</sub>-ka sungcinha-yss-ta-ko  
 Chelswu-Nom Yengswu-from self-Nom promote-Pst-Dec-Comp  
 tul-ess-ta.  
 hear-Pst-Dec  
 ‘Chelswu<sub>i</sub> heard from Yengswu<sub>j</sub> that self<sub>i/j</sub> is promoted.’  
 b. Cheli<sub>i</sub>-nun Yengi<sub>j</sub>-eyke [caki<sub>i/j</sub>-ka iky-ess-tako] malhay-cwu-ess-ta.  
 Cheli-TOP Yengi-to self-NOM won-COMP say-Benef-PST-DECL  
 ‘Cheli<sub>i</sub> said to Yengi<sub>j</sub> that self<sub>i/j</sub> had won.’

In comparison to (23b), the Japanese example (27) is a serious problem for prominence-based approaches. In (27), *Takasi*, the object of a postposition, is taken to be less prominent than *zibun*, the object of a verb, but the NP becomes an antecedent of the long-distance anaphor in Japanese, defying the prominence hierarchy put forth in the pragmatic approaches. The Korean examples (28a-b) are



also problematic for the pragmatic approaches based on prominence. The prominence-based analyses predict that *Yengswu*, the object of a postposition in (28a), and *Yengi*, the object of a verb in (28b), are less prominent than *caki*, the subject, and as such, they cannot be antecedents for the long-distance anaphor, contrary to fact.

In a nutshell, prominence-based pragmatic approaches predict that NPs occurring as objects of verbs or objects of postpositions (or prepositions) may not be an antecedent of an LD anaphor occurring as a subject of the embedded clause, and that NPs as objects of postpositions (or prepositions) cannot antecede an LD anaphor as an object of a verb, contrary to fact. It is shown in Sells (1987: 454) that the Japanese LD anaphor as an object of a verb can be bound to the object of a postposition, as in (27), and the Chinese *ziji* cannot, as shown in (23a). It is also clearly stated in Cho (2006: 5) that the Korean LD anaphor *caki* as a subject can be bound to the matrix object, as in (28b). To put it simply, all the complicated phenomena of anaphora may not be dealt with in terms of the prominence-based approaches. There are instances of anaphora that the prominence-based analyses may not be able to handle. Thus, following Cole, Hermon & Huang (2006), I assume that syntactic accounts should be employed to give an account of LD anaphors that are syntactically bound by antecedents in a c-command relationship, and that pragmatic or discourse accounts should be employed to handle anaphors that are discourse bound by antecedents in discourse or pragmatic contexts.<sup>7</sup> The thesis of this paper is fully based on syntactic principles.

In this section, we have critically reviewed previous major syntactic analyses of LD anaphora and have shown that all of them have shortcomings or problems theory-internally or empirically or both. After that, we have critically reviewed prominence-based analyses of LD anaphora, showing that pragmatic analyses of this type cannot fully cope with all the complicated anaphora in natural languages.

---

<sup>7</sup> This assumption extends naturally to all the discourse or pragmatic binding illustrated in Kim (2013). It is beyond the scope of this paper how to explain discourse or pragmatic binding in the examples (22-28). I personally assume that Sell's logophoricity principles provide an account of pragmatic binding examples in Kim (2013), including pragmatic binding in the examples (22-28).

#### 4. LF head movement, feature percolation principle and the blocking effect

Even though non-movement analyses of LD anaphora were put forward that are focused on relativizing the governing category to handle long-distance antecedence, these approaches may not be able to successfully deal with subject orientation or the blocking effect in LD anaphora. We have critically reviewed non-movement analyses in Section 3. On the other hand, movement approaches to LD anaphora are taken to nicely handle subject orientation. In this section, we will discuss the mechanism of head movement in the framework of *the Minimalist Inquiries* and Feature Percolation Principles put forth by Cole, Hermon & Huang (2006). It will be shown that the absence of the blocking effect for LD anaphora in Korean may not follow from the Feature Percolation Principles proposed by them. Then, I will propose Feature Percolation Principle to give a principled account of the blocking effect in LD anaphora.

##### 4.1 Head movement

Since Lebeaux (1983), there have been movement approaches to LD anaphora, including Pica (1987), Battistella (1989), Huang & Tang (1991), Katada (1991), Cole & Sung (1994), Cole, Hermon & Huang (2006), etc., that propose that long-distance anaphors raise and adjoin to some category at LF, being subject to the Condition (A) of the Binding Theory, even though the adjunction sites may differ, depending on analyses.

Out of these analyses, Cole, Hermon & Huang's (2006) analysis together with Cole & Sung (1994) is taken to give a clear explanation for subject orientation of LD reflexives that occurs cross-linguistically. Following Battistella, Cole, Hermon & Huang assume that all apparent LD reflexives involve head movement from Infl to Infl. Based on the *Barriers* framework (Chomsky 1986a) and work on head movement by Chomsky (1991), Pollock (1989), etc., they assume that  $X^0$  elements can adjoin to  $X^0$  positions, and that  $X^{\max}$  elements can adjoin to  $X^{\max}$  positions. As usual, movements are subject to the Head Movement Constraint (HMC), the Empty Category Principle (ECP), and *CFC* Binding Theory (Chomsky 1986b). As XP reflexives are not operators, they are not allowed to move through Spec CP.

Therefore, XP reflexives remain in-situ, being locally bound by either a subject or an object. In contrast, X<sup>0</sup> reflexives may move from head to head unboundedly, being long-distance bound, so long as the movement does not violate the Head Movement Constraint or the Shortest Movement Condition.

Chomsky (1995) argues that reflexives raise to T at LF by an operation similar in nature to overt cliticization of reflexives in Romance languages. Overt cliticization of reflexives is illustrated below.

- (29) a. Queste<sub>i</sub> cose Mauro se<sub>i</sub> le nega.  
           these things Mauro Ref CL denies  
           ‘Mauro denies himself these things.’  
       b. Queste<sub>i</sub> cose Mauro se le nega a sè stesso<sub>i</sub>  
           these things Mauro Ref CL denies to himself  
           ‘Mauro denies himself these things.’

Following the Chomskyan idea of covert cliticization of reflexives, Y.-S. Kim (1999) set forth LF movement of monomorphemic reflexives driven by a need to check the affixal reflexive feature [Ref] in T.<sup>8</sup>

In the *Minimalist Inquiries* framework (Chomsky 1998, 1999), Agree between a probe and a goal occurs in overt syntax, and category movement takes place at LF. Following the idea by Chomsky and a subsequent idea from Y.-S. Kim, I argue that LD reflexives are LF clitics with an intrinsic feature [Ref], and that the host functional category T may have an affixal reflexive feature [Refl] selected in transition from Lexicon to Lexical Array. I suggest that, on a par with the subject movement to Spec TP to satisfy the EPP feature on T, LD anaphors move to T via head movement to satisfy the feature [Refl] on T at LF.<sup>9</sup>

## 4.2 Feature percolation principle

As is well-known in the literature, Chinese LD anaphora shows the blocking

<sup>8</sup> Cole & Sung (1994:365-366: fn 16) discuss the possibility that reflexives must adjoin to an I that is marked [+ refl]. The feature [+refl] was first suggested by Kang (1988).

<sup>9</sup> Both movements are targeted at some sites that are in the minimal domain of the functional category T.

effect in that the LD reflexive is blocked when an immediately higher subject differs in person from a lower subject, as shown in (30) below.

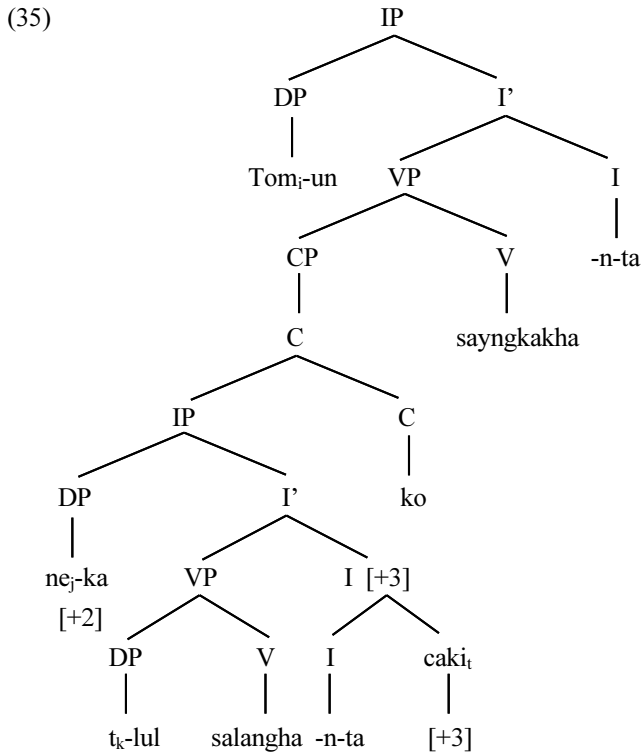
- (30) Zhangsan<sub>i</sub> renwei wo<sub>j</sub> zhidao Wangwu<sub>k</sub> xihuan ziji<sub>i\*/j/k</sub>.  
 Zhangsan think I know Wangwa like self  
 ‘Zhangsan thinks that I know that Wangwu likes \*him/\*me/himself.’

We saw in the previous section that LD anaphora in other languages including Korean, Italian, and Icelandic does not exhibit the blocking effect, as shown in (31-33), repeated from (9-11).

- (31) La signora<sub>i</sub> dice che io giaccia presso di sè<sub>i</sub>.  
 the woman says that I lie-sub near self  
 ‘The woman orders that I lie near her.’
- (32) Jón<sub>i</sub> telur að ég hafi talað við sig<sub>i</sub>.  
 Jon believes that I have talked to self  
 ‘Jon believes that I have talked to self.’
- (33) Tom<sub>i</sub>-un [ne<sub>j</sub>-ka caki<sub>i\*/j</sub>-lul salangha-n-ta-ko] sayngkakha-n-ta.  
 Tom-Top you-Nom self-Acc love-Prs-Dec-Comp think-Prs-Dec  
 ‘Tom thinks that you love him/\*yourself.’ (Han & Storoshenko 2012:768)

Cole, Hermon & Huang (2006: 43-38) claim that LD reflexives are blocked in languages such as Korean and Chinese in which Infl lacks person features, and that this is not the case in languages in which Infl is marked for person such as Italian and Icelandic. However, their account is based upon incorrect data from Korean, and hence it is not on the right track. As is shown in the above examples (31-33), Korean in which Infl lacks person features does not show the so-called blocking effect, and Chinese is the only language out of the languages under consideration, in which the LD reflexive *ziji* manifests the blocking effect. In other words, the so-called blocking effect is not related to Infl lacking person features. They put forth the following Feature Percolation Principles to handle the blocking effect in LD anaphora, based on whether Infl is inflected for person features.

- (34) The Feature Percolation Principles (FPP)
- a. The features of the mother node and the features of the daughter nodes will be identical.
  - b. If the features of the daughter nodes conflict, the mother node will have the features of the head node.



Let us consider (35), the LF derivation for (33). As is well-known in the literature on anaphora, Korean *caki*, Italian *sè* and *propria*, and Icelandic *sig* are limited to third-person DPs. In other words, LD reflexives in these languages are taken to have inherent  $\phi$ -featuress, [+3]. In the above LF structure, *caki* adjoins covertly to the embedded I via head movement. Under Cole, Hermon & Huang's theoretical mechanism, *caki*'s inherent  $\phi$ -featuress [+3] percolate up to the mother node I, hence making it [+3] in line with (34a), as Korean is a language where I is

not inflected for person features. Then, there occurs a feature mismatch between the embedded subject *ne-ka* with [+2] and the embedded I with [+3], resulting in a derivation crash at the embedded IP level. Under their framework, further movement to the matrix I would not lead to grammaticality since movement to the matrix I must take place via the embedded I in order to avoid an HMC violation. It follows that their Feature Percolation Principles incorrectly predict that *caki* can neither take the embedded subject nor the matrix subject as its antecedent in (33). Therefore the LF derivation for (33) provides firm empirical and theoretical evidence against their Feature Percolation Principles.

To handle the blocking effect in LD anaphora, I put forth the Feature Percolation Principle as stated in (36).

(36) Feature Percolation Principle

The features of the mother node percolate to the daughter node with no inherent  $\phi$ -features.

Feature percolation as stated in (36) is assumed to occur for the sake of interpretation. Take Chinese *ziji* for an example. The Chinese LD anaphor with no inherent  $\phi$ -features is equivalent in meaning to ‘self’ and hence it may not be interpretable in the LF component.

- (37) a. Tom thinks that Bill loves self.  
b. Tom thinks that Bill loves himself.

*Self* in (37a) is not fully specified with regard to its  $\phi$ -features, and so it is not interpretable at LF where semantic interpretation occurs. In contrast, *himself* with specified  $\phi$ -features in (37b) is interpretable at LF, and thus the whole structure with *himself* in (37b) undergoes semantic interpretation and receives full interpretation in LF. Therefore, the Chinese LD anaphor that comes into computation with no inherent  $\phi$ -features gets its  $\phi$ -features in terms of feature percolation as stated in (36), thereby being interpretable at LF.

### 4.3 The blocking effect

This section will give a detailed analysis of the blocking effect for LD anaphora in Chinese and the lack of the blocking effect for LD anaphora in Korean, Italian, and Icelandic in terms of the Feature Percolation Principle put forth in the previous section.

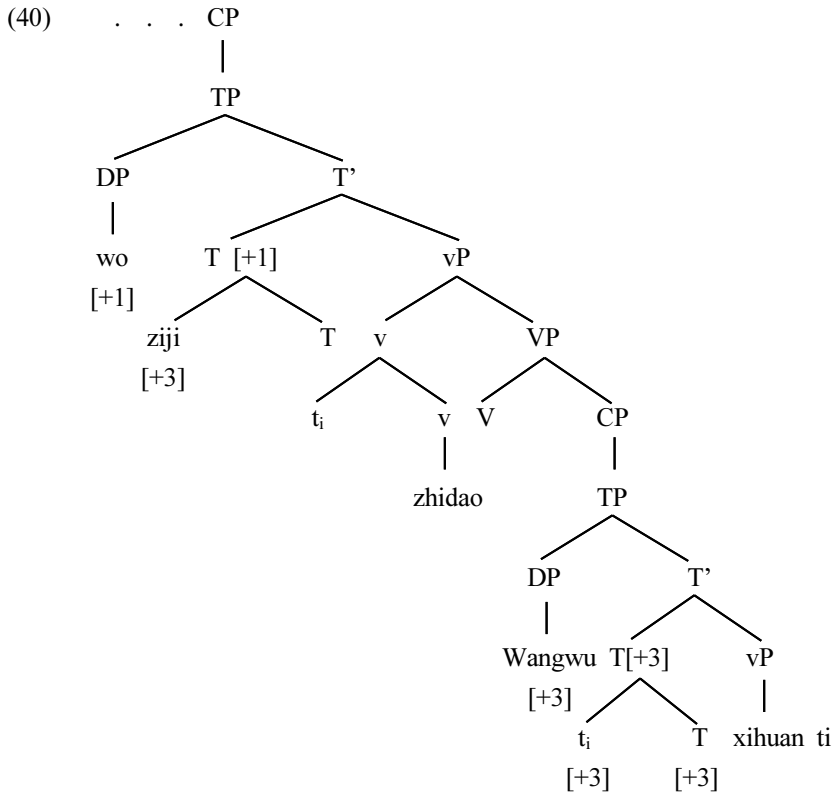
As is well-documented in the literature (Huang & Tang 1991, Cole, Hermon & Huang 2006, etc.), Chinese *ziji* can be used for all persons, as shown below.

- (38) a. Zhangsan<sub>i</sub> renwei [wo/ni<sub>j</sub> hai-le ziji<sub>i\*/j</sub>]  
 Zhangsan think I/you hurt-Asp self  
 'Zhangsan thought that I/you hurt \*him/myself/yourself.'  
 b. Zhangsan<sub>i</sub> renwei Lisi<sub>j</sub> zhidao Wangwu<sub>k</sub> xihuan ziji<sub>i/j/k</sub>.  
 Zhangsan think Lisi know Wangwu like self  
 'Zhangsan thinks Lisi knows Wangwu likes him/himself.'

Huang & Tang (1991) assume that *ziji*, which is used for all persons, enters into the computation with no inherent  $\phi$ -featuress, and that it acquires its f-index in syntax, and it acquires its R-index at LF by binding theory. It is also widely-known that Korean *caki*, Italian *sè* and *propria*, and Icelandic *sig* are limited to third-person DPs – they can only have third-person DPs as their antecedents. In other words, the LD reflexives in these languages are taken to have inherent  $\phi$ -featuress [+3].

Let us consider the derivation of Chinese LD anaphora below, repeated from (8).

- (39) Zhangsan<sub>i</sub> renwei wo<sub>j</sub> zhidao Wangwu<sub>k</sub> xihuan ziji<sub>i\*/j/k</sub>.  
 Zhangsan think I know Wangwa like self  
 'Zhangsan thinks that I know that Wangwu likes \*him/\*me/himself.'



The structure in (40) represents the intermediate clause and the lowest clause in the sentence in (39).

I assume, following Huang & Tang, that *ziji*, which can be used for all persons, is selected into the Lexical Array with no inherent  $\phi$ -features. I further assume that *ziji* has its  $\phi$ -features acquired and checked via the Feature Percolation Principle at LF.

In (40), Agree holds of the local subject *Wangwu* and the local T in overt syntax, assigning [+3] to the local T. In the next cycle, Agree occurs between the intermediate clause subject *wo* and the intermediate clause T, valuing the intermediate clause T as [+1]. Suppose the LF affixal feature [Refl] is assigned to the local T. *Ziji* raises and adjoins to the local T via LF head-movement and satisfies the feature [Refl] in the local T. In the position adjoined to the local T, T's feature [+3] percolates to *ziji* with no inherent  $\phi$ -features in line with the Feature Percolation



Principle (36). Thus, the local subject c-commands and antecedes *ziji* with [+3]

In case the feature [Refl] is assigned to the intermediate T, *ziji* moves through the local T, where the reflexive gets its person feature [+3] from the local T via feature percolation, and finally cliticizes to the intermediate T and satisfies the feature [Refl] in the intermediate T. In the position adjoined to the intermediate T, *ziji* has its person feature checked against the person feature of the intermediate T via the Feature Percolation Principle (36), but there occurs a feature clash between the intermediate T with [+1] and *ziji* with [+3]. This derivation is thus ruled out as ill-formed. The matrix subject cannot be an antecedent, either, since movement up to the matrix T should pass through the intermediate T. Thus, only the local subject can antecede *ziji* in (39). Therefore, the blocking effect manifested by Chinese *ziji* follows from its lack of inherent  $\phi$ -features and the Feature Percolation Principle that assigns and checks the  $\phi$ -features of some element with no inherent  $\phi$ -features.

Consider next the LF derivation of (41) below, repeated from (31).

- (41) La signora<sub>i</sub> dice che io    giaccia presso di sè<sub>i</sub>.  
       the woman says that I    lie-sub near        self  
       ‘The woman orders that I lie near her.’

- (42) [La signora T<sub>[T-sè]</sub> [CP dice che io giaccia presso di t<sub>sè</sub>]]

Agree holds of the matrix T and *la signora* in Spec TP in overt syntax, thereby assigning [+3] to the matrix T. Suppose the LF affixal feature [Refl] is assigned to the matrix T. The reflexive *sè* with inherent [+3] moves and adjoins via head movement to the local T. And the Feature Percolation Principle does not apply at the embedded I, as the LD anaphor *sè* has the inherent person feature [+3]. As the embedded subject *io* ‘I’ has distinct  $\phi$ -features, *sè* does not take it as an antecedent. It continues to move through all the heads cyclically to adjoin to the matrix T, and satisfies the feature [Refl] on the matrix T. And in the position adjoined to the matrix T, *sè* chooses *la signora* with [+3] in Spec TP as its antecedent. In case the LF affixal feature [Refl] is assigned to the local T, the LD anaphor *sè* with [+3] moves and adjoins to the local T and satisfies the feature [Refl] in the local T. However, the derivation crashes and is judged ill-formed as the LD anaphor has distinct  $\phi$ -features from the local subject and may not have an antecedent. This type

of account extends to LD anaphora in Korean and Icelandic whose LD reflexives have inherent  $\phi$ -features.

Overall, the blocking effect exhibited by the Chinese LD anaphor follows from its lack of inherent  $\phi$ -features and the Feature Percolation Principle, and the absence of the blocking effect for the LD reflexives in Korean, Italian, and Icelandic is due to the fact that they have inherent  $\phi$ -features. The reflexives with inherent  $\phi$ -features in the latter languages do not have their  $\phi$ -features acquired or checked via feature percolation. They move up the clause(s) to choose a DP with matching  $\phi$ -features as an antecedent at LF.

## 5. Conclusion

There have been two main classes of grammatical analyses of LD reflexives: non-movement approaches vs movement approaches. And there is a class of discourse, pragmatic analyses of LD anaphora. The former type of syntactic analyses, including Manzini & Wexler (1987), Batistella (1987), Progovac (1993), typically has relativization or parameterization of the governing category for reflexives. By contrast, the latter type of syntactic works, including Huang & Tang (1991), Cole & Sung (1994), Cole, Hermon & Sung (1994), Cole, Hermon & Huang (2006), in general, assumes movement of the LD reflexive to some category that results in the subject anteceding the reflexive in the relevant domain. Even though all these syntactic analyses deal successfully with targeted long-distance anaphora, these approaches have problems or shortcomings conceptually or empirically or both. Furthermore, the body of research works for anaphora centering on prominence based on a thematic hierarchy does not provide an account of all the complicated instances of anaphora in natural languages. Following Cole, Hermon & Huang (2006), I assume that syntactic accounts should be employed to give an account of LD anaphors that are syntactically bound by antecedents in a c-command relationship, and that pragmatic or discourse accounts should be employed to handle anaphors that are discourse bound by antecedents in discourse or pragmatic contexts.

This paper thus aims at giving a principled syntactic analysis of subject orientation and the blocking effect in LD anaphora under the LF movement approach to LD reflexives in the *Minimalist Inquiries* framework. This paper has suggested

that, on a par with the subject movement to Spec TP to satisfy the EPP feature on T, LD anaphors move covertly to T to satisfy the feature [Refl] on T. We have shown in Section 4.2 that the lack of the blocking effect for Korean LD anaphora does not follow from the Feature Percolation Principles put forward by Cole, Hermon & Huang (2006). Thus, I put forth the Feature Percolation Principle as stated in (36) to properly handle the blocking effect for Chinese LD anaphora and the absence of the blocking effect for LD anaphora in Italian, Icelandic, and Korean. We have seen that the blocking effect exhibited by the Chinese LD anaphor follows from its lack of inherent  $\phi$ -features and the Feature Percolation Principle, and the absence of the blocking effect for the LD reflexives in Korean, Italian, and Icelandic is due to the fact that they have inherent  $\phi$ -features. The reflexives with inherent  $\phi$ -features in these languages do not have their  $\phi$ -features acquired or checked via feature percolation. They move up the clause(s) to choose a DP with matching  $\phi$ -features as an antecedent at LF.

## References

- Aarts, Bas. 1992. *Small clauses in English: The non-verbal types*. Berlin; New York: Mouton de Gruyter.
- Arnold, Jennifer E. 1998. Reference form and discourse patterns. PhD Dissertation, Stanford University.
- Battistella, Edwin. 1989. Chinese reflexivization: A movement to infl approach. *Linguistics* 27: 987-1012.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, MA: MIT Press.
- Chierchia, Gennaro. 1989. Anaphora and attitudes de se. In Renate Bartsch, J. F. A. K. van Benthem and P. van Emde Boas (eds.), *Semantics and contextual expression*, 1-31. Kluwer/Reidel.
- Cho, Sook-Whan. 2006. The syntactic and semantic ambiguity of *caki* 'self' in Korean. *Korean Linguistics* 13(1): 149-165.
- Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- Chomsky, Noam. 1986a. *Barriers*. Cambridge, Mass.: MIT Press
- Chomsky, Noam. 1986b. *Knowledge of language: Its nature, origin, and use*. New York: Praeger.
- Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In Robert Freidin (ed.), *Principles and parameters in comparative grammar*, 417-454. Cambridge,

- MA: MIT Press.
- Chomsky, Noam. 1998. *Minimalist inquiries: The framework*. MIT occasional papers in linguistics 15. Distributed by *MIT Working Papers in Linguistics*. Cambridge, MA.
- Chomsky, Noam. 1999. Derivation by phase. *MIT Occasional Papers in Linguistics* 18. Distributed by *MIT Working Papers in Linguistics*. Cambridge, MA.
- Cole, Peter, Gabriella Hermon and C.-T. James Huang. 2006. Long-distance binding in Asian languages. In Martin Everaert and Henk van Riemsdijk (eds.), *The Blackwell companion to syntax I*, 21-84. Blackwell Publisher.
- Cole, Peter, and Li-May Sung. 1994. Head movement and long-distance reflexives. *Linguistic Inquiry* 25: 355-406.
- Cole, Peter, and Chengchi Wang. 1996. Antecedents and blockers of long distance reflexives: The case of Chinese *ziji*. *Linguistic Inquiry* 27: 357-390.
- Han, Chung-hye, and Dennis Ryan Storoshenko. 2012. Semantic binding of long-distance anaphor *caki* in Korean. *Language* 88(4): 764-790.
- Huang, C.-T. James, and C.-C. Jane Tang. 1991. The local nature of the long-distance reflexive in Chinese. In Jan Koster and Eric Reuland (eds.), *Long-distance anaphora*, 263-282. Cambridge: Cambridge University Press.
- Kaiser, Elsi. 2006. Effects of topic and focus on salience. In Christian Ebert and Cornelia Endriss (eds.), *Proceedings of sinn und bedeutung* 10, ZAS Working Papers in Linguistics vol. 44, 139-154. Berlin.
- Kang, Beom-Mo. 1988. Unbounded reflexives. *Linguistics and Philosophy* 11: 415-456.
- Katada, Fusa. 1991. The LF representation of anaphors. *Linguistic Inquiry* 22: 287-313.
- Kim, Ilkyu. 2013. On blocking effects in Chinese: Syntactic, pragmatic, or both? *Korean Journal of Linguistics* 38(2): 305-325.
- Kim, Soo-Yeon. 2000. Acceptability and preference in the interpretation of anaphors. *Linguistics* 38: 315 - 353.
- Kim, Yong-Suk. 1999. *Choysochwui caykwisa mwunpep* (Minimalist Grammar of Reflexives). Seoul: Hankuk Publishers.
- Lebeaux, David. 1983. A distributional difference between reciprocals and reflexives. *Linguistic Inquiry* 14: 723-730.
- Lee, Chungmin, 1973. *Abstract syntax and Korean with reference to English*. PhD Dissertation, University of Indiana.
- Lee, Hye-Ran. 1998. A feature-based account of long-distance anaphora. *Korean Linguistics* 9: 133-150. Seoul: Hankuk Publishers.
- Lee, Hye-Ran. 2001. How anaphors recover their references. *Korean Journal of English Language and Linguistics* 14: 629-649.
- O'grady, William. 1987. The interpretation of Korean anaphora: The role and representation of grammatical relations. *Language* 63: 251-277.
- Pica, Pierre. 1984. Subject, tense and truth: Towards a modular approach to binding. In

- Jacqueline Guéron, Hans-Georg Obenauer, and Jean-Yves Pollock (eds.), *Grammatical representation*, 259-291. Dordrecht: Foris.
- Pollard, Carl, and Ping Xue. 2001. Syntactic and nonsyntactic constraints on long-distance reflexives. In Cole, Peter, Gabriella Hermon, and C.-T. James Huang (eds.) *Syntax and semantics*, Vol. 33: Long distance reflexives, 317-342. Academic Press.
- Pollock, Jean-Yves. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20: 365-424.
- Progovac, Ljiljana. 1993. Long-distance reflexives: Movement-to-Infl versus relativized SUBJECT. *Linguistic Inquiry* 24: 755-772.
- Reinhart, Tanya, and Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24: 657-720.
- Sells, Peter. 1987. Aspects of logophoricity. *Linguistic Inquiry* 18: 445-479.
- Wexler, Kenneth and M. Rita Manzini. 1987. Parameters, binding theory, and learnability. *Linguistic Inquiry* 18: 413-444.
- Xu, Liejiong. 1993. Long distance binding of ziji. *Journal of Chinese Linguistics* 21: 123-141.
- Yu, X.-F. William. 1991. Logophoricity in Chinese. Paper presented at *the Third North American Conference on Chinese Linguistics*. Cornell University, Ithaca.

**Hong-Ki Sohng**

Department of English  
Korea Aerospace University  
76, Hanggongdaehang-ro, Deogyang-gu,  
Goyang-si, Gyeonggi-do, 412-791, Korea  
E-mail: shgkorea@gmail.com

Received: 2015. 07. 13.

Revised: 2015. 11. 30.

Accepted: 2015. 11. 30.